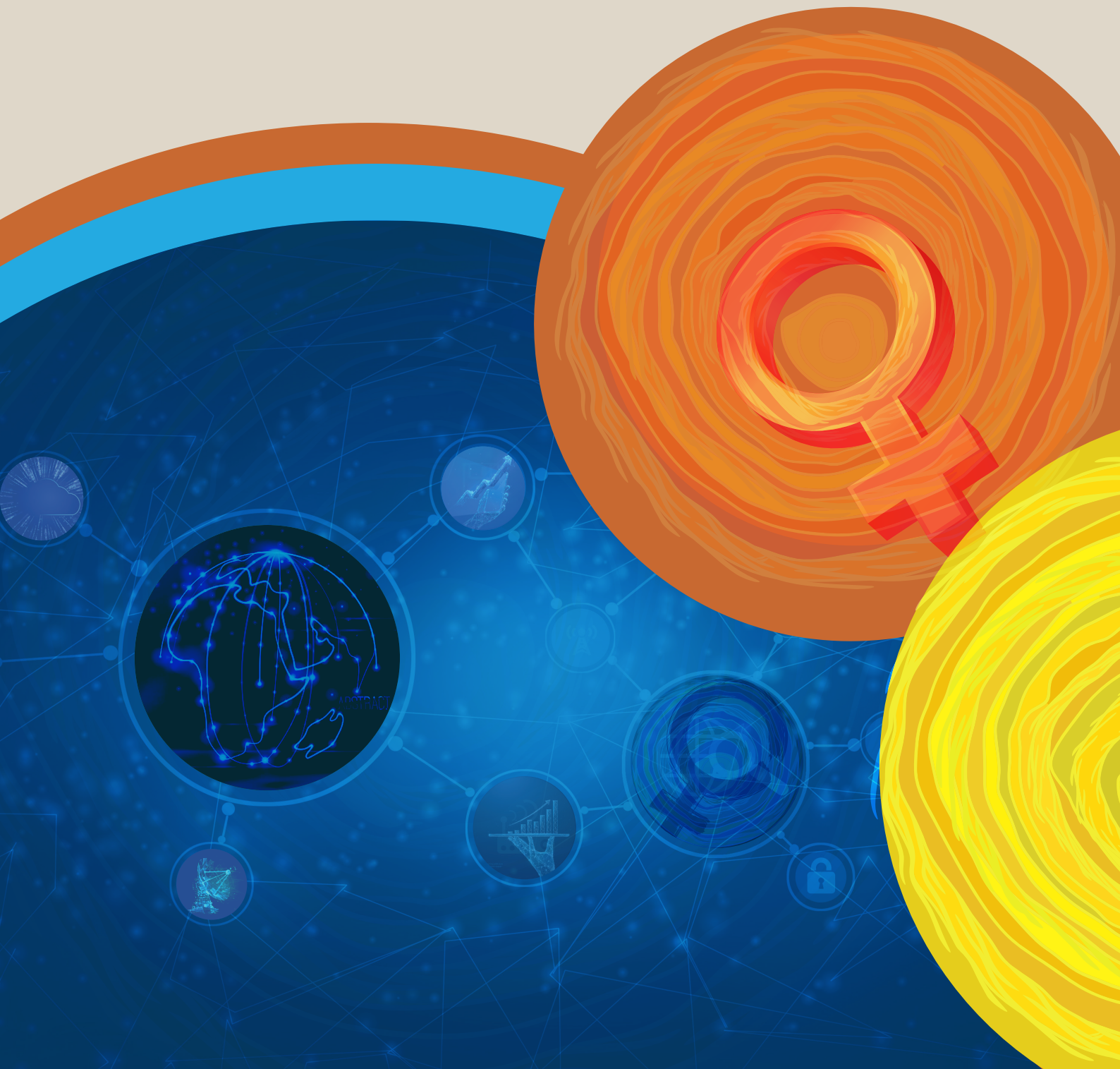




United Nations  
Economic Commission for Africa

# AFRICAN WOMEN'S REPORT 2021

DIGITAL FINANCE ECOSYSTEMS:  
PATHWAYS TO WOMEN'S ECONOMIC  
EMPOWERMENT IN AFRICA







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PATHWAYS TO WOMEN'S ECONOMIC  
EMPOWERMENT IN AFRICA**

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First printing September 2022

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Cover photos: <https://www.shutterstock.com>

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# Acknowledgements

The 2021 edition of the flagship publication, *African Women's Report: Digital Finance – A Pathway to Women's Economic Empowerment in Africa*, was prepared with the dedicated support, leadership and guidance of the former Director of the Gender, Poverty and Social Policy Division of the Economic Commission for Africa (ECA), Thokozile Ruzvidzo, and the Director a.i. of the Division, Edlam Yemeru.

The lead author of the report is Syed Ahmed, Associate Economic Affairs Officer in the Gender Equality and Women's Empowerment Section. David Lawson, a consultant in the Gender, Poverty and Social Policy Division, provided significant contributions. Technical input was also provided by the Director of the Subregional Office for West Africa and former Chief of the Gender Equality and Women's Empowerment Section, Ngone Diop, and by the former Economic Affairs Officer in the Section, Deniz Kellecioglu.

The report incorporates the recommendations of an expert group comprising representatives of countries, United Nations agencies, civil society organizations, academia, private sector entities and other development partners. The group met in November 2019 to review the initial

report outline. An internal review carried out by the Gender Equality and Women's Empowerment Section in January 2020 guided the conceptual and analytical framework of the report. Prior to an external analysis, the report was reviewed by two of the Section's officers: Economic Affairs Officer, Gonzague Rosalie, and Gender Affairs Officer, Keiso Matashane-Marite. The report was also reviewed by ECA staff members, Mactar Seck and Habiba Ben Barka.

The report was reviewed externally and validated by technical experts during an online meeting held in January 2021. The feedback provided by the experts allowed the report to be critically reviewed and improved. The report was then reviewed by Shungu Gwarinda, Director of Programmes at the Graça Machel Trust who generously provided substantive feedback that was used for the final version of the report. A final consultation was held on 21 and 22 July 2021 with experts and representatives of Government, civil society organizations, academia and private sector entities to validate the findings of the report and to share knowledge on digital finance and digitalization more broadly in order to enrich the findings of the report and build consensus on how to

embrace digital finance for women's economic empowerment.

ECA staff members Snober Abassi, Olanshile Akintola, Berhanu Tesfaye, Deborah Abebe, Abraham Kassa and Hannan Mo-

hamed provided useful administrative and programme assistance.

Finally, the report team would like to thank the Publications and Conference Management Section at ECA for its support.

# Foreword

In 2020, the United Nations celebrated its seventy-fifth anniversary. The anniversary coincided with a year in which the world faced colossal challenges. Many people experienced turmoil and difficulty as countries, communities and families grappled with the effects of a global health pandemic and its far-reaching effects. With 10 years remaining for the Sustainable Development Goals and related targets to be achieved, the Goals were reaffirmed in 2020 through the decade of action and delivery for sustainable development. This juncture presented an opportune moment to rethink the strategies and policies that had been in place to address poverty, reduce inequality and further global development. After so many decades of supporting the design and implementation of international development initiatives and promoting regional cooperation and equality for all, where do we, as a global community, stand on gender equality and women's empowerment? Looking back, we believe that significant progress has been made towards achieving gender equality, but many areas of concern and challenges remain for the empowerment of women and girls around the world, and in particular in Africa. Despite the progress they have made, many countries in Africa are still considered to be the furthest behind

in their gender equality policies, strategies and development indicators.

Women's economic empowerment is not an elusive goal; it is an achievable outcome. Digital innovations, if properly embraced, can help to leapfrog the hurdles that stand in the way of achieving development targets and goals, especially Goal 5, on achieving gender equality. Some innovations, such as artificial intelligence, machine learning and robotics, are in their infancy in Africa; others, such as mobile connectivity, online applications and digital identity, have spread rapidly but are still underutilized. Digital platforms and solutions, if properly harnessed, can revolutionize the social and economic prospects of all Africans, in particular women, and can address shortfalls in areas in which the region lags behind the rest of the world, in particular women's economic empowerment.

Digital finance is transforming the lives and livelihoods of women, girls and others who are excluded from traditional financial institutions. Although private sector initiatives and financial institutions are leading the way in creating opportunities in digital finance, analysis of the effects of digital finance in Africa, and specifically on

women's economic and social prospects, is limited. Gaps exist in knowledge and understanding of what constitutes digital finance, what is required for the industry to flourish and how to ensure that women benefit equitably from digital finance initiatives. The Economic Commission for Africa has taken a holistic approach in looking at digital finance from a systems perspective, viewing it as a system of interconnected and interdependent components.

The present report contains a systematic analysis that sheds light on each component of digital finance and on how the components are linked with gender equality and women's economic empowerment. It addresses five key challenges that limit the use of digital finance to promote women's empowerment in Africa. The first challenge is the region's lack of an enabling environment for digital connectivity, with a lower rate of mobile and Internet usage than other global regions, despite mobile money services being far more common than on any other continent. The second is the shortage of prerequisite skills in digital and financial literacy, with only around 12 per cent of women possessing digital finance-related information and communications technology (ICT) skills, a figure

that is below the global average. The third challenge is that women face greater exclusion from conventional financial institutions and products, with only 33 per cent of women holding a formal bank account, compared with 43 per cent of men. The fourth challenge is that barriers persist, especially social and cultural norms within financial practices, products and services. The final challenge is that women are still not equally represented in relevant decision-making bodies in the digital and financial sectors and in related institutions.

Although barriers persist, there are considerable opportunities for digital transformation in Africa. Political commitment to digital transformation is strong, including through the Digital Transformation Strategy for Africa 2020–2030 of the African Union. Such initiatives as the Connected African Girls coding camp organized by ECA under its Digital Centre of Excellence are also training thousands of girls to develop coding skills and other cognitive skills to solve contemporary problems faced by Africa to close gender gaps and fight poverty.

Digital technologies promise a plethora of benefits to African women and can offload some of the additional burdens that wom-

en carry. Some digital technologies can remove barriers faced by the most vulnerable women. Digital technologies also come with risks and pitfalls, however, such as cyberintrusion and theft. The present report lists 10 key areas that require immediate action to ensure that digital systems improve women's economic empowerment in Africa:

- (a) Strengthening national development policies and plans by ensuring that they contain strategic pillars that focus on ICT and social development and by providing gender-sensitive and inclusive policy frameworks;
- (b) Explicitly integrating a gender perspective into national ICT policies and ensuring that national household surveys collect gender-disaggregated data on mobile ownership and Internet usage;
- (c) Establishing a critical mass of trained individuals, especially women, to build relevant ICT skills to harness digital finance, embedding ICT skills as a core component of school curricula and prioritizing policy initiatives focused on science, technology, engineering and mathematics;
- (d) Understanding current levels of financial knowledge and literacy, through the use of national household surveys and the inclusion of African countries in global surveys;
- (e) Embedding digital strategy frameworks and financial literacy into national curricula to encourage and facilitate children's efforts to understand digital finance initiatives, and running work, employment and entrepreneurial training schemes;
- (f) Amending financial laws at all levels of government to encourage mobile money uptake (which is positively associated with savings), in particular for women, across many African countries, thus boosting savings ratios and accentuating the effects of empowerment;
- (g) Establishing credit bureaux and registries to support the financial inclusion of larger segments of the population and thus to address the challenges of gender bias and associated assumptions in credit reporting systems;
- (h) Prioritizing the collection of gender-disaggregated financial data by

financial service providers (in business surveys) to support digital finance initiatives and shed light on how social and cultural norms and financial products and services affect women's economic empowerment;

- (i) Prioritizing women's representation in digital finance, in particular including women in decision-making at the highest levels, by establishing industry targets and quotas;

- (j) Establishing cross-regional regulatory and access-to-justice frameworks in digital finance through the African Continental Free Trade Area and embedding digital identification, using national registration systems and databases as a springboard for gender-sensitive digital finance frameworks.



**Graça Machel**

Founder of the Graça Machel Trust and  
Chair of the Board Graça Machel Trust



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Former Under-Secretary-General of the  
United Nations and Executive Secretary of the  
Economic Commission for Africa

# Introduction

# 1

## 1.1. Women's economic empowerment and digital finance

Women's economic empowerment is one of the most important processes used to reduce gender inequality. Economically empowered women are better able to participate equally in society. They have better access to and control over productive resources; access to decent work; control over their own time, lives and bodies; and a stronger voice, greater agency and more meaningful participation in economic decision-making. All of these improvements

have an impact on economic growth (see E/ECA/CGSD/2/7). For example, raising the level of employment among women to the level among men would be expected to raise gross domestic product over time by 2 per cent in the United Republic of Tanzania, 10 per cent in South Africa and 34 per cent in Egypt (DeAnne and others, 2012). Women's economic empowerment is therefore not only about protecting human rights; it is also good for countries' economies.<sup>1</sup>

Digital finance has a critical role to play in women's economic empowerment.<sup>2</sup> Tech-

<sup>1</sup> Gender equality has long been established as a key factor in producing higher levels of economic growth across Africa (Blackden and others, 2006). Various studies (International Monetary Fund, 2018) estimated that closing the gender gap could boost gross domestic product by between 4 and 32 per cent, depending on the size of the gender gap.

<sup>2</sup> As highlighted by the High-Level Panel on Women's Economic Empowerment of the Secretary-General, which identified "building digital, financial and property assets" as one of the options to promote women's economic

nologies and platforms can provide low-cost, immediate and smooth pathways for women to access and utilize financial resources to leverage technological opportunities, to improve their social circumstances and to advance their economic prospects. Digital finance can lead to increased entrepreneurial activity, better household financial management, a lower burden of daily care work and the offloading of tedious administrative financial tasks through more efficient financial processes and platforms. The potential of digital finance can also boost the entire economy, increasing productivity, supporting national development and facilitating progress towards achieving the 2030 Agenda for Sustainable Development. Since the coronavirus disease (COVID-19) pandemic, the use of online platforms has grown exponentially, making the use of information and communications technology (ICT) solutions critical to everyday activities, while further isolating people who are unfamiliar with ICT.

Digital finance refers to digital forms of credit, savings, insurance and financial transfers. In the present report, the term “digital” refers to all computing and telecommunications processes, irrespective of whether or not they are Internet-based. For example, a digital account that can be used to process services is a digital finance platform, as is a mobile money account that does not require Internet access. A report published by McKinsey and Company provides a broad definition of digi-

tal finance as “financial services delivered over digital infrastructure – including mobile and Internet – with low use of cash and traditional bank branches. Mobile phones, computers, or cards used over point-of-sale devices connect individuals and businesses to a digitized national payments infrastructure, enabling seamless transactions across all parties” (Manyika and others, 2016).

### **1.1.1. Benefits and risks of digital finance**

The widespread use of mobile phones and other forms of ICT has the potential to bring financial services within everyone’s reach (Ozili, 2018). At present, however, large differences in use exist between high-income countries, where the Internet is the most common channel used to facilitate financial services, and Africa, where 45 countries provided mobile money services in 2018 (GSM Association, 2021).

Digital finance is revolutionizing the exchange of money, in particular among people who are not serviced by commercial financial institutions (World Bank, 2016). It has the potential to lift people out of poverty and reduce inequality across society. In Kenya, for example, the mobile money system M-Pesa lifted 194,000 households – or 2 per cent of all Kenyan households – out of poverty and increased their consumption levels (Tavneet and William, 2016). Female-headed households in particular were found to have increased their financial resilience and savings, while

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empowerment (United Nations Secretary-General’s High-Level Panel on Women’s Economic Empowerment, 2017).



the labour market was affected by women moving from agriculture to services. Both of these changes were found to be correlated with higher consumption levels.

Digital financial solutions can advance women's economic participation through several transmission mechanisms. Governments, private sector entities and development organizations can use financial services to bring more women into the global economy through digital financial services by providing women with greater privacy, confidentiality, and control over their finances; giving women the opportunity to save formally, thus lowering the high cost associated with saving informally; improving women's access to formal credit and supporting risk management; reducing the time that women spend travelling to bank branches and paying utility bills; and helping to reduce the cost of banking services for women-owned businesses. The McKinsey Global Institute estimates that the cost of offering customers digital accounts for financial services can be 80 to 90 per cent lower than the cost of providing services through physical branches (Manyika and others, 2016).

Digital financial services can also lower the cost associated with receiving social benefits and government processing. In the Niger, it was found that switching the payment method for monthly government social benefits from cash to mobile phones saved the recipients an average of 20 hours of travel and waiting time to obtain payments and provided supply-saving efficiencies for the Government. Mobile mon-

ey services can therefore boost essential logistical processes and help to improve fiscal efficiency in the delivery of services (Aker and others, 2016).

There is growing evidence, however, that easier access to credit through digitalization can lead to unsustainable debt patterns, fraud and increased consumption. The Consultative Group to Assist the Poor found evidence of debt cycling in the United Republic of Tanzania, with late payers returning to their lenders to obtain high-cost, short-term loans with high penalty fees (Izaguirre, Kaffenberger and Mazer, 2018). In Kenya, 4 million mobile money users said that they had been victims of fraud in 2018 (Soursourian, 2019). Increasing evidence also suggests that most digital money is used for domestic consumption, including airtime for mobile phones (15 per cent in Kenya, 37 per cent in the United Republic of Tanzania) and personal and household goods (10 per cent in Kenya, 22 per cent in the United Republic of Tanzania). Around a third of digital borrowers report using financial credit for business purposes. Wage employees are among the most likely people to use digital credit for regular household consumption. This could indicate payday-type loans, in which digital credit provides funds to users while they await their next incoming payment (Izaguirre, Kaffenberger and Mazer, 2018).

Other important risks also exist. For example, the shortage of products specifically targeted to women and the failure to update regulations in response to changes in

the market for digital finance can accentuate gender inequality (Patel and Lascelles, 2018).

Although digitalization can create jobs, it can also lead to job losses. As organizations embrace new and innovative methods to automate operations and processes, it is necessary to adopt a forward-looking approach to identify the type of jobs that will be needed in a future digital economy. It is also necessary to assess how competition in different sectors can shape the landscape of the future digital economy (Sy, 2019).

## 1.2. Digitalization across Africa

Digitalization, in particular in the financial sector, can provide the critical backbone for economic and social transformation. It can improve inclusion, participation, communication, economic interactions, business transactions, operations and other financial and administrative tasks for women and make the whole activity smoother, more affordable and more efficient. Research suggests that the value of the digital economy in Africa may grow to as much as \$300 billion by 2025, primarily as a result of a fivefold growth in digitalization and Internet usage (Manyika and others, 2013).

ECA is placing greater emphasis on digitalization as a vehicle for transformational change across Africa, which is reflected in its policies and programmes designed to support member States. For example,

its Digital Centre of Excellence has run various workshops at coding camps for young girls designed to encourage them to learn programming skills. At the continental hybrid camp jointly organized by ECA and the International Telecommunication Union, some 2,000 girls from across Africa received training in digital skills to bridge the digital gender gap. However, embracing digital finance goes beyond programming skills; it also means making the use of ICT second nature and making services ubiquitous across platforms and countries. For this reason, digitalization is a key results area in the 2022 programme plan of the gender equality and women's empowerment subprogramme of ECA, through which ECA is aiming to develop advanced ICT capacity for girls and to use ICT to address sustainable development challenges more broadly.

The African Union Commission proclaimed that digital transformation should be one of the top priorities of Agenda 2063: The Africa We Want, of the African Union, which requires the involvement of women in science, technology and innovation – areas in which they are underrepresented. The African Union Commission has developed the Digital Transformation Strategy for Africa 2020–2030, which aims to provide a common, coordinated digitalization agenda to enhance synergies among the wide range of implementing partners while avoiding duplication of effort and optimizing the utilization of the limited resources available. The African Union Commission has also taken steps to implement the Strategy by improving connectivity, pro-

moting electronic transactions and the delivery of e-services, and creating enabling policies and regulatory environments for an African digital market.

Many African countries have taken steps to introduce and implement their own ICT policies and digital strategies. This has become a greater priority for many since the outbreak of the COVID-19 pandemic, with everyday business activities often carried out online. Most notable among these policies are those designed to support women in using ICT services. Further, the third phase of implementation under the African Continental Free Trade Area involves the negotiation of an electronic commerce protocol in which Africa has full authority to discuss all aspects of electronic commerce, including data and products being traded under electronic commerce, and to promote the emergence of African-owned e-commerce platforms at the national, regional and continental levels. Electronic commerce is prominent in policy agendas across the continent. Although Governments have introduced taxes on some types of electronic transactions, adopted electronic commerce strategies and integrated electronic commerce into national digital policies and strategies, no agreement yet exists defining electronic commerce at the global level. As a result of COVID-19, the need for online products in the electronic commerce industry has increased, making it difficult for people to engage in physical transactions. Poor intracontinental transport links create lo-

gistical challenges and significant financial expense, so discussions on electronic commerce within the African Continental Free Trade Area are paramount.

Regional organizations in Africa have taken steps to promote women's participation in science. The East African Community, for example, has adopted frameworks on gender in science, technology and innovation that promote gender mainstreaming, gender equity, entrepreneurship, training and education (Njoroge, 2022). Similarly, the gender policy of the Southern African Development Community supports equal access for girls and boys to study science and mathematics and also promotes women's and girls' access to tertiary education in subjects traditionally dominated by men and boys.

### 1.3. Digital finance and women's economic empowerment in Africa

Digitalization is critical to all components of women's economic empowerment.<sup>3</sup> According to the literature on economics, indicators of women's economic empowerment may be reflected through resource-based approaches (women's access to economic resources, such as public transfers and welfare receipts, the income shares of women, unearned income, assets brought into marriage or current assets, employment, yield by gender from farm plots, etc.) (Abekah-Nkrumah and

<sup>3</sup> See Evans and Nambiar (2013) and Abekah-Nkrumah and Lawson (2020) for further discussion of empowerment, including reference to collective action and leadership.

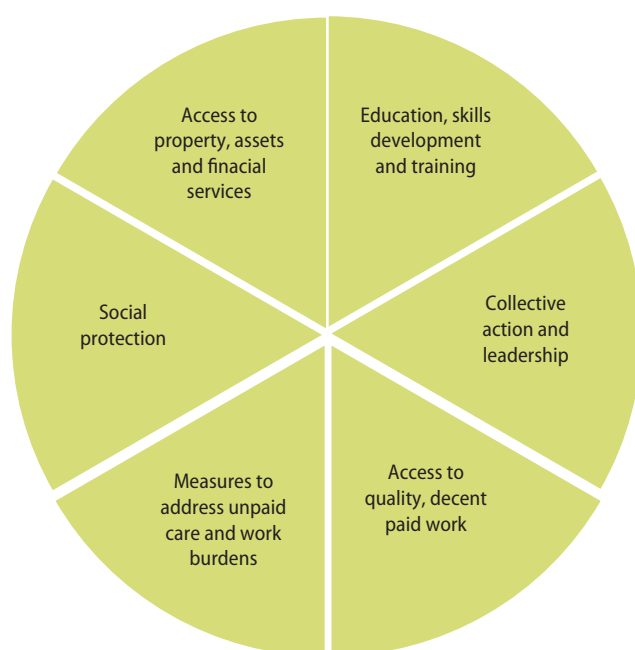
Lawson, 2020). The literature on human development, by contrast, has tended to focus on what Amartya Sen refers to as the “capability approach” – health, education and income (Sen, 1999) – which can be reflected as both enablers and constraints (see figure 1). That is, women’s empowerment is typically focused on gender-based differences in access to economic resources or capabilities or achievement. A major challenge with such an approach is that it ignores the circumstances under which women have access to resources or achievement.

Gender divides in access to basic services and decent work are the result of differences in infrastructure (rural versus urban) and social norms. Goldstein and Udry (cited in Abekah-Nkrumah and Lawson, 2020), for instance, indicate that yield differences between male- and female-owned

plots in Ghana are due to constraints faced by women, which are deemed to be rooted in the power relations of social groupings and the positions held in such social hierarchies. However, the role that digitalization plays in overcoming such issues has often been overlooked.

Digitalization can empower women indirectly if fewer intermediaries are involved. This is particularly true for digital finance, as women may gain direct access to financial, education and other services or decent work at lower direct financial costs. In addition to facing less intermediary discrimination in access to services, they improve their access to formal credit and create the potential for increased business margins with financial tools, improving inventory, stock rotation and access to social protection.

**Figure 1: Women’s economic empowerment: enablers and constraints**



Source: Adapted from Hunt and Sammam (2016).

It is vital, however, for women's empowerment to be addressed in digital finance in the context of the systems that surround enablers and constraints. A broader perspective of women's economic empowerment is therefore required, incorporating everything from infrastructure and equal access to the protection of rights, with other dimensions of digitalization encompassed throughout the expansion of digital finance to deliver on women's empowerment. Consideration of fiscal space, for example, is particularly important to gender-responsive budgeting, and the legal and regulatory frameworks that underpin gender rights and access to basic services, employment and a minimum standard of living through social protection are critical.

#### **1.4. How coronavirus disease accelerated digital change and made it more necessary**

Technology is an adaptive and fast-paced concept that can be adopted or ingested in times of change, with varying benefits and challenges. Many have embraced digital technologies as a result of the COVID-19 pandemic: people have adopted alternative work arrangements, such as working from home and using contactless payment systems, and businesses have moved away from physical contact to an entirely online presence. Some might consider digital technologies to be synonymous with the pandemic generation, but this is not the first time that digital technology has played a key role in facilitating social and cultural change. The development of social

media and other web 2.0 technologies occurred alongside people's collective curiosity in interacting with each other online, even though the effects of social media, both positive and negative, were not fully understood during the first decade of the social media revolution.

The pandemic has forced many people to embrace online platforms and has undoubtedly improved digital literacy. Largely driven by businesses, people have often had no choice other than to understand and use digital technologies to participate in everyday activities, including conducting business, procuring services and using e-government portals and an array of online services. Where many would have been reluctant to use digital services and platforms in the past, the pandemic has made it necessary to embrace such skills in order to perform everyday tasks.

Digital finance has inadvertently become a more popular alternative to traditional financial platforms. Banks have taken their services online or have allowed customers to conduct their business and complete transactions through their mobile phones. Digital finance has become more popular and more easily distinguishable from traditional financial services as a result of restrictions on movement and recommendations not to exchange physical cash owing to the COVID-19 pandemic.

Women can participate easily in online platforms, without gender markers. Online identity is fluid and malleable: every time someone uses online services, they are

asked to register their details, such as their name, gender and other identifiable information. Depending on how the services are used, some may wish to provide their true details, whereas others may wish to remain anonymous. As a result, the concept of online identity is fluid, with many recognizing that it can be easily manipulated or tampered with, in line with the Internet culture of anonymity. Perceived online identities are therefore less important. It is understood that the online handle being used may not identify the actual user. This can reduce the importance of identity markers that could create biases or be used to discriminate or marginalize. Women can benefit from environments in which identity is taken less seriously and the person is assigned a number or username, such as when online banking services use account numbers or user-generated handles.

COVID-19 has created new spaces for women to participate online and the potential for structural change. With online environments being so widely used, women can participate online without having to face many of the physical challenges they previously encountered. This has the potential to not only increase access but also lower entry barriers and remove glass doors and ceilings to business, careers and livelihoods. An online environment removes physical participation, which, it is hoped, will remove discriminatory physical structures and barriers, which is critical in the traditionally male-dominated financial and technology sectors.

## **1.5. Gender-sensitive framework for digital finance**

Creating an appropriate framework to consider the gender component of digital finance requires the inclusion of various elements of digitalization and finance. In digital finance, the economic and social dimensions of banking, as well as cultural norms for how household finances and money are handled, have varying gender-related connotations and effects. Many of the definitions and analyses that describe digital finance look at core aspects of digital finance. In the present report, these core aspects have been grouped to provide a conceptual framework for analysis of digital finance for women's economic empowerment, as shown in figure 2.

The report includes a gender-specific analysis of digital finance concepts across the six dimensions shown in figures 2 and 3. These dimensions reflect the analytical framework and chapters, which are underpinned by the gender-disaggregated data and information required for evidence-based decision-making and policy formulation for women's economic empowerment.

## **1.6. Report aims and structure**

The aim of the 2021 edition of the *African Women's Report*, on the theme "Digital finance: a pathway to women's economic empowerment in Africa", is to explore and dissect how digital finance can contribute to the achievement of Sustainable Development

Figure 2: Conceptual framework for digital finance for women's economic empowerment



opment Goal 5 and its potential to promote women's economic empowerment through financial inclusion to deliver on gender equality.

The report explores the enablers, prerequisites, risks, barriers, opportunities and challenges associated with harnessing digital finance for women. It also dissects the components of digital finance, including digital and mobile connectivity; digital and financial literacy and skills; financial inclusion and access to credit; financial products and services; women's representation in decision-making, technology and the finance sectors; and rights and regulatory concerns.

The structure of the report is based on the conceptual framework presented in the previous section. Following the introduc-

tion to the topic in chapter I, each chapter explores an individual component of the framework. Figure 3 depicts an overview of the analytical framework flow and the structuring of the chapters and themes in relation to the conceptual framework of the report.<sup>4</sup>

Chapter II is focused on key enablers of digital finance, including digital and mobile connectivity, digital finance readiness, ICT usage and online services. The financial and digital literacy and skills that are necessary for digitalization and the building of a critical mass of digitally and financially literate women equipped with the skills needed to use digital finance tools and services are highlighted in chapter III. The focus of chapter IV is on such risks as financial exclusion and lack of access to credit, including the risks associated with

<sup>4</sup> The framework and flow of the chapters is presented in figure 2, which shows how each topic relates to the research study. Figure 3 provides further details of the analytical components.

digital finance solutions and financial inclusion. In chapter V, the focus is on potential barriers, such as biases in financial products and services and disparities in financial practices and norms, all of which, whether rooted in social or cultural norms, may present barriers to women who seek to take advantage of the many benefits of digital finance.

The focus in chapter VI is on representation, regulation and rights that perpetuate many of the barriers and disadvantages

faced by women. The final chapter of the report provides some policy recommendations for issues discussed in previous chapters, in line with the conceptual framework, to enhance digital connectivity and usage, to ensure adequate education and training for digital and financial skills, to address social and cultural challenges and lower access barriers for financial products and services, and to harness gender-specific opportunities and address gender-related regulatory concerns.

**Figure 3: Analytical framework of the report in relation to the conceptual framework**

Chapter I: Introduction	<ul style="list-style-type: none"> <li>• Introduction and background</li> <li>• Outline and structure of the report</li> <li>• Conceptual and analytical framework</li> </ul>
Chapter II: Enablers	<ul style="list-style-type: none"> <li>• Digital and mobile connectivity</li> <li>• Digital finance readiness</li> <li>• Information and communications technology usage and online services</li> </ul>
Chapter III: Prerequisites	<ul style="list-style-type: none"> <li>• Digital literacy and skills</li> <li>• Financial literacy and skills</li> <li>• Education in science, technology, engineering and mathematics as a cornerstone for digital and financial literacy and skills</li> </ul>
Chapter IV: Risks	<ul style="list-style-type: none"> <li>• Financial inclusion</li> <li>• Access to credit</li> <li>• Financially vulnerable persons</li> <li>• Savings and financial practices</li> </ul>
Chapter V: Barriers	<ul style="list-style-type: none"> <li>• Financial credit reporting systems</li> <li>• Financial products and services</li> <li>• Disparities in financial practices</li> </ul>
Chapter VI: Opportunities and challenges	<ul style="list-style-type: none"> <li>• Women's representation</li> <li>• Decision-making</li> <li>• Role of technology and gender-specific dimensions</li> <li>• Rights and regulatory services</li> </ul>
Chapter VII: Policy considerations and the way forward	<ul style="list-style-type: none"> <li>• Improvements to digital and mobile connectivity and usage</li> <li>• Measures to ensure adequate digital and financial literacy and skills</li> <li>• Solutions to social and cultural challenges and barriers to financial inclusion</li> <li>• Measures to harness gender-specific opportunities and to address gender-related regulatory challenges</li> </ul>



# Enabling digital finance through mobile connectivity

## 2

Digital and mobile connectivity, digital finance readiness and ICT usage, and on-line services are key components of the enabling factors associated with the gender-sensitive dimension of digital finance. They are also essential factors that can allow the digital gender gap to begin to close.

- Africa has the lowest per capita usage of the Internet in the world. The gender gap for Internet usage on the continent increased from 21 per cent in 2013 to 33 per cent in 2019.
- There is a market gap of 1.1 billion women globally without mobile Internet access, including 200 million women in sub-Saharan Africa.
- The most significant barriers to mobile phone ownership are found in rural areas, where limitations, such as affordability, literacy, digital skills and restrictive social norms, persist.
- Digital mobile ownership and usage penetration are the lowest in countries where gender gaps are the widest.
- Although mobile money services are more common in Africa than in other regions of the world, only 29 per cent of women in sub-Saharan Africa use mobile Internet, compared with 48 per cent of women globally.



Africa is at an important inflection point of demand and support for digital transformation (World Bank, 2019a). Digitalization can boost inclusive growth, drive innovation, create jobs, improve service delivery and reduce poverty across Africa. It could increase per capita income by 1.5 per cent and reduce the poverty headcount by 0.7 per cent per year (World Bank, 2019a). The COVID-19 pandemic could accentuate these effects. Similarly, greater investment in education could double the impact of digitalization. Policies and regulations to create a vibrant business climate could drive additional gains, increasing the tax base and enabling the development of skills that would give workers access to the jobs of the future. Accountable institutions that use the Internet to empower people would also be beneficial.

Digitalization and related digital and mobile connectivity infrastructure are essential to create an enabling environment for digital finance platforms, tools and services. Access to the Internet, mobile subscriptions and telephone services, and ownership of digital devices can provide an indicator of digital finance readiness, uptake and usage. Digital infrastructure

varies greatly between rural and urban settings, which can have additional effects on the use of digital finance and online applications and on basic ICT access.

Africa has the lowest proportion of Internet users, at 28.2 per cent in 2019, compared with a global average of 53.6 per cent (World Bank, 2019a).<sup>5</sup> This gap in Internet usage between Africa and the rest of the world can exacerbate existing inequalities in wealth, income, opportunity, education and health. For women, this situation is compounded by the digital gender divide, which is growing as digitalization spreads. The global gender gap in Internet usage increased from 11 per cent in 2013 to 17 per cent in 2019; in Africa, the gap increased from 21 per cent in 2013 to 33 per cent in 2019 (International Telecommunication Union, 2019c). Often, the people who lack safe and affordable access to digital technologies are those who are already marginalized, including women, older persons, persons with disabilities, persons from indigenous groups and people living in poor, remote or rural areas.

To some extent, a digital gender divide appears to persist irrespective of a country's ICT access level, economic performance, income level or geographical location. Cultural and institutional constraints further shape the manifestations of the digital gender divide. As technologies become more sophisticated, the digital gender divide is expected to widen, enabling more

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<sup>5</sup> These proportions may vary according to the sources used. For example, according to the World Telecommunication/ICT Indicators Database (International Telecommunication Union, 2021), 28.6 per cent of Africans and 51.4 per cent of the global population used the Internet in 2019.

transformational use and impacts (Sey and Hafkin, 2019). The digital gender divide can also affect access to and the use of digital finance tools, platforms and services that rely on digital and mobile connectivity infrastructure.

Examples of national initiatives indicate that attempts are being made to address the digital gender divide. Burundi, for example, established a national development policy for ICT with a strategic pillar focusing on ICT and social development to bridge the digital divide.<sup>6</sup>

## 2.1. Digital and mobile connectivity as foundations for accessing digital finance

### 2.1.1. Basic access to information and communications technologies

Women in Africa have less access than men to ICT, as measured by various indicators of access (see table 1). Basic access to ICT refers to access to and the use of devices

such as computers, laptops and mobile phones. Indicators include the proportion of people who use a computer, the Internet or a mobile telephone and the proportion who own a mobile phone. Table 1 provides a gender-disaggregated overview of basic access to ICT in Africa taken from a global sample of 78 countries. Although data for African countries are limited, existing data can provide some indication of basic access for each gender across the region.<sup>7</sup>

Data from seven African countries suggest that, as overall mobile phone ownership has increased, the gender gap in ownership has narrowed. Mobile phones are one of the key channels for accessing digital finance platforms, tools and services. Country-level data suggest that, in Algeria, the gender gap is only 3 per cent, with mobile phone ownership surpassing 60 per cent for both men and women. In Mozambique, by contrast, mobile phone ownership stands at 19 per cent for men and only 11 per cent for women, representing a gender gap of 42 per cent (see figure 4).

**Table 1: Indicators of basic access to information and communications technology in Africa**

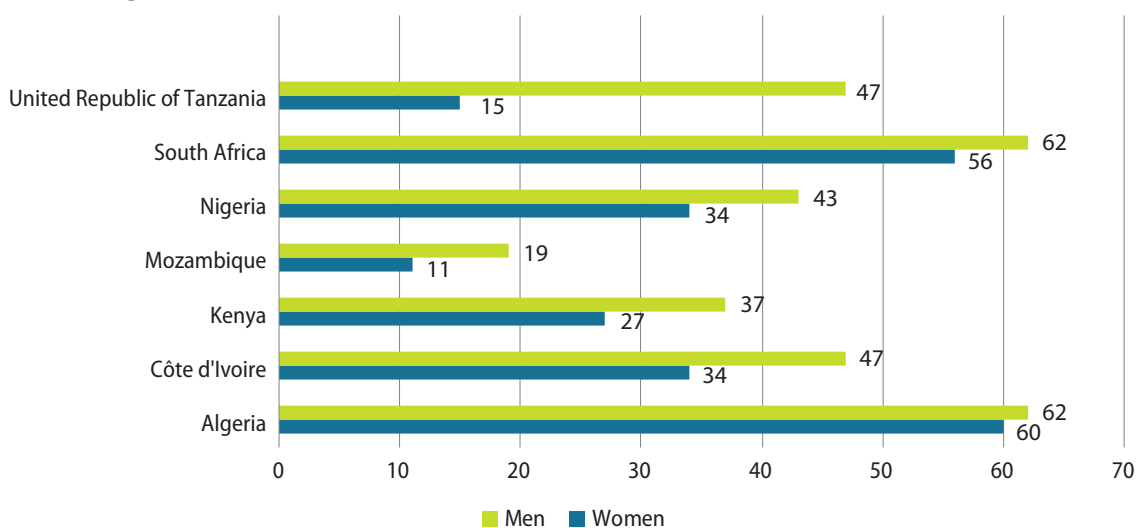
	Number of reporting economies	Women (percentage)	Men (percentage)
Computer usage	6	30.2	34.3
Internet usage	9	28.2	32.4
Mobile phone usage	4	81.7	84.25
Mobile phone ownership	6	64.7	71.2

*Source:* International Telecommunication Union (2021).

<sup>6</sup> See the country report of Burundi for the regional 25-year review of the Beijing Declaration and Platform for Action (République du Burundi, 2019), submitted to ECA in November 2019.

<sup>7</sup> The African countries included in the study are Botswana, Burundi, Cabo Verde, Egypt, Mauritius, Morocco, the Niger, the Sudan and Zimbabwe.

**Figure 4: Mobile phone ownership among men and women in selected countries (Percentage)**



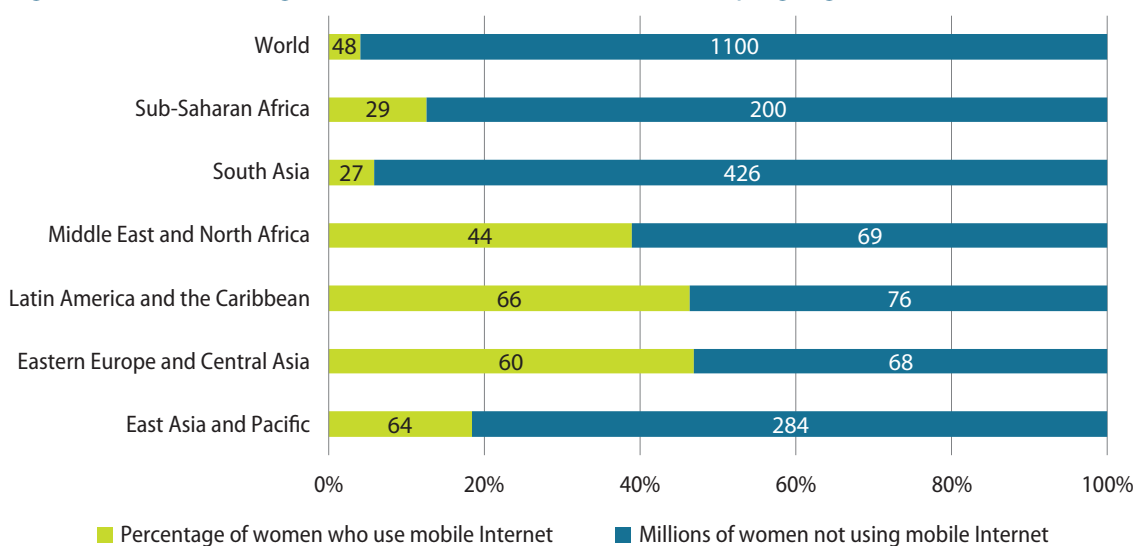
Source: Rowntree (2019).

### 2.1.2. Use of mobile Internet services

A total of 1.1 billion women globally, including 200 million women in sub-Saharan Africa (see figure 5), do not have access to mobile Internet services. About 48 per cent of women globally use mobile Internet services, while in sub-Saharan Africa, the same figure is only 29 per cent.

Although the data are limited, it appears that mobile phone ownership and usage penetration are the lowest in countries where gender gaps are the widest (Rowntree, 2019). According to data from 2018, in low and middle-income countries, women are 10 per cent less likely than men to own a mobile phone and 23 per cent less likely to use mobile Internet services. Of

**Figure 5: Women’s usage of mobile Internet services, developing regions, 2018**



Source: Rowntree (2019).

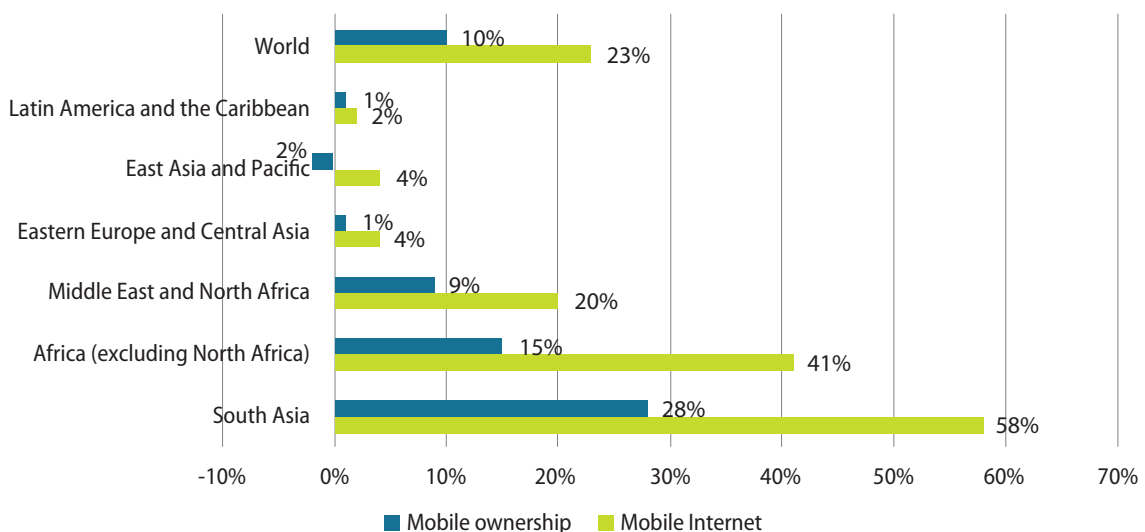
the regions shown in figure 6, Africa has the second largest gender gap for mobile phone ownership, with only 69 per cent of women estimated to have owned a mobile phone in 2018, compared with 80 per cent for men. Nevertheless, this figure for women indicates substantial progress compared with five years earlier when only 40 per cent of African women owned a mobile phone. The gender gap in sub-Saharan Africa is 15 per cent for mobile phone ownership and 41 per cent for use of mobile Internet services (see figure 6).

Gender-disaggregated country-level data on mobile phone ownership and mobile Internet usage are relatively limited. A report by the GSM Association describes the situation in seven African countries (Rowntree, 2019). In those countries, it was found that, for both women and men, the main barriers to mobile Internet usage were illiteracy and insufficient skills, followed by lack of affordability, relevance,

safety and security. The list of the main barriers is fairly similar for adults in other low and middle-income countries. In four of the seven African countries, affordability was the main barrier for women (Rowntree, 2019).

A significant proportion of women and men also stated that they did not know that mobile Internet services existed. Lack of knowledge of mobile Internet services constitutes a barrier to digital finance and subsequent financial inclusion. The diversity of responses was vast among the five surveyed African countries, ranging from Algeria, where only about 11 per cent of women were unaware, to Mozambique, where 56 per cent of women were unaware. In all African countries, more women than men were unaware of mobile Internet services (Rowntree (2019)).

**Figure 6: Gender gaps in developing regions, 2018 (Percentage)**



Source: Rowntree (2019).

Note: The gender gap in mobile ownership in East Asia and the Pacific was in favour of women.

### 2.1.3. Rural versus urban connectivity

There are large disparities in women’s mobile phone ownership in Africa between urban and rural settings. Of the seven countries included in the study, all except South Africa had wider gender gaps in mobile phone ownership in rural areas. The difference between the urban and rural gender gaps varied greatly, ranging from only 1 percentage point in Algeria to 25 percentage points in Mozambique; in South Africa, the urban gender gap was actually 4 percentage points higher than the rural gender gap (see figure 7).

The most significant barriers to mobile phone ownership in rural areas include the lack of phone affordability, illiteracy and insufficient digital skills among the population, along with restrictive social norms and a lack of awareness of the benefits of using the Internet. These barriers are of greater relevance to women, who are

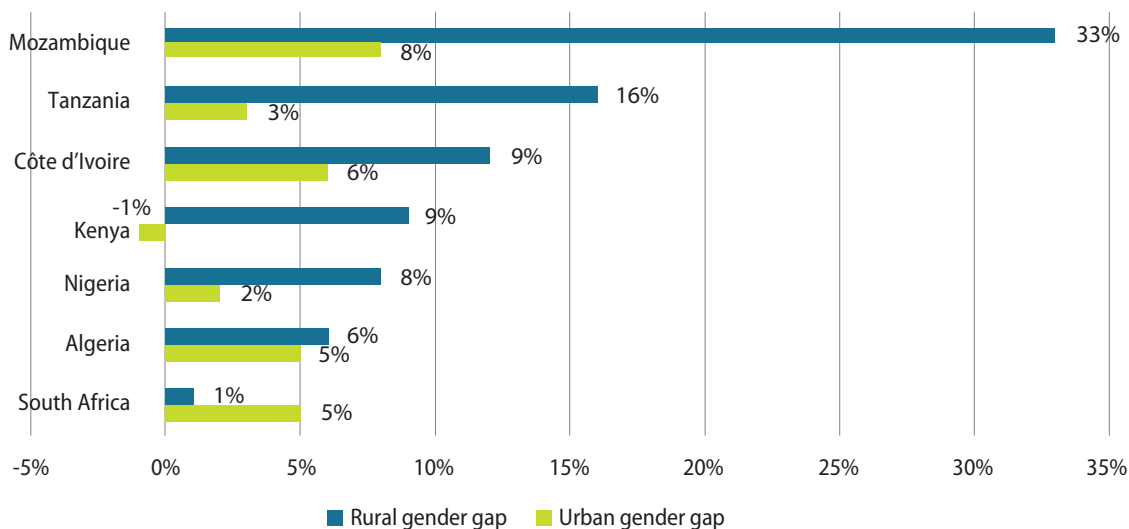
most often in lower income brackets, with less education and with more responsibility for household domestic tasks than men (Rowntree, 2019).

## 2.2. Information and communications technology operations that are relevant to digital finance uptake and usage

### 2.2.1. Access to and use of digital financial services

ICT can enhance financial inclusion so that the unbanked and underbanked have access to formal financial systems. The Global Findex, a financial inclusion database created by the World Bank, provides gender-disaggregated data on access to and the use of formal and informal financial services. The indicators for digital financial services show the percentages of people who, in 2017, used a mobile phone or the

Figure 7: Gender gap in mobile ownership in urban and rural areas (Percentage)



Source: Rowntree (2019).

Note: The urban gender gap in Kenya was in favour of women.

Internet to access an account, used the Internet to pay bills or to make online purchases, made or received digital payments, and used a mobile money service. Table 2 provides a breakdown of these indicators for women and men in Africa.

Africa has the lowest scores for the majority of indicators concerning access to and use of digital financial services. Gender disparities can be observed across all the aforementioned indicators for financial services and are far more prominent than

for basic access to ICT. Furthermore, the use of digital financial services is much lower than basic access to ICT for both men and women.

### 2.2.2. Online account services

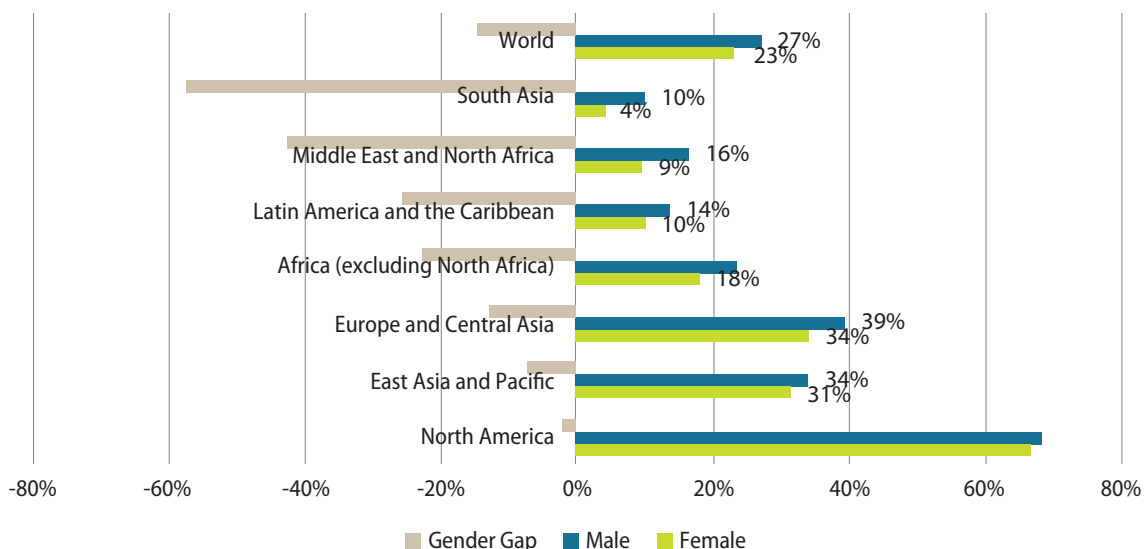
Figure 8 shows that the global gender gap for digital access to a financial account is estimated at 4 percentage points (27 per cent for men, 23 per cent for women). In sub-Saharan Africa, this gender gap is 5.4 percentage points, the second highest of all the regions in the study, after the Mid-

**Table 2: Access to and use of digital financial services in Africa**

	Number of reporting economies	Women (percentage)	Men (percentage)
Use of mobile phone/Internet to access an account	40	15.3	19.6
Use of the Internet to pay bills or make purchases online	40	6.0	9.8
Making or receiving digital payments	40	28.5	38.5
Use of mobile money services	36	19.6	25.5

Source: Demirgüç-Kunt and others (2018).

**Figure 8: Persons over the age of 15 who used a mobile phone or the Internet to access a financial account in 2017 (Percentage)**



Source: Demirgüç-Kunt and others (2018).

dle East and North Africa (7 percentage points). The lowest gender gap is in North America, at 1.5 percentage points. Gender gaps by region are somewhat related to the overall level of digital access to financial accounts: developed regions have the highest levels of digital infrastructure and access and the smallest gender gaps.

### 2.2.3. Digital payments

Data on digital payments suggest men and women make more mobile money payments than they receive in every region (table 3). Most regions exhibit higher gender differences for payments received (table 4), and in most regions, gender differences widened between 2014 and 2017 (see tables 3 and 4). In sub-Saharan Africa, the gender differences increased by 2.2 percentage points for making digital pay-

ments and 2.3 percentage points for receiving them. These changes created additional challenges and barriers affecting the ability of women to make or receive digital payments.

### 2.2.4. Growth of mobile money services in Africa

Mobile money services are more common in Africa than in all other regions of the world. The first mobile money service was launched in the Russian Federation in 2002. Services were then launched in the Philippines and Thailand in 2004 and in Bangladesh in 2006. The first mobile money service in Africa was M-Pesa, which was launched in Kenya in 2007. Services then spread rapidly in developing economies and especially in Africa. By the end of 2020, about half of all operators in the

**Table 3: Persons over the age of 15 who had made digital payments in the previous 12 months**

	2014		Percentage points difference	2017		Percentage point difference	Change in percentage point difference
	Female (percentage)	Male (percentage)		Female (percentage)	Male (percentage)		
East Asia and the Pacific	37.3	38.5	1.2	52.8	56.5	3.7	+2.5
Europe and Central Asia	60.3	65.5	5.3	69.2	74.2	5.0	-0.3
Latin America and the Caribbean	29.7	38.8	9.1	32.2	40.7	8.6	-0.5
Middle East and North Africa	..	..	..	21.1	34.1	13.0	..
North America	91.3	86.6	4.7*	89.1	90.6	1.5	-6.2
South Asia	6.7	20.1	13.5	13.0	27.1	14.1	+0.7
Sub-Saharan Sub-Saharan Africa	19.4	26.3	6.8	24.6	33.7	9.1	+2.2
World	34.0	39.3	5.3	41.5	48.7	7.2	+1.9

Source: World Bank (2019b).

\*: Indicates a gender gap in favour of women.



**Table 4: Persons over the age of 15 who had received digital payments in the previous 12 months**

	2014			2017			Change
	Female (percentage)	Male (percentage)	Percentage point difference	Female (percentage)	Male (percentage)	Percentage point difference	Percentage point difference
East Asia and Pacific	34.7	37.8	3.2	34.1	39.9	5.8	+2.7
Europe and Central Asia	52.8	61.0	8.2	57.8	60.7	2.9	-5.3
Latin America and Caribbean	27.5	32.7	5.2	28.5	32.4	4.0	-1.2
Middle East and North Africa	..	..	..	21.0	34.4	..	..
North America	78.8	78.4	0.4*	68.0	64.7	3.4*	+3.0*
South Asia	7.2	13.0	5.9	11.8	19.0	-7.1	-1.3
Sub-Saharan Africa	18.4	23.4	5.0	21.2	28.5	7.3	+2.3
World	31.1	35.5	4.5	31.7	37.0	5.3	+0.8

Source: World Bank (2019b).

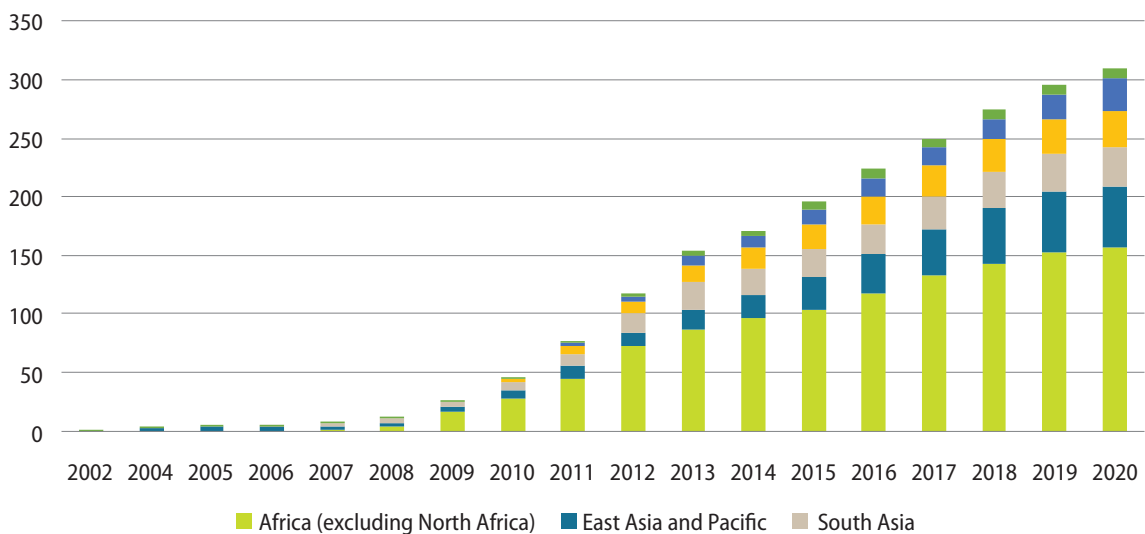
\*: Indicates a gender gap in favour of women.

world (157 of 310) were in sub-Saharan Africa (see figure 9).

African countries are developing their regulatory environments for mobile money services. In the Mobile Money Regulatory

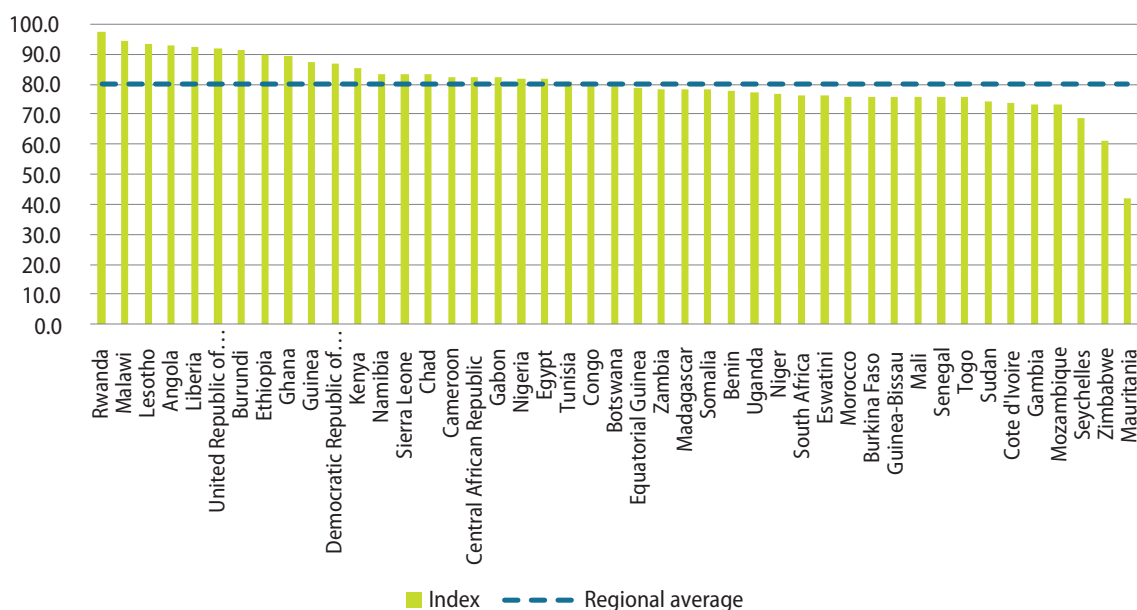
Index (GSM Association, 2021b), all African countries except Mauritania scored higher than 60 out of 100 for their regulatory environment for mobile money (see figure 10), and 21 African countries scored over 80, up from 7 in 2018.

**Figure 9: Availability of mobile money services, by region, 2002-2018**  
(Number of services)



Source: GSM Association (2021c).

Figure 10: Mobile money regulatory index, 2021 (0-100)



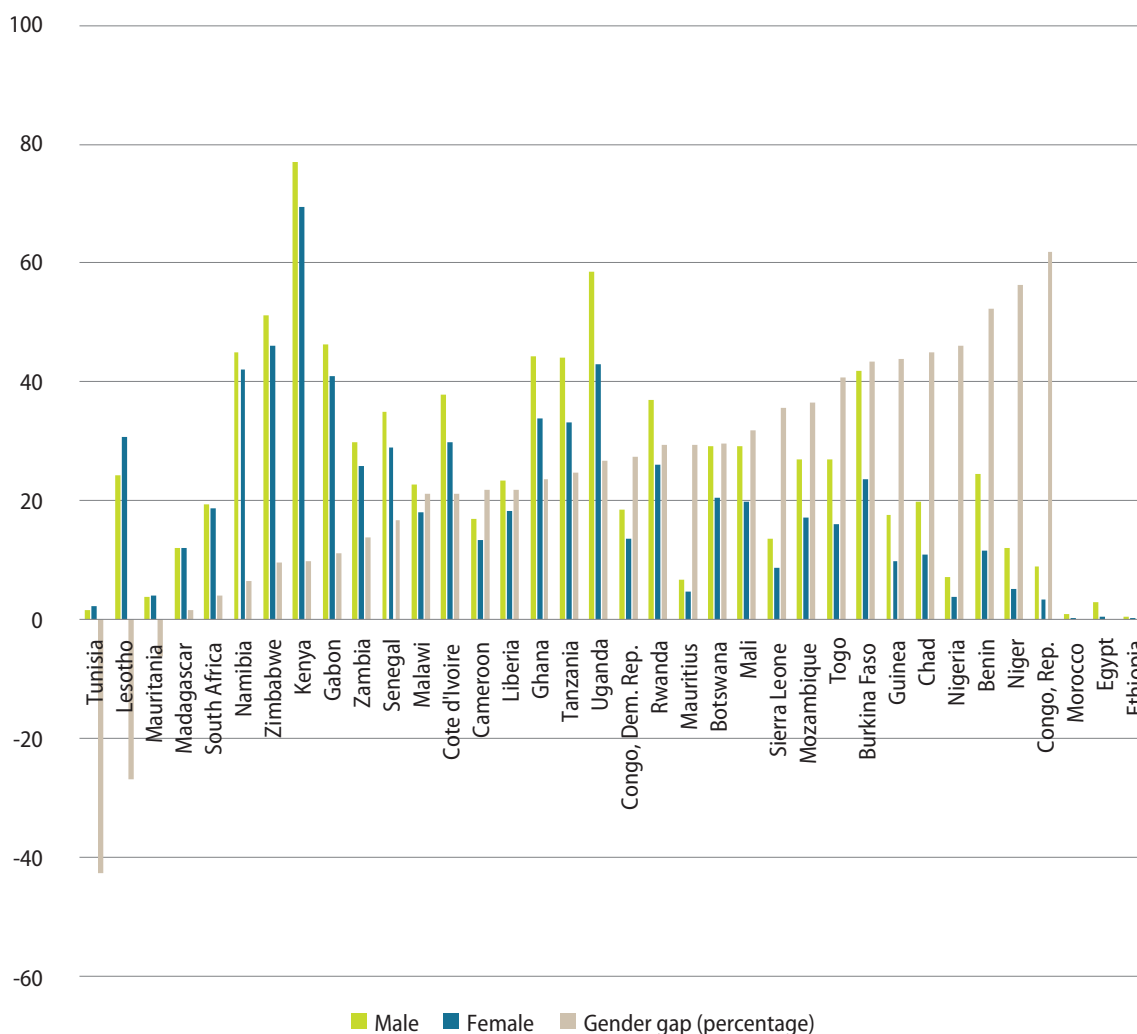
Source: GSM Association (2021b).

Gender-disaggregated data at the country level reveal a diverse picture (see figures 11–13), with gender gaps in Africa ranging from a percentage difference of 90.2 in favour of men (Ethiopia) to 42.6 in favour of women (Tunisia) for the proportion of people with mobile money accounts (World Bank 2019b). The variation between these countries is extensive, but not necessarily related to the levels of mobile money accounts.

Gender gap calculations have not been included for countries that had a zero figure for male or female mobile money accounts.

As the overall percentage of adults with mobile money accounts increases, the gender gap decreases. Uptake of mobile money accounts among men is also higher in Africa than in the rest of the world, as demonstrated by the 36 African countries included in the 2019 study for the World Bank Global Financial Inclusion database. This is supported by the narrowing gender gaps described in previous sections and could, to some extent, reflect a lag effect, where women’s uptake is slower than men’s in the initial phases, but a catch-up effect occurs at later stages (World Bank 2019b).

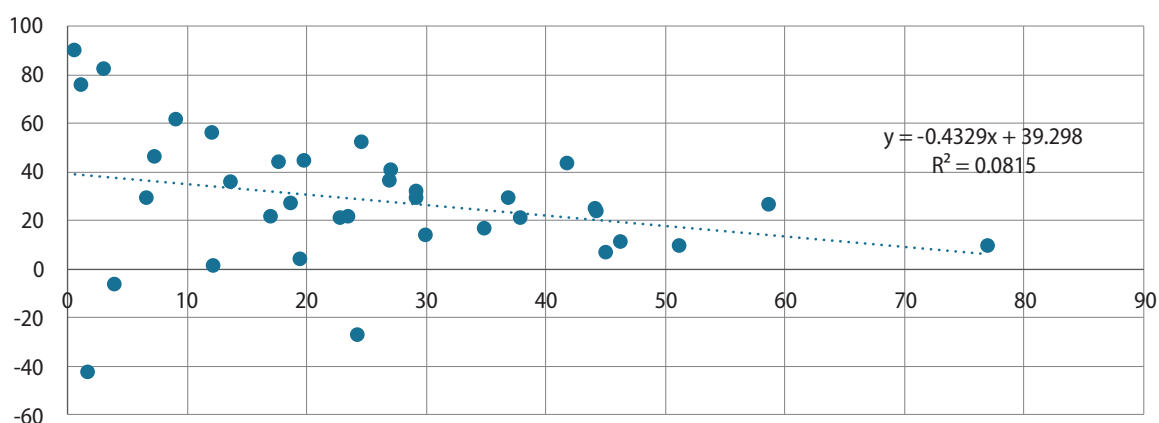
Figure 11: Mobile money accounts by gender for person over the age of 15 (Percentage)



Source: World Bank (2019b).

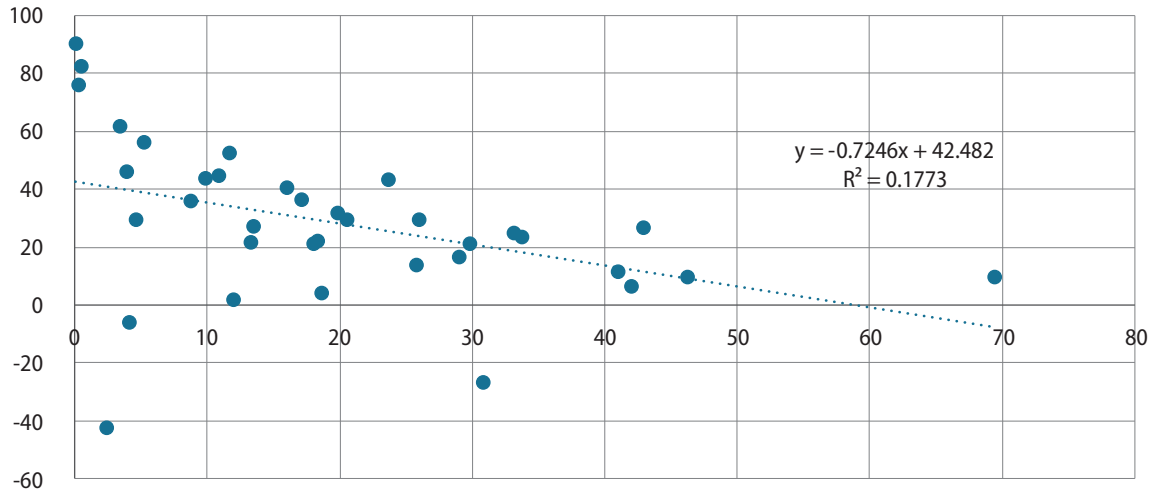
Note: The gender gap in Lesotho, Mauritania and Tunisia was in favour of women.

Figure 12: Men over 15 years of age who had a mobile money account in 2017 and the gender gaps, 35 African countries (Percentage)



Source: World Bank (2019b).

Figure 13: Women who had a mobile money account in 2017 and the gender gaps, 35 African countries (Percentage)



Source: World Bank (2019b).

In many African countries, gender inequality is less pronounced with mobile money than with formal accounts held with financial institutions. Further comparison of data on formal financial accounts and mobile money accounts from the World Bank

Global Financial Inclusion dataset shows that gender gaps were higher for formal financial accounts in 24 of 34 African countries in 2014 and 24 of 36 countries in 2017 (World Bank, 2019b).

# Prerequisite skills in digital and financial literacy

# 3

## Key issues: prerequisites

Levels of prerequisite skills in digital and financial literacy are very low in most African countries, yet they are vital for building an enabling framework for digital and ICT services. As outlined in the previous chapter, to close gender gaps and empower women it is vital to provide an enabling framework and to ensure a developed skill base for financial literacy.

- The proportion of women in North Africa with digital finance skills doubled from 12.5 per cent in 2014 to 25.7 per cent in 2018, which was close to the global average of 27.7 per cent.
- In Africa as a whole, approximately 12 per cent of women have sufficient digital finance-related ICT skills, which is below the global average. Capacity development programmes are therefore clearly needed to enhance digital finance skills.
- Globally, a third of adults are financially literate. The poorest people, those with lower levels of education and women tend to have the least financial knowledge.
- To improve financial literacy, it is essential to increase financial knowledge, improve attitudes and behaviours and develop programmes

that build digital finance skills in many African countries. It is also essential to address the pace and scope of such programmes and their impact.

- Sub-Saharan Africa was below the global average in both 2015 and 2018, at 15.5 per cent and 16.1 per cent, respectively, and experienced a slight decline in the number of students graduating from science, technology, engineering and mathematics programmes in the same period.
- There is a clear need to collect additional and appropriate gender-disaggregated data that can be used to support the design and refinement of country-specific policies.

Gender gaps have been observed in digital connectivity and digital access, and divides can translate into digital illiteracy and skill disparities, which can exist along the entire digitalization continuum. Science, technology, engineering and mathematics form the cornerstone of digitalization and the subsequent uptake and use of digital finance tools, platforms and services.

The possession of digital and financial skills significantly influences competence in the use of digital finance tools and the extent to which those tools are used. In the fields of science, technology, engineering and mathematics, it is crucial to apply logical and critical thinking

and problem-solving and skills and to have the capacity to interpret, translate and adapt technical ideas and concepts. Given that digitalization and digital finance are rooted in the principles of science, technology, engineering and mathematics, it is important to understand the underlying literacy and skills challenges in order to effectively develop capacity in the digital finance domain.

Digital and financial literacy and skills are prerequisites for the uptake and use of digital finance tools. Digital literacy and skills facilitate the digitalization of finance, as they underpin the design of online tools, platforms and services that are more accessible, and the development of digital applications and software that are easier to understand and more intuitive. Whereas financial literacy and skills facilitate understanding of the financial aspects of digital finance. Boosting financial literacy and skills empowers women to access financial content, to dissect, distil and choose relevant financial products and services, and to perform finance-related transactions using such tools, platforms and services.

Financial literacy is relatively poor in the majority of African countries. In the Standard and Poor's 2015 Global Financial Literacy Survey, African countries were ranked lower than the rest of the world for financial literacy. The most financially literate African country was Botswana, with 51 per cent of the population regarded as financially literate,

and the least was Somalia, with 15 per cent (Klapper, Lusardi and van Oudheusden, 2015).

### 3.1. Digital skills and the application of digital knowledge

A minimum level of digital and technical literacy and skills is needed to maximize the returns on efforts to increase access to digital finance tools, platforms and services. This includes understanding digital hardware and software and enabling the set-up, use and maintenance of those tools, platforms and services. Such skills are relevant for consumers (who are the end users), client entities, designers and developers.

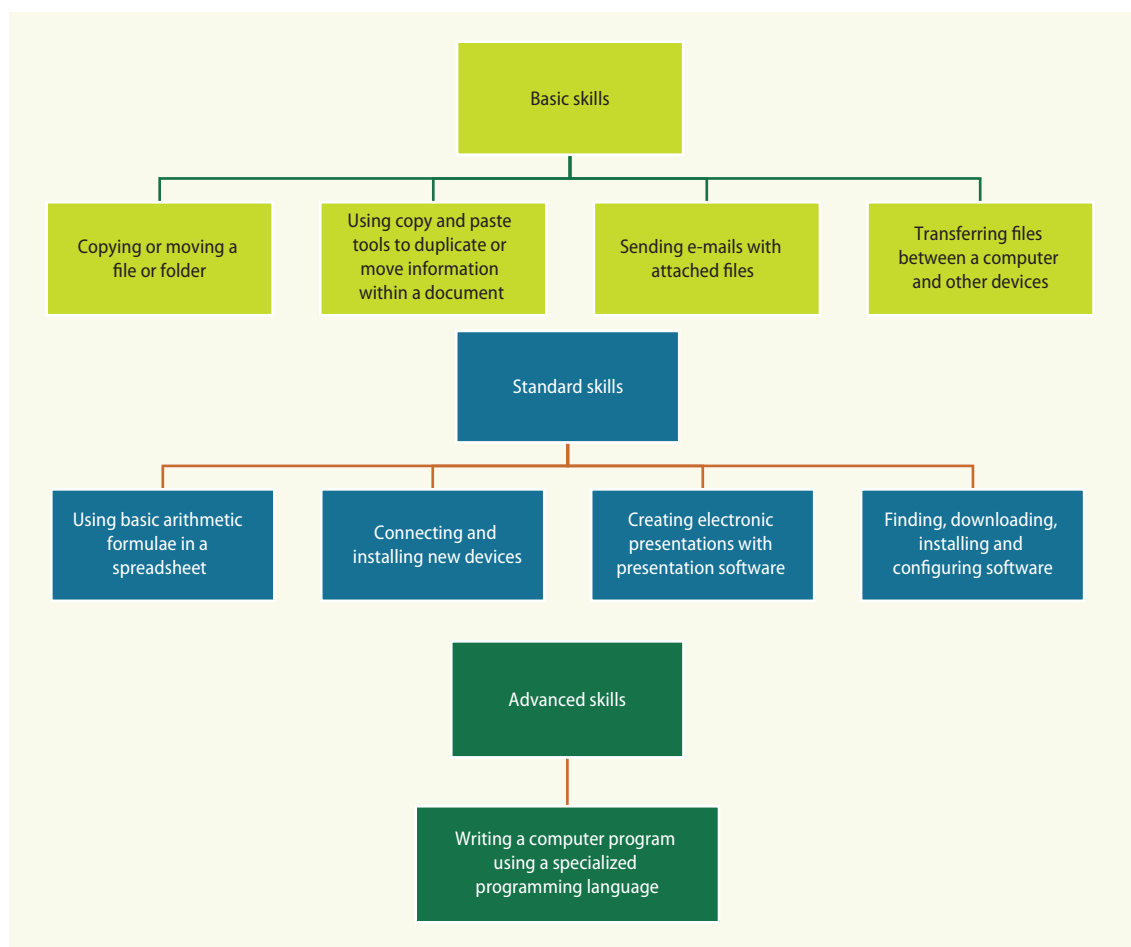
#### 3.1.1. Information and communications technology skill levels

Digital skill levels can be described as either basic, standard and advanced skills, depending on the specific ICT operations, activities and tasks that one can perform with those skills (see figure 14). Although there is a general consensus on the definitions of basic digital skills, there are no agreed definitions for standard or intermediate digital skills (Sey and Hafkin, 2019). The International Telecommunication Union has grouped ICT skills into these three broad categories, which are also used to monitor progress towards Goal 4, indicator 4.4.1, which addresses the proportion of young people and adults with ICT skills by skill level (International Telecommunication Union, 2022). The or-

ganization calculates a value for basic skills by taking the highest value of the available recent data for: copying or moving a file or folder; using copy and paste tools to duplicate or move information within a document; sending emails with attached files; or transferring files between a computer and other devices. For standard skills, it takes the highest value for: using basic arithmetic formulae in a spreadsheet; connecting and installing new devices; creating electronic presentations with presentation software; and finding, downloading, installing and configuring software. For advanced skills, the organization takes the highest value for: writing a computer program using a specialized programming language (International Telecommunication Union, 2019c).

To harness digital finance-related technologies, it is considered that a combination of basic and standard ICT skills is needed. Advanced skills, though not necessary for everyday use of digital finance-related technologies, are perhaps more relevant for teams developing digital finance-related technologies and algorithms (see chapter V), as they are related to designing, developing and delivering digital finance tools, platforms and services. In the present report, the focus is on basic and standards skills (with some insights relevant to advanced skills), which are crucial for the inclusion of women in developing appropriate digital finance-related technologies, with a view to using digital finance to more fully promote women's economic empowerment.

Figure 14: Classification of information and communications technology skills



Source: International Telecommunication Union (2022).

### 3.1.1.1. Gaps in information and communications technology skills

Global data indicates that the gender skills gap has decreased for basic, standard and advanced ICT skills since 2015, with men and women having reported similar skill levels in 2019. Figure 15 shows International Telecommunication Union data on ICT skill types for men and women, from 2014 to 2019. According to the latest figures, 50 per cent of men and 49 per cent of women had basic skills; 32 per cent of men and 32 per cent of women had standard skills; and 6 per cent of men and 3 per cent of women had advanced skills.

These global trends are not echoed at the regional or subregional levels, however. In North Africa, the proportion of women and men with basic and standard ICT skills has increased significantly, while the proportion with advanced ICT skills has remained largely the same. In sub-Saharan Africa, the proportion of people with ICT skills at each of the three levels has significantly decreased, with gender gaps remaining in favour of men. The widening of the gender gap in North Africa and the reduction in the proportion of women with ICT skills in sub-Saharan Africa are a concern. This seems to clearly indicate that Af-



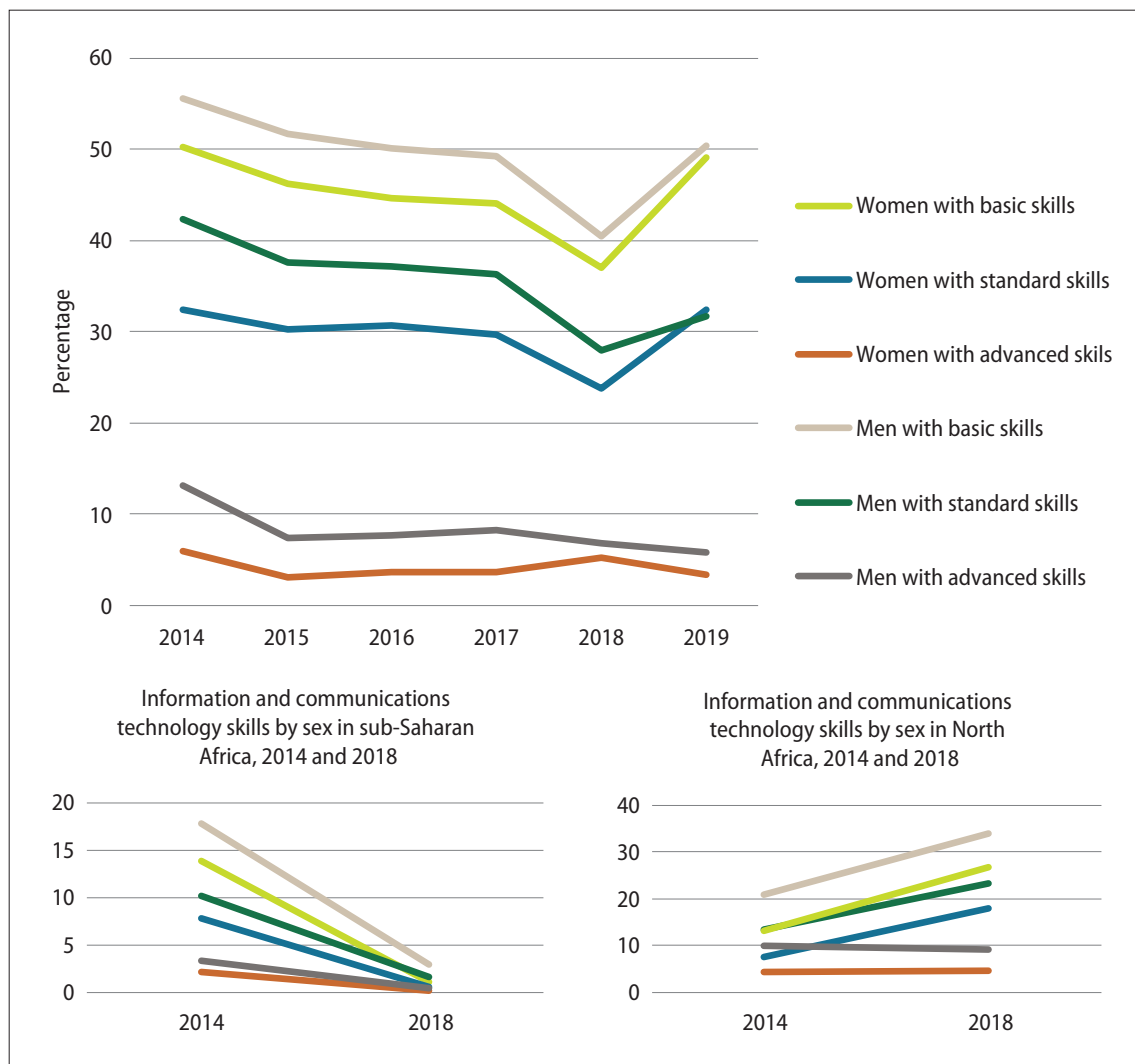
rican countries need to address the issues of establishing a critical mass of people, in particular women, with relevant ICT skills to harness the benefits of digital finance.

### 3.1.1.2. Digital finance-related skills

Digital finance-related ICT skills have become significantly more widespread in some parts of the world, allowing the

global average to rise from 18.1 per cent in 2014 to 24.2 per cent in 2018 (see figure 16). These skills can be considered a combination of basic and standard ICT skills, excluding the computer-based activity “creating electronic presentations with presentation software”. All regions showed some improvement in digital finance-related skills for women between

**Figure 15: Proportion of men and women globally who have attained specific levels of information and communications technology skills (2014-2019)**



*Source:* International Telecommunication Union (2022).

*Notes:* Data are not available for North America, the continent which, based on data from previous years, has the highest proportion of skilled women and men and the lowest gender skill gaps. No data are available for Africa for 2019, which might explain the increase in global average skills in 2019 and the further closing of the global gender skill gaps.

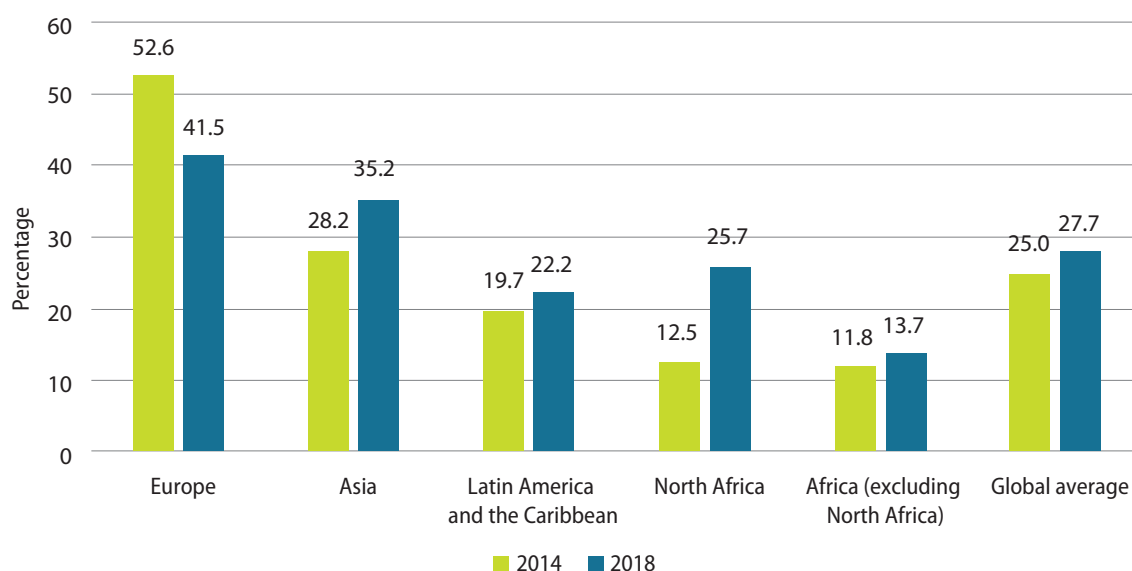
2014 and 2018, except Europe, where the proportion declined by 11 percentage points. Worldwide, the proportion of women with relevant digital finance skills is increasing, while the gap between people with the highest skill levels and those with the lowest is narrowing, causing the global average to increase and the gender skill gaps in various regions to narrow.

The proportion of women in North Africa with the aforementioned digital finance skills doubled from 12.5 per cent in 2014 to 25.7 per cent in 2018, which is higher than the level in Latin America and the Caribbean and only slightly shy of the global average of 27.7 per cent. This represents the highest growth rate across all the regions for which data were available.

In 2014, approximately 12 per cent of skilled women in Africa had digital finance-related ICT skills, which was below the global average. In 2018, the figure varied substantially among subregions, with countries in sub-Saharan Africa having made less progress than countries in North Africa. Sub-Saharan Africa still has the lowest proportion of women with digital finance-related ICT skills in the world.

There is a clear need to develop digital finance training programmes in many African countries and to address the pace, intensity and impact of such programmes. This can be facilitated by identifying the specific ICT activities that are lacking for each skill type and by providing targeted country-specific interventions to address the essential skills gaps in digital finance.

**Figure 16: Global comparison of women’s digital finance-related information and communications technology skills, 2014 and 2018**



**Source:** International Telecommunication Union (2022).

**Note:** Digital finance-related information and communications technology skills refers to all activities involving basic and standard information and communications technology skills except for the computer-based activity “creating electronic presentations with presentation software”. Data are taken from the 84 countries for which they are available. North America is excluded. The geographical classification is based on the “Standard Country or Area Codes for Statistical Use” of the Statistics Division of the United Nations Secretariat.

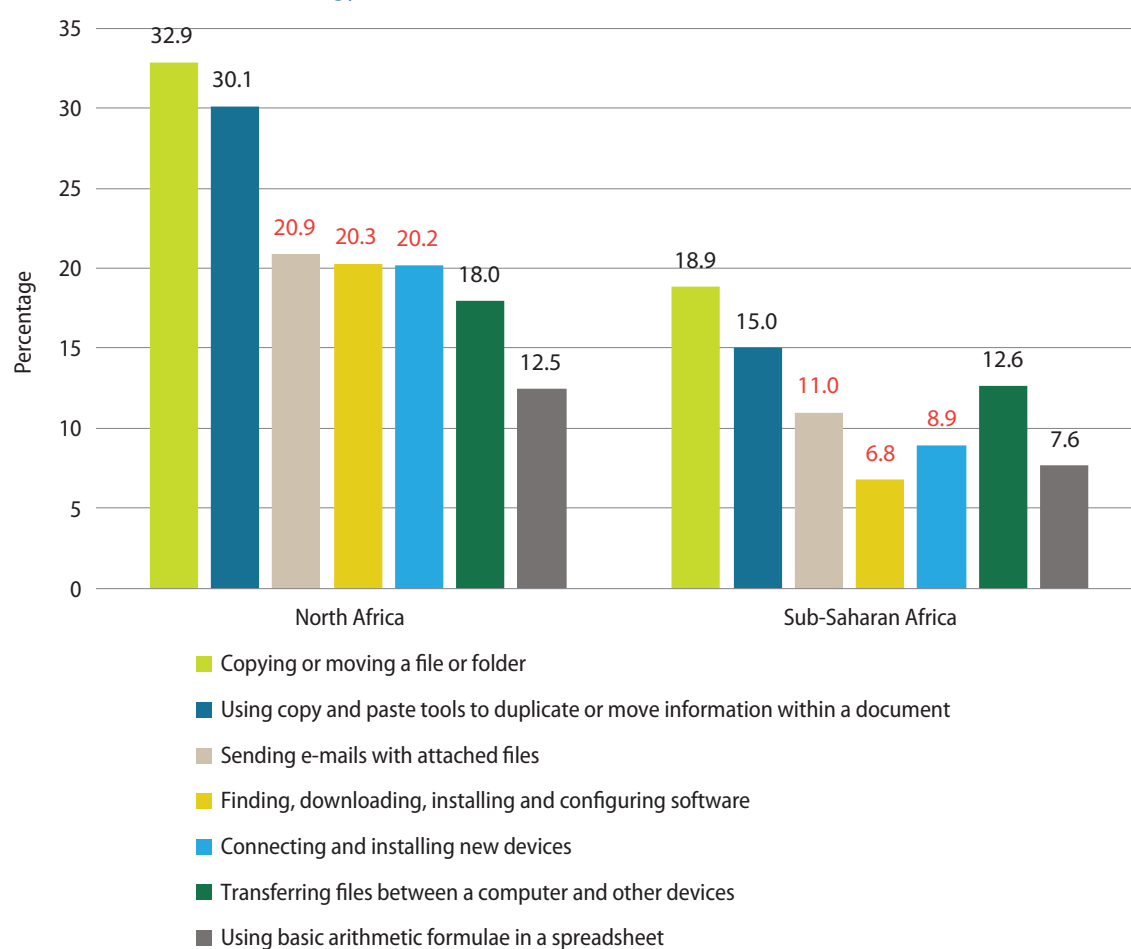
### 3.1.1.3. Application of digital finance knowledge and skills

North Africa has a much higher proportion of women with digital finance-related skills than the rest of Africa (see figure 17). Although some of the most important ICT activities (application of skills) that are required to harness digital finance tools, platforms and services are lacking, overall capacity in North Africa is still higher than in the rest of Africa. Of the ICT activities shown in figure 17, which are essential for digital finance, the four activities that

can be considered the most important in terms of harnessing digital finance are the least widespread among women in sub-Saharan Africa.

The least common ICT skills in Sub-Saharan Africa include “finding, downloading, installing and configuring software” (6.8 per cent), which is required to access on-line applications and mobile applications related to digital finance tools; “using a basic arithmetic formulae in a spreadsheet” (7.6 per cent), which is required

**Figure 17: Proportion of skilled women in Africa with digital finance-related information and communications technology skills**



*Source:* International Telecommunication Union (2022).

*Note:* Includes all digital finance-related ICT skills involving basic or standard ICT skills except “creating electronic presentations with presentation software”. Excludes advanced ICT skills.

for personal financial management and accounting of income and expenditure; “connecting and installing new devices” (8.9 per cent), which is necessary to set up hardware to support digital finance platforms; and “sending emails with attached files” (11 per cent), which is required to apply for financial products and services that are offered through digital platforms. All these ICT skills can be considered essential for using digital finance technologies. Efforts to improve digital finance skills among women in Africa should also focus on these ICT activities as part of targeted interventions to promote women’s engagement with digital finance.

## 3.2. Financial literacy and knowledge

### 3.2.1. Measuring financial literacy

Financial literacy is vital to ensuring financial inclusion. Financial knowledge provides the basis for understanding technical financial terminology – such as interest rates, return on investment and other fundamental financial concepts that underpin personal financial management – and for evaluating financial products and services based on one’s personal financial situation. Unfortunately, comparative global data on financial literacy are limited. While some surveys have been conducted over extended periods of time, they have been conducted on an irregular basis and tend to be limited to selected countries. Directly analysing financial literacy in African countries compared with a global baseline is therefore quite difficult. Nevertheless,

existing surveys can provide an indication of what needs to be done to measure digital literacy across Africa and an indication of performance measures and the current status of women’s financial literacy in other countries and regions of the world.

The National Financial Literacy and Inclusion Survey conducted by the International Network on Financial Education – an initiative created by the Organisation for Economic Co-operation and Development (OECD) – is one such data source on financial literacy that indicates financial literacy based on combined scores for knowledge, attitudes and behaviour. Overall levels of financial literacy for these three indicators were found to be relatively low across all countries included. Data from the 2016 survey show a global financial literacy score of 13.2 (63 per cent) for both sexes combined (OECD, 2016). The study was conducted on 30 economies, 17 of which were OECD members. African countries, however, were largely excluded from country-specific analysis. In the report based on the study, financial knowledge, attitudes and behaviour are classified based on understanding of several financial concepts, perspectives on financial attitudes and tendencies towards certain financial behaviours. Some countries with relatively high levels of basic financial knowledge do not score highly for financial literacy owing to their low scores for financial behaviour.

For financial knowledge, an average of 56 per cent of adults across participating countries and economies achieved the minimum target score. The report indicat-

ed that many people struggled with basic concepts such as compound interest and diversification and highlighted the difficulties people therefore faced in making informed product choices. About 61 per cent of men achieved the minimum target score compared with 51 per cent of women. Further statistical analysis indicated that knowledge scores were significantly lower for women than for men after controlling for country-level differences, age and education. In addition, budgeting was not a priority for many and there was a tendency to focus on the short term.

The Group of Twenty Financial Inclusion Indicators, originally developed by the Global Partnership for Financial Inclusion and endorsed by the Group of Twenty, build on the International Network on Financial Education initiative. Financial knowledge is one of the categories in the indicators and is measured based on a person's understanding of basic financial concepts such as inflation, interest rates, compound interest, the money illusion, risk diversification and the main purpose of insurance. Although data are available only for a limited number of countries, the data highlight ongoing and emerging global initiatives that African countries can join to better understand the situation in their own countries in relation to global and regional trends in financial inclusion and financial literacy (World Bank, 2020).

Although the global data and analysis can provide some form of high-level policy recommendations on how to address financial literacy by improving financial

knowledge, attitudes and behaviour, they do not provide insights into regional challenges for Africa and they do not include in-depth analysis to help to identify country-specific challenges. The survey does, however, demonstrate practical ways to measure financial literacy, and it provides insight into the common challenges that many countries are facing. This includes addressing low levels of financial knowledge among women, both as a common national challenge and a collective global challenge. African countries can learn from such global initiatives to develop their national-level surveys to determine financial literacy while addressing the inclusion of their countries in such global survey initiatives.

#### **3.2.2. Financial knowledge across Africa**

The Standard and Poor's Ratings Services Global Financial Literacy Survey also builds on early initiatives by the International Network on Financial Education, the World Bank reports on financial capability, the household survey programmes of the World Bank and other national survey initiatives for which information was collected on financial literacy. The Standard and Poor's survey was based on questions added to the Gallup World Poll, conducted in 2014, which surveyed more than 150,000 internationally representative and randomly selected adults from more than 140 economies. Financial literacy was measured based on basic knowledge of four fundamental concepts in financial decision-making: knowledge of interest rates, interest compounding, inflation and

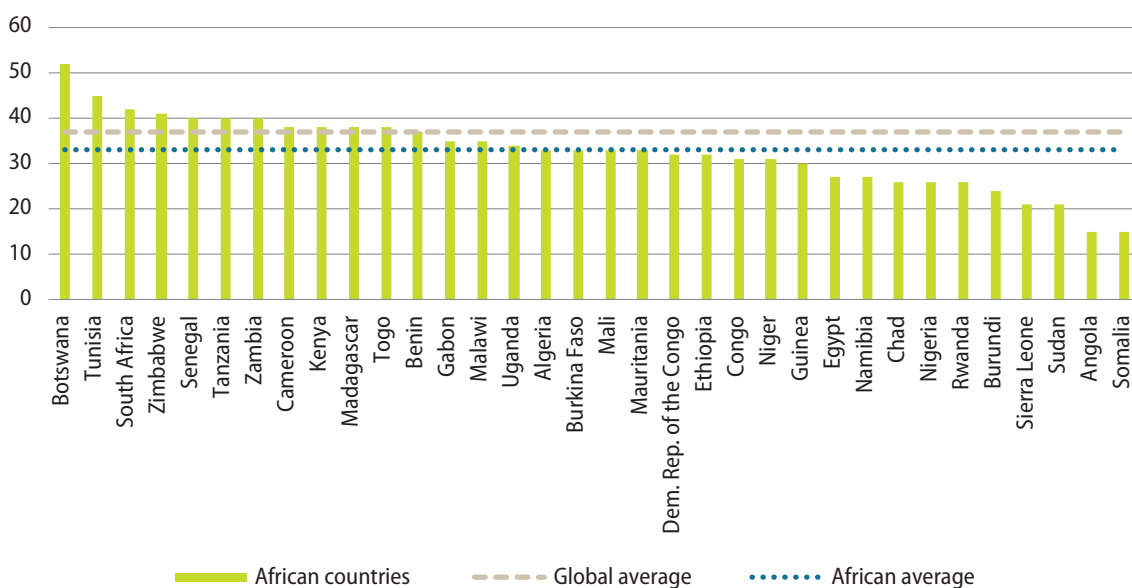
risk diversification. Figure 18 shows the overall levels of financial literacy for adults across African countries, as measured in the survey in 2015, for both women and men. Of the 34 African countries, 12 were above the global average of 37 per cent for financial literacy and 19 were above the continental average of 33 per cent.

The survey results showed that only one in three adults globally were financially literate. Gaps in financial knowledge were more common among women, among respondents with lower levels of education and among respondents from poorer backgrounds. Large variations among countries and groups existed across developing economies and across countries with well-developed financial markets and education and training systems (Klapper, Lusardi and van Oudheusden, 2015). In all countries, people with relatively high financial literacy tended to display certain common traits. For instance, adults

who used formal financial services such as bank accounts and credit cards generally displayed higher financial knowledge, regardless of their income. Even those in lower income brackets and poor people who had a bank account were more likely to be financially literate than poor people without a bank account. Meanwhile, those in higher-income brackets who used credit generally had better financial skills than those in the same high-income brackets who did not. Overall, the relationship between financial knowledge and financial services may exhibit dual causality: on the one hand, higher financial literacy may lead to broader financial inclusion, while on the other, operating an account or using a credit may deepen consumers' financial skills (Klapper, Lusardi and van Oudheusden, 2015).

In-depth surveys on financial literacy can guide interventions as part of a broader, targeted financial literacy and skills strat-

**Figure 18: Financially literate adults in Africa, by country, 2015**



Source: Klapper, Lusardi and van Oudheusden (2015).

egy for African countries. Surveys that include gender and other demographic elements can also help to dissect specific challenges faced by women in relation to financial knowledge, attitudes and behaviour that are innate to a country or are widespread across a subregion. Such surveys also provide a baseline and performance indicators for improving financial literacy over time, especially as part of a broader set of measures to address women's economic empowerment through digital finance.

### **3.3. Tertiary education and training in science, technology, engineering and mathematics as the cornerstone for digital literacy and skills**

People with a science, technology, engineering and mathematics background are more likely to embrace digital finance. It is not surprising that tertiary and specialized education in science, technology, engineering and mathematics helps those who wish to work in advanced digital finance-related areas, such as the development of digital finance technologies, but it also significantly enhances the digital and financial capacity of consumers of digital finance tools, platforms and services. Although education and knowledge do not necessarily translate into behaviour and skills, both digital and financial knowledge are pillars of digital and financial literacy, as outlined in the previous section.

#### **3.3.1. Education and training in science, technology, engineering and mathematics**

##### **3.3.1.1. Early interest in science, technology, engineering and mathematics leading to digital and financial literacy**

In a survey by Microsoft, girls in Europe reported that they had become interested in science, technology, engineering and mathematics between the ages of 11 and 12 (Microsoft Corporation, 2017). Although this is well below the age of financial consumerism and capital ownership in many countries, such early interest and curiosity can provide a basis for more formal literacy and skills to develop over time. Increasingly, many teenagers are confronted with financial decisions and are consumers of financial services. As they move into adulthood, the services they consume become increasingly complex and they face risks in the financial marketplace (OECD, 2020). Since a better knowledge and understanding of financial concepts and financial risks can improve financial decision-making among adults and young people, financial literacy is now globally recognized as an essential life skill.

African countries need to introduce children to digital finance at an early age and ensure that the children become engaged in it so that Africa can achieve levels of digital finance literacy similar to that of other regions of the world, where financial literacy education starts at an early age. The results of the Programme for Internation-

al Student Assessment<sup>8</sup> in 2018 showed that 73 per cent of 15-year-old students across OECD member countries reported that they had bought something online (either alone or with a family member) in the 12 months prior to the assessment. About 39 per cent of students reported that they had made a payment using a mobile phone during that period (OECD, 2020). The survey also showed that boys were more likely than girls to have engaged in these digital financial activities, and that advantaged students were more likely to have done so than disadvantaged students. Confidence in using such digital financial services was associated with stronger financial literacy. Around 94 per cent of students reported obtaining information about money matters from their parents, guardians or other adult relations – their most common source of information. Furthermore, approximately four in five students reported that they could independently decide what to spend their money on (OECD, 2020).

#### **3.3.1.2. Formal literacy and specialized education in science, technology, engineering and mathematics**

Regarding tertiary education in science, technology, engineering and mathematics, prospects vary across Africa. Based on educational data collected by the United Nations Educational, Scientific and Cultural Organization (UNESCO), figure 19 shows graduates of science,

technology, engineering and mathematics programmes as a percentage of total graduates, by African subregion and worldwide. In North Africa, there was a notable increase in this percentage, from 30.3 per cent in 2015 (compared with a global average of 21.5 per cent) to 38.7 per cent in 2018 (well above the global average of 22.3 per cent). This can be attributed to the immense efforts made by individual countries. For example, in Morocco in 2017, 45.3 per cent of science, technology, engineering and mathematics graduates from tertiary education were women, compared with 51.31 per cent of graduates in non-science, technology, engineering and mathematics programmes (UNESCO Institute for Statistics, 2022).

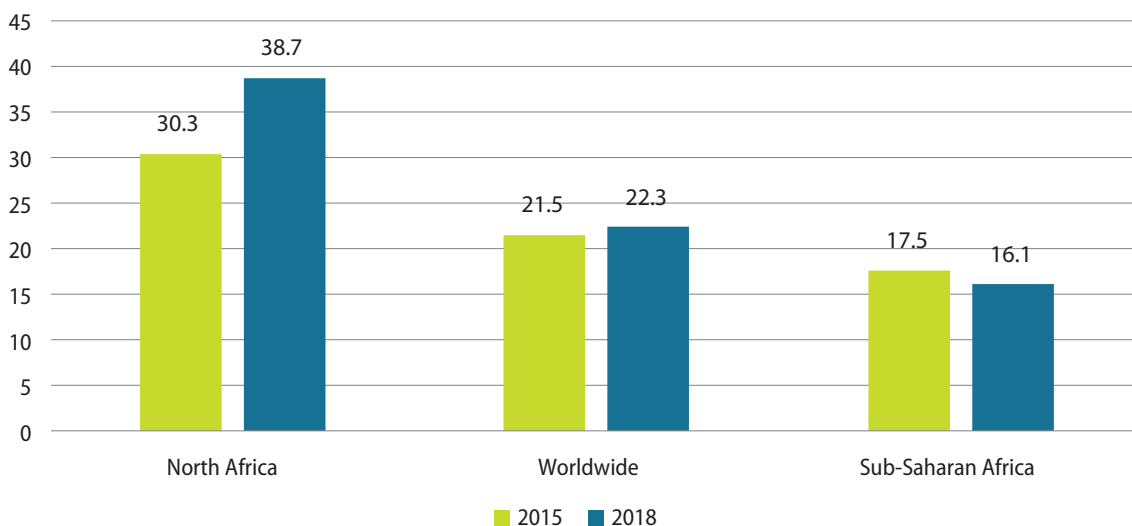
Sub-Saharan Africa was below the global average in both 2015 and 2018, at 17.5 per cent and 16.1 per cent, respectively. The subregion also experienced a slight decline in the number of students graduating from science, technology, engineering and mathematics programmes in the same period, despite a slight increase globally. This trend is concerning for sub-Saharan Africa and does not bode well for the prospects of increasing the proportion of people with advanced digital and financial literacy across the region. The low and declining levels of specialized science, technology, engineering and mathematics expertise may inhibit demand for digital finance tools, platforms

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<sup>8</sup> Run by the Organization for Economic Cooperation and Development, the Programme for International Student Assessment measures the ability of 15-year-old children in formal education to use their reading, mathematics and science knowledge and skills to meet real-life challenges. Students' knowledge and skills are tested directly. To date, the majority of African countries have never participated. For a list of all countries and economies that have participated, see [www.oecd.org/pisa/aboutpisa/pisa-participants.htm](http://www.oecd.org/pisa/aboutpisa/pisa-participants.htm).



**Figure 19: Graduates of science, technology, engineering and mathematics programmes as a percentage of total graduates, by African subregion and worldwide (Percentage)**



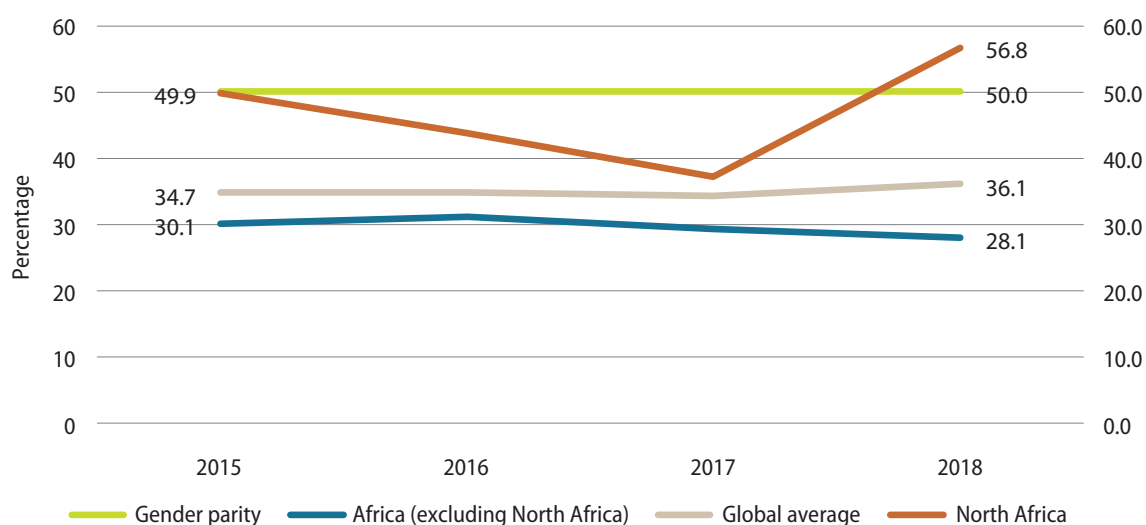
Source: UNESCO Institute for Statistics (2022).

and services and the supply of skilled personnel to develop and deliver innovative digital finance technologies.

Gender-disaggregated statistics on science, technology, engineering and mathematics graduates reveal disparities

across Africa (figure 20). North Africa has remained above the global average, with the percentage of women graduates in those fields increasing from 49.9 per cent in 2015 to 56.8 per cent in 2018, thereby surpassing the gender parity threshold for science, technology, engineering and

**Figure 20: Female graduates of science, technology, engineering and mathematics programmes (Percentage of all graduates)**



Source: UNESCO Institute for Statistics (2022).

mathematics graduates. The rest of the continent has remained below the global average and has slipped even further away from parity, with a slight decrease from 30.1 per cent in 2015 to 28.1 per cent in 2018.

Given that data are inconsistent for each country and that some countries have incomplete time series data, the data in figure 20 are shown at the regional level, with numbers aggregated and average

percentages shown. Despite this, the variations for North Africa can be attributed to the limited number of countries for which there are annual data. Nonetheless, countries in North Africa have made positive progress over the years. For example, in Algeria, the percentage of women science, technology, engineering and mathematics graduates at the tertiary level reached 58.2 per cent in 2018, compared with 53.6 per cent in 2015 (UNESCO Institute for Statistics, 2022).

# Risks to financial inclusion and access to credit

## 4

### Key issues: risks

- About 43 per cent of African men have a formal financial account, compared with only 33 per cent of African women.
- Digital finance can disproportionately benefit African women by reducing their time poverty and strengthening their decision-making power in households.
- In Kenya, when women-headed households adopted mobile money accounts, poverty dropped, savings rose and more than 185,000 women left agricultural jobs for more reliable, higher-paying positions in business or retail.
- There is growing evidence across several African countries that a large proportion of digital borrowers make late repayments or default.
- The low proportion of women in formal employment and their limited access to productive assets, compared with men, are among the many factors that exclude women from conventional financial institutions and the products offered by such institutions.

- Policymakers should be mindful of corporations that make credit available without conducting thorough credit controls or credit reference checks and should ensure that lenders are conducting due diligence and fulfilling their duty of care, especially to people who are already in vulnerable situations.
- Across Africa, there is an inverse correlation between women's savings and gender gaps – the more women save, the smaller the gender gaps are.
- Countries with high levels of mobile money uptake seem to have reduced savings gender gaps.



Financial practices can play a significant role in creating or sustaining economic and social barriers for women. Financial management, decision-making patterns and other financial behaviours can disadvantage women or hinder opportunities for women's economic empowerment. There are many barriers to women's financial inclusion that are specific to regions, countries or groupings of people that include

women. Financial practices are sometimes engrained in cultural and social norms, such as the notion that male heads of households alone are in a position to make decisions on household finances, while female heads of households are left with budgeting. Some of these assumptions and practices can have positive or negative effects, which would largely depend on each household's specific situation and context.

### 4.1. Financial inclusion and digital finance

It is estimated that 1.7 billion people around the world are excluded from conventional financial systems, which exacerbates their vulnerability and their marginalization from productive sectors and formal employment. Access to finance by all segments of the population is essential to address poverty and inequality. It is estimated that 43 per cent of African men have a formal financial account, compared with only 33 per cent of African women (Demirgüç-Kunt and others, 2018). Financial inclusion initiatives are addressing such gender gaps, with digital finance playing a key role in providing access to services for the unbanked.

Approximately two thirds of all unbanked adults in the world – 1.1 billion people – owned a mobile phone in 2017 (Demirgüç-Kunt and others, 2018). Those unbanked adults could manage savings and payments and access credit and insurance from their phones, which would allow them to better plan their irregular income streams and

recover from economic shocks and natural disasters. It also gives them access to new ways of earning a living through their access to financial products and services. As is already the case in several countries, such services allow governments to pay benefits, customers to pay businesses, and employers to pay salaries, commissions and other benefits (International Telecommunication Union, 2019a). Women in particular are often unable to access formal financial institutions and are unbanked. Nevertheless, they are finding solutions to their financial needs and achieving financial inclusion through such digital finance initiatives.

#### **4.1.1. Sensible access to reliable finance**

##### **4.1.1.1. Women's financial inclusion and digital finance**

Digital finance offers several benefits that are not available from formal financial accounts and that empower women. First, digital finance is a practical and affordable vehicle for financial resources that already exist. This administrative and logistical role can reduce costs and save time, thus disproportionately benefiting the livelihoods and business operations of women. Because it is discreet, digital finance can offer women more financial control, and the transaction statements could also help women to qualify for credit, give them an overview of their business operations, and provide better evidence of household and business transactions, all of which can help women to expand their businesses and increase their productivity and incomes.

Digital finance has the potential to provide and increase social and monetary benefits, such as by allowing friends, relatives and others to send funds quickly to women to cover unexpected expenses. Digital finance could also provide better evidence of payments from employers and others who have legal obligations to women, who are more vulnerable to financial mistreatment by those seeking to avoid paying what is owed. Furthermore, digital finance can benefit African women by reducing, for example, geographical or time-constraint barriers and by increasing decision-making power within households. This is the case for recipients of benefits such as social welfare and pension payments in the Niger (Aker and others, 2016). If there are appropriate levels of regulation, transfers can often be received simply with a mobile phone.

Sector-specific digital finance initiatives can benefit women, improve their livelihoods and allow more of them to enter the formal workforce. Female farmers, for example, can benefit from the security and convenience of digital payments for agricultural sales and purchases, while the digitization of agribusiness supply chains can help them to build up their payment histories, expand access to credit and insurance and boost small-scale farming operations (Klapper, 2019). In Kenya, for instance, “when women-headed households adopted mobile money accounts, poverty dropped, savings rose, and more than 185,000 women left agricultural jobs for more reliable, higher-paying positions in business or retail” (Bill and Melina Gates Foundation, 2019).

The implementation of financial inclusion strategies is important. In the annual report of the National Bank of Ethiopia for 2018/2019, it was stated that the implementation of the Bank's financial inclusion strategy had resulted in increased financial intermediation and expanded the use of digital money and new financial products. This further improved access to finance and financial inclusion for a broader segment of the population that had not benefited from modern financial services (National Bank of Ethiopia, n.d.).

It is equally important to promote financial inclusion and access to credit for women through the financing of local government. The Government of the United Republic of Tanzania, for instance, passed the Local Government Authorities Financial Act (2018), which requires local authorities to assign 10 per cent of the revenue they collect to granting interest-free loans to registered groups of women (4 per cent), young people (4 per cent) and persons with disabilities (2 per cent) (United Republic of Tanzania, 2019).

##### **4.1.1.2. Risks with digital finance access**

One of the most important aspects of digital finance and financial inclusion is the expansion of credit to groups that are considered to be already disadvantaged or vulnerable. Evidence on the impact of measures to expand financial access to such groups is mixed (Mader, 2018). For example, the literature indicates that microcredit have failed to reduce inequality and have even made it worse overall (Bateman, 2019). This is because of the

vicious circle of over indebtedness, business turf wars, structural gender disempowerment, rising inequality, sustained low productivity, stagnant informality, the "crowding-out" of productive small formal businesses, financial volatility and a lack of demand for micro-businesses.

Evidence from Kenya and the United Republic of Tanzania indicates that a large proportion of digital borrowers make late repayments or default on their repayments. The Consultative Group to Assist the Poor analysed more than 1,000 digital borrowers in both countries with an average loan size below \$15. About 50 per cent of digital borrowers in Kenya and 56 per cent in the United Republic of Tanzania had repaid a loan late, with 12 per cent and 31 per cent, respectively, having defaulted. In the United Republic of Tanzania, supply-side data for digital credit transactions show that 17 per cent of the loans granted in the sample period were in default and that at the end of the sample period, 85 per cent of active loans had not been paid within 90 days (Izaguirre, Kaffenberger and Mazer, 2018).

The idea that financial inclusion could help to smooth consumption is not always applicable. For instance, 20 per cent of digital borrowers in Kenya and 9 per cent in the United Republic of Tanzania reported that they had to reduce food purchases to repay a loan (Izaguirre, Kaffenberger and Mazer, 2018). Furthermore, fewer than 10 per cent used digital credits for emergencies, a finding that went against the theoretical argument that digital finance and

microcredits would smoothen liquidity in times of urgent need. It is also relevant to note that borrowers under the age of 25 had higher-than-average default rates, even though they took smaller loans (Izaguirre, Kaffenberger and Mazer, 2018).

## 4.1.2. Financial vulnerability

### 4.1.2.1. Women in informal employment

The low proportion of women in formal employment and their limited access to productive assets, compared with men, are among the many factors that exclude them from conventional financial institutions and their products. Disadvantaged and marginalized groups often have less access to these opportunities owing to a number of barriers, including costs, the knowledge and skills required and rigid social norms.

Insufficient incentives to do otherwise and time poverty force compel some women to become entrepreneurs in the services sector. Although women's labour participation is higher in Africa than anywhere else in the world (approximately two thirds of all women work), only 20 per cent of African women receive a salary. Most of those who are working are either self-employed, or under-employed in informal jobs (United Nations, Economic Commission for Africa, 2017). This can compound existing vulnerability and leave many women unable to access formal financial institutions. Faced with these barriers, many women are forced to seek alternative financial services and credit, often informally, which can harm their already precarious financial situations.

### 4.1.2.2. Predatory lending

Stakeholders must be mindful of corporations that make credit available without conducting thorough credit controls or credit reference checks, without conducting due diligence or without fulfilling their duty of care. Because of such lending practices, decision makers should not necessarily see digital finance as a solution to lift people out of poverty, but rather as a means to empower the financially excluded and broaden financial inclusion (Izaguirre, Kaffenberger and Mazer, 2018).

There are challenges to digital finance, especially on the credit side, where the poorest are attempting to meet increasingly urgent needs – in particular during the COVID-19 crisis. When credit accumulation spirals out of control, poverty, hunger, ill health and premature death all increase. Therefore, to harness the digital revolution, policymakers must design various policy options to halt unsustainable lending practices by digital credit providers. It should be relatively easy to compel digital credit providers to make clear and simple information available. This information should outline the services, prices, costs and risks associated with the service being provided. It should also state consumers' rights and outline responsibilities on both sides. This would ensure that due diligence is carried out when money is borrowed and when financial exchange services are used, thus ensuring that, even when new and innovative methods for financial inclusion are carried out through digital finance, a certain duty of care is maintained.

In order to design and implement future-proof and people-oriented policies, regulatory authorities must be given sufficient resources and mandates to enable them to keep up with digital markets and transfers while keeping the financial system secure. The objective of digital finance must be to identify investments, policies and regulations that maximize social and economic returns while minimizing potential harm to the most vulnerable (Bill and Melinda Gates Foundation, 2019).

Donors can support the development of robust digital finance sectors across Africa by funding research relating to methodological innovations that would allow for the systematic collection of comparable contextual variables on personal financial circumstances and financial stocktaking. This would provide more valuable insights to policymakers as they seek to design and implement policies that are more efficient and that can improve the well-being of the poorest and most vulnerable people (Person and Hernandez, 2019), taking into account the needs of women and their lack of access to and ownership of traditional financial assets that are used as collateral.

The free and subsidized financing currently used to expand the availability of digital credit products to people in poverty should be coupled with initiatives to help regulators better monitor financial credit markets, identify opportunities and risks, and promote responsible market development. For instance, it would be useful to fund and assist regulators so that they can acquire tools to gather and analyse

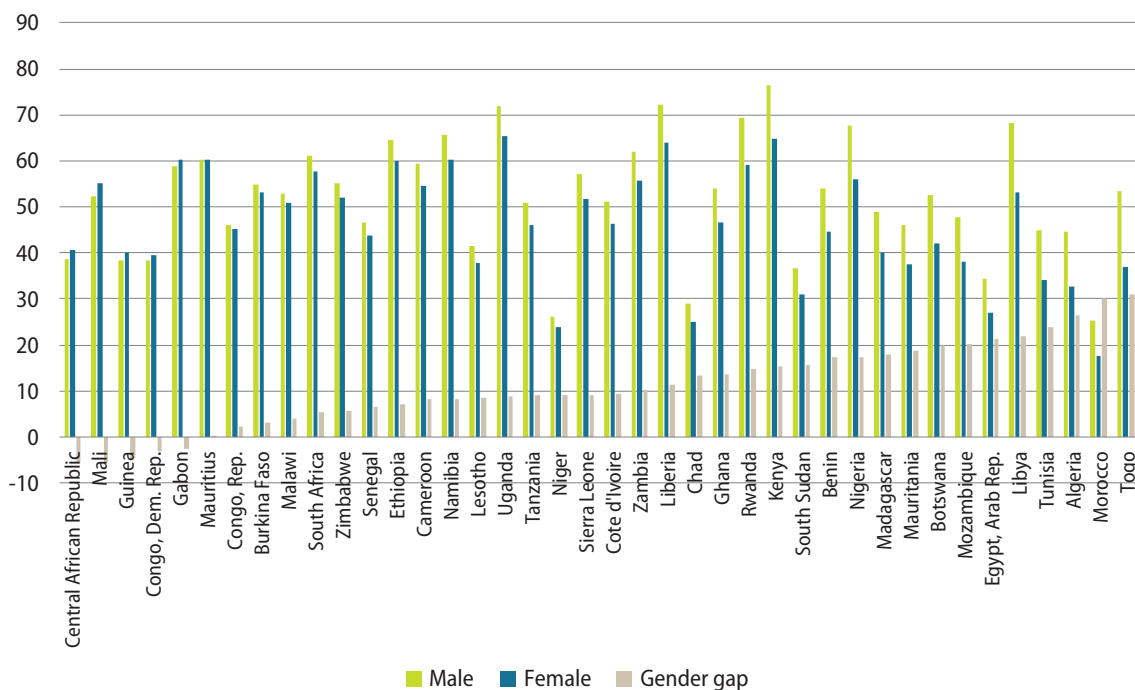
digital finance credit data at the customer, provider and market levels. This would help regulators, providers, donors and other decision makers to better assess the opportunities and risks of digital credit. Such data would also be useful to generate early-warning indicators on risky credit or the likelihood of credit default. Data collection for these purposes does not need to be expensive; as shown by research carried out by the Consultative Group to Assist the Poor in the United Republic of Tanzania, telephone surveys can be affordable and can provide data that are remarkably consistent with provider data. Additional investment may be needed, however, to ensure that data are consistent, complete and reliable (Izaguirre, Kaffenberger and Mazer, 2018), and provisions need to be made to ensure that data are disaggregated by sex and other demographic dimensions.

## 4.2. Savings as a vehicle for financial inclusion

Savings have proven to be associated with higher financial inclusion in many countries, especially for women, since savings give them greater access to credit. Gender gaps for savings – a crucial element of financial inclusion – vary considerably from country to country. Figure 21 shows the number of adults, disaggregated by sex, who had savings in Africa in 2017. The gender gaps vary from 16.6 per cent in favour of men in Togo to 2.2 per cent in favour of women in Mali. Five countries had a slight gender gap in favour of women and several



Figure 21: Persons over the age of 15 who saved any money in the previous year (Percentage)



Source: World Bank (2019b).

Note: The gender gap in the Central African Republic, the Democratic Republic of the Congo, Gabon, Guinea and Mali was in favour of women.

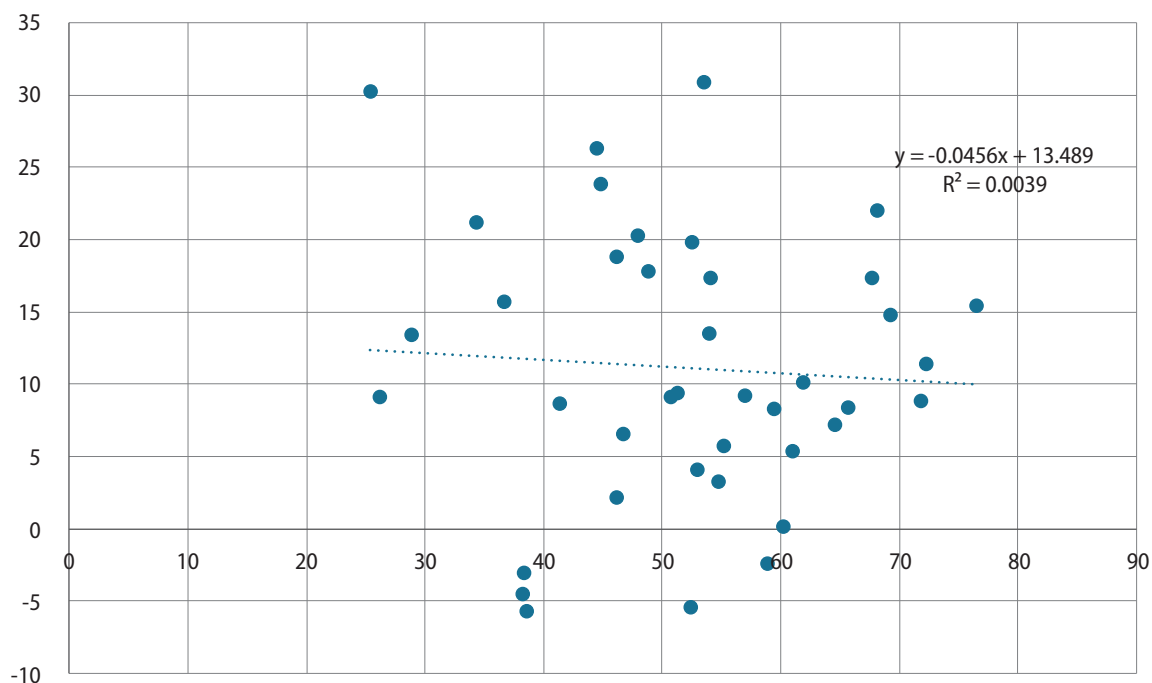
had small gaps in favour of men, but about half exhibited a gender gap of at least 10 per cent (see figure 21).

#### 4.2.1. Savings and gender differences

There is a clear correlation between women's savings and gender gaps: the more women save, the narrower the gender gaps are. Gender-disaggregated correla-

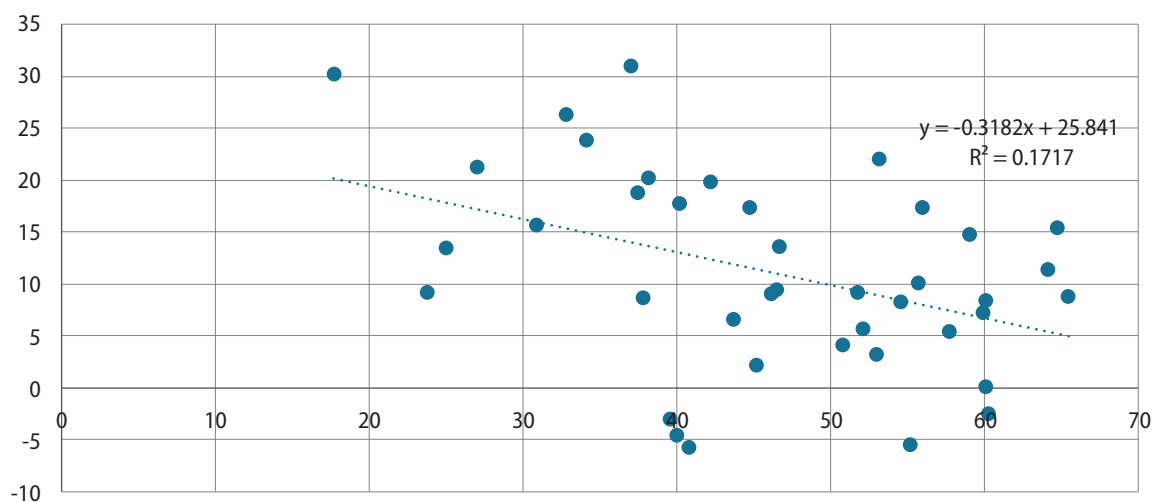
tions (figures 22–25) indicate that, as men save more, gender gaps reduce very little. Together, the data suggest that women perform relatively well at saving compared with their performance for the other indicators analysed above. The data also support the idea that promoting saving could be an important policy option to reduce gender inequality.

Figure 22: Men over the age of 15 who saved money, by country, as a function of the gender gap (Percentage)



Source: World Bank (2019b).

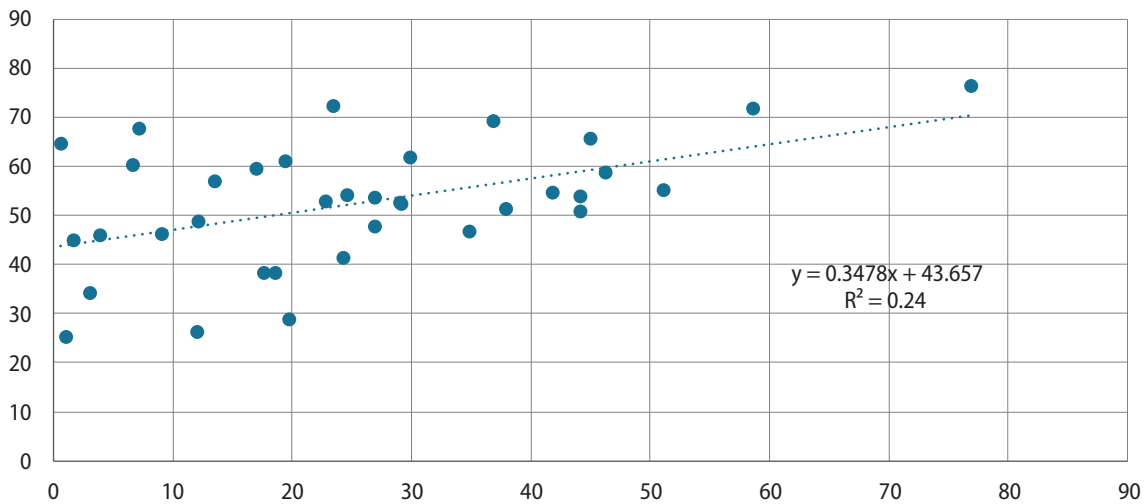
Figure 23: Women over the age of 15 who saved money, by country, as a function of the gender gap (Percentage)



Source: World Bank (2019b).

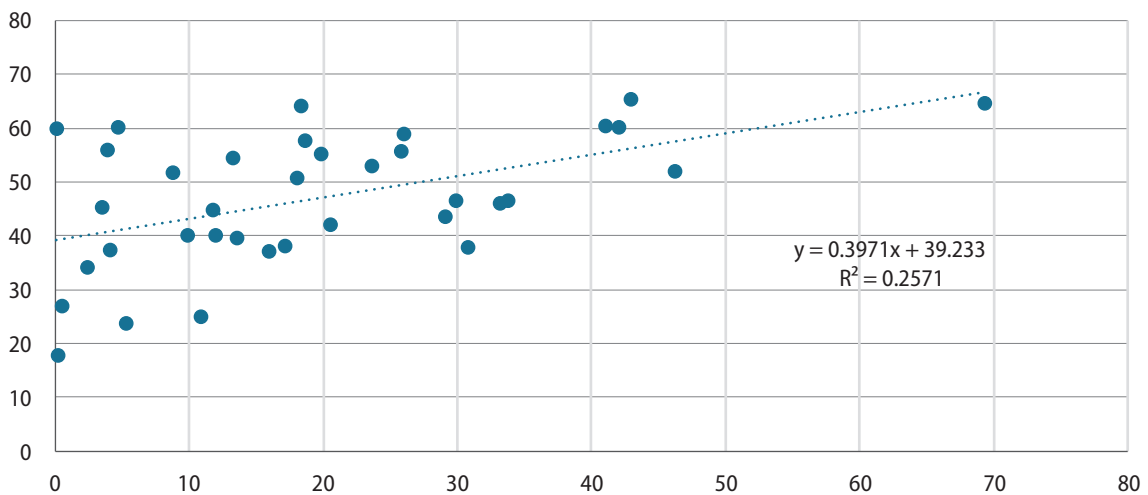
There is a positive linear correlation between mobile money uptake and the prospect of savings. There are strong positive correlations between “savings in the past year” and “uptake of mobile money accounts”. This holds true for men and women.

**Figure 24: Men who used mobile money services and men who saved money, by country (Percentage)**



Source: World Bank (2019b).

**Figure 25: Women who used mobile money services and women who saved money, by country (Percentage)**



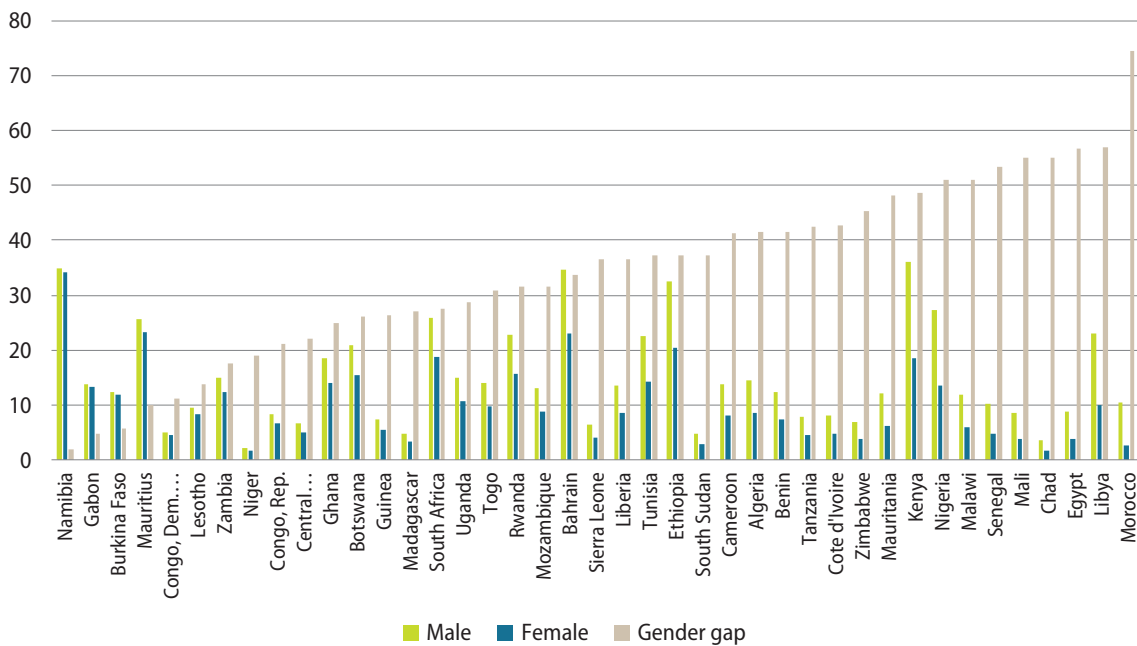
Source: World Bank (2019b).

#### 4. Risks to financial inclusion and access to credit

Gender gaps are widest when savings are formalized at financial institutions. Formal savings at financial institutions are less prevalent among women. Men's sav-

ings at financial institutions were higher than women's in almost all African countries in 2017, with high gender gaps in the majority of countries (see figure 26).

**Figure 26: Persons over the age of 15 who saved at a financial institution in the 12 months prior to answering the survey (Percentage)**



Source: World Bank (2019b).

# Barriers and disparities in financial products and services

# 5

## Key issues: barriers

- Digital finance has the potential to facilitate women's economic empowerment by improving financial inclusion, but barriers persist in the form of social and cultural norms.
- Although African countries have seen the highest growth in credit reporting systems over the past decade, in some countries, fewer than 8 per cent of adults are covered by such systems.
- Credit scoring can have an inherent bias that undermines gender and financial inclusion owing to design limitations and a lack of foresight in programming.
- Gender in for borrowing in Africa are lower in countries where more women borrow money to start, operate or expand a farm or a business.



Negative social norms, biases and disparities can influence the supply of and demand for financial products and services. Consumer demand among women is sometimes low because of social factors, which affects the range of products and services made available to women in general. The economics of market forces are therefore driven by wider negative social norms and stereotypes.

While many biases may be accidental, circumstantial or subconscious, they can also be created unwittingly based on economic supply and demand in terms of organizational profits and return on investment. Nonetheless, unconscious bias can become engrained in product and service design, marketing and profitability, which can become institutionalized over time. This can result in women being disadvantaged or excluded from financial systems more than men, leading to structural and power dynamics that have cumulative effects on women.

Although digital finance can facilitate women's economic empowerment through improved financial inclusion, barriers persist in the form of social and cultural norms. In a review of the literature on

social norms, Abekah-Nkrumah and Lawson (2020) found that, in Burkina Faso, resource allocation and gender differences in the household could be explained solely by differences in positions created by social norms, without resorting to any assumptions of innate differences in preferences or power between men and women. The failure to reflect evolving community norms and social institutions in any empirical analysis of women's empowerment could therefore make the results incomplete or misleading (Abekah-Nkrumah and Lawson, 2020).

Policy and regulatory interventions to promote financial inclusion for women must take into account how financial practices, social and cultural norms and financial products and services obstruct women's empowerment. The impact of those factors can then be addressed through a gender-specific lens. The inclusion of women in all spheres of the financial sector can be achieved only by promoting a financial regulatory environment that fosters pro-inclusion market forces while limiting the impact of negative financial practices and social norms. Furthermore, digital finance can provide the necessary levels of arbitration even as intermediary service delivery interfaces are removed, which could reduce the prominence of non-relevant personal details, including gender and other social differences, that could give rise to discriminatory treatment in the processing of exchanging goods and services.

## 5.1. Financial credit reporting systems

During the 2010s, it was in African countries that credit reporting systems expanded the most (World Bank Group, 2019). Nevertheless, although 122 countries around the world reported having a credit registry in 2018, Africa was still the region with the lowest percentage of adults covered. Subregional differences were also identified within Africa. North Africa, for instance, had 18.11 per cent coverage, while coverage in the rest of Africa was well behind, at 7.02 per cent.<sup>9</sup> Financial institutions depend on financial credit reporting systems that rank and rate a client's reliability in terms of loan repayment. These systems are used to develop credit reference databases, with pre-determined algorithms and calculations used to determine financial risk by categorizing clients' creditworthiness based on their credit history, that is, their borrowing and repayment history. Because data on credit profiling and scoring are so limited, it is difficult to fully distil the gender and credit scoring situation in African countries. Analysis of existing credit systems and their operation, however, may provide some insights into the challenges faced by countries as similar systems are introduced across regions.

### 5.1.1. Credit scoring may lead to financial exclusion in Africa

#### 5.1.1.1. Gender disparity in credit scores and credit decisions

In North Africa, credit bureaux improved their coverage by between 5 and 15 percentage points from 2012 to 2017. Although only 23 countries in sub-Saharan Africa reported having credit bureaux (World Bank Group, 2019), many others were beginning to introduce credit scoring as a value-added service to banks and other financial institutions to support their ability to assess the creditworthiness of potential borrowers (World Bank Group, 2019). The International Finance Corporation is working with several African countries to help them to establish credit bureaux and registries to support financial inclusion (International Finance Corporation, n.d.).

Individualized credit scoring components can lead to bias against women. Credit scores are calculated using data on financial, residential, employment and marital status, among other factors. TransUnion, which operates in more than 30 countries and is present in parts of Africa, combines key elements into a credit score typically ranging from 300 to 850, with a higher number indicating a better credit score (TransUnion, n.d.). The inclusion of some components, however, can be misleading. For example, women who are married, hold a joint account or are financially associated with a man are sometimes misrepresented

<sup>9</sup> See the World Bank Group and PwC (2019) and the data on "domestic credit to private sector by banks (% of GDP)" in the World Bank Group (2022).

as financial dependants or assumed not to be the financial head of the household.

The outcomes of credit decisions are not necessarily equal for men and women and can have negative effects on women. A study by the University of Edinburgh Business School found that the inclusion of gender in credit scoring models improved women's chances of obtaining credit (Andreeva and Matuszyk, 2019). Although the study was limited to a specific type of loan, it outlined the considerations that could be made to address the credit gender gap across financial institutions. Using gender in financial decision-making, however, is illegal in most countries, mainly to prevent it from being used to discriminate. As credit bureaux are developed across Africa, specific care and consideration need to go into the use of existing calculation methodologies and models that may simply be imported from existing credit bureaux, especially if the models are found to inherently favour men over women.

### **5.1.2. Algorithm bias**

The automated algorithms used for credit scoring can include inherent gender and financial inclusion bias owing to their design limitations and the lack of foresight by programmers. For example, in the United States of America, there have been reports of inherent bias in financial credit reference systems. In November 2019, a technology entrepreneur in the United States tweeted that his credit limit had been 20 times higher than his wife's on their Apple credit cards, even though they had filed similar tax returns and reported

similar income and expenditure. His tweet went viral, gaining traction from regulators as well as a co-founder of Apple, Steve Wozniak, who replied that his wife also had a lower credit limit than him, even though they had no separate bank accounts, credit card accounts or assets (Natarajan and Nasiripour, 2019). This led the financial regulatory agency in the United States to open an investigation into the allegations.

Algorithm bias in the calculation of credit reference scores is a major barrier for women. The increasing use of artificial intelligence to sort and analyse data can introduce an inherent bias without explicit intent, which may discriminate against women or other groups. For example, the process of machine learning, which is used to train artificial intelligence systems by ingesting specific case data, has been found to introduce gender bias if most of the cases that are used to train the system involve men, resulting in an artificial intelligence system that favours candidates who are men or who exhibit more masculine traits in their profile (West, Kraut and Chew, 2019). In October 2018, for instance, it was reported by Reuters that the artificial intelligence-powered recruitment tool being used by the global online retailer Amazon discriminated against female applicants by preferring words commonly used by men and by selecting male profiles far more often than female profiles (Dastin, 2018).

Unconscious gender bias, such as through algorithms, can only be fully addressed once there are more women in the tech-



nical teams that work on such systems and algorithms. It is calculated that only 12 per cent of the leading machine-learning researchers who attended the world's top machine-learning conferences in 2017 were women (Carman and Tiffany, 2019). This lack of representation will undoubtedly have an impact on the gender dimension of the design and development of credit reporting systems and the subsequent algorithms and automation used by credit reporting service providers across Africa.

To address the challenges of gender bias in credit reporting systems in Africa, it is essential to work closely with relevant central banks and regulatory authorities to adapt existing reporting systems or develop new systems for African countries.

## 5.2. Financial products and services

The Global Findex database indicates that 69 per cent of adults globally have an account, up from 51 per cent in 2011 (Demirgüç-Kunt and others, 2018). In high-income economies, 94 per cent of adults have an account, while in developing economies the figure is 63 per cent. Although the benefits of having an account are gained through usage, about 20 per cent of these accounts are inactive. One billion adults use cash to pay utility bills (Demirgüç-Kunt and others, 2018). Globally, only around a quarter of adults access their accounts digitally, i.e. through the Internet or a mobile phone. In sub-Saharan Africa, this figure is only about 21 per

cent, but this is still higher than in other developing regions, especially South Asia, where the share is just 7 per cent.

Digital financial technology is now used by 45 per cent of adults globally and 35 per cent of adults in sub-Saharan Africa. These higher proportions partly reflect the disproportionate share of digital finance services versus traditional financial accounts, with the volume of mobile money accounts now surpassing the volume of traditional bank accounts (Demirgüç-Kunt and others, 2018). Most transactions are remittances, but mobile money accounts are increasingly being used for domestic transactions, such as paying utility bills, receiving wages and paying for goods and services. Services are also being offered in new areas, in particular credit services, cross-border payments, investment products and insurance services. For instance, mobile network operators in Kenya are partnering with banks to offer formal savings, loans and insurance products (Sy, 2019).

There is a great need for African countries to capture financial data that can be analysed to support digital finance initiatives. Such data can help not only from an institutional perspective, but also by providing information on the supply of and demand for financial services at the national and household levels based on general exchange and financial management patterns.

Some African countries are making great strides in capturing financial data. The National Bank of Rwanda uses an electronic data warehouse to automate and

streamline reporting processes for the supervision of more than 600 financial institutions, including banks, microfinance institutions and savings and credit cooperatives. In South Africa, financial data can be pulled automatically every 24 hours, or every 15 minutes for mobile money (Sy, 2019). Such data can be used to design appropriate financial products and services that meet consumers' needs and financial circumstances, thus creating a more responsible environment for lending and borrowing.

### 5.2.1. Gender disparities in borrowing

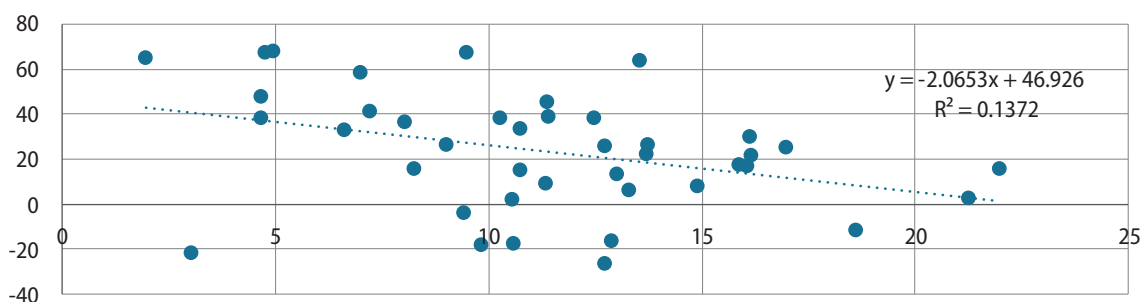
High costs and default risks associated with easy-to-acquire credit are of increasing concern across Africa. One way to mitigate such consequences is through regulations that require loan terms and conditions to be more transparent. Confusing terms and conditions seem to contribute to consumers borrowing more money to pay off existing loans, as well as to excessive late repayments and defaults (Izeguirre, Kaffenberger and Mazer, 2018). The results of telephone surveys showed that 19 per cent of borrowers in

Kenya and 27 per cent in the United Republic of Tanzania had said that they had not fully understood the costs and fees or that the lender had unexpectedly charged fees or withdrawn money from their accounts. In both surveys, poor transparency was correlated with higher delinquency and default rates (Izeguirre, Kaffenberger and Mazer, 2018).

#### 5.2.1.1. Links between borrowing, financial inclusion and digital finance

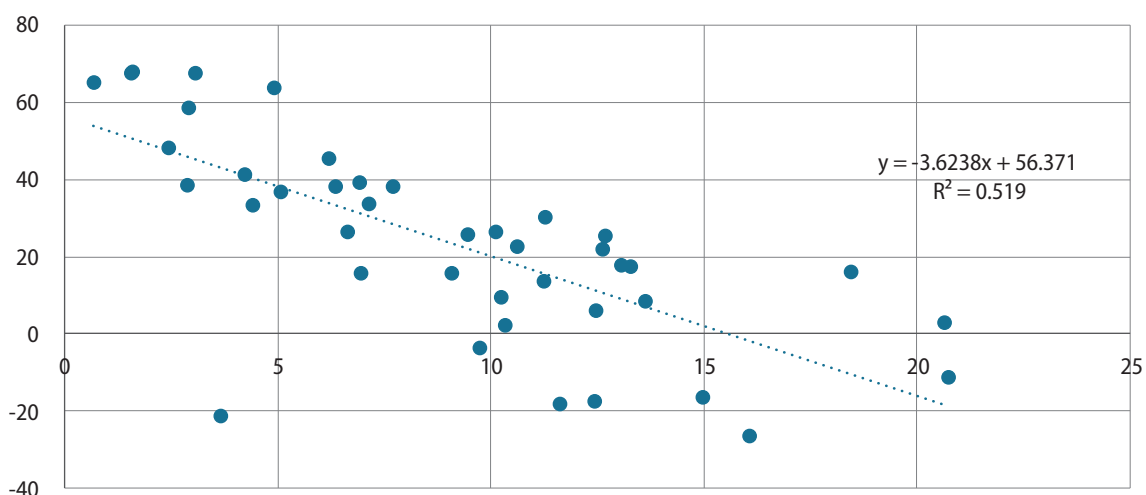
Across Africa, gender gaps are lower when more women and men borrow money to start, operate or expand a farm or a business. Figure 27 shows a correlation that was found across 41 African countries between the size of gender gaps in respect of money borrowed and the proportion of men who had borrowed money for commercial use: the greater the proportion of men who had borrowed, the wider the gender gaps. Figure 28 shows that, where more women had borrowed money for commercial purposes, gender gaps were narrower. In other words, when women borrow money for farming or business, they help to reduce the gender gap more than when men borrow.

Figure 27: Men who borrow for commercial use as a function of gender gaps, by country (Percentage)



Source: World Bank (2019b).

Figure 28: Women who borrow for commercial use and gender gaps, by country

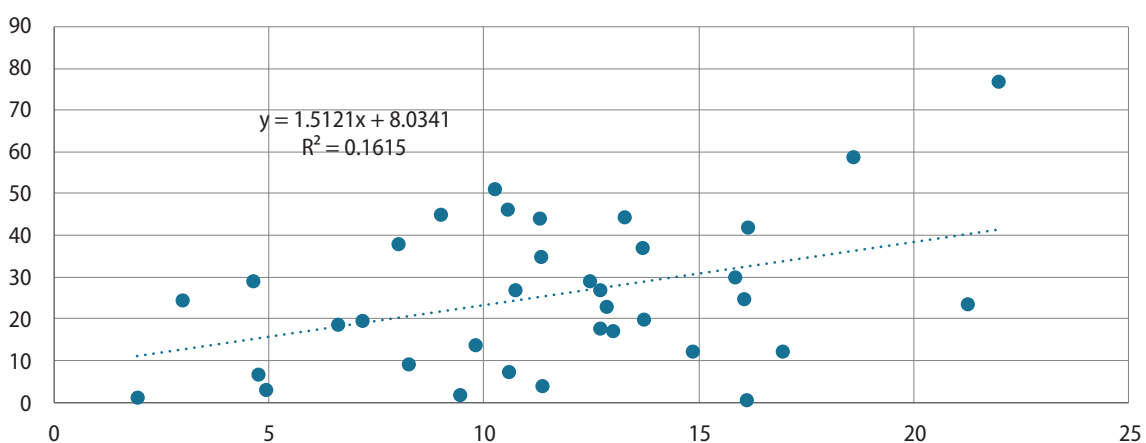


Source: World Bank (2019b).

There is a positive correlation between borrowing and mobile money uptake in African countries, both for men and women (see figures 29 and 30). This suggests that mobile money increases borrowing for commercial use, which, in turn, could have a positive impact on investment in increasing incomes through farming or small

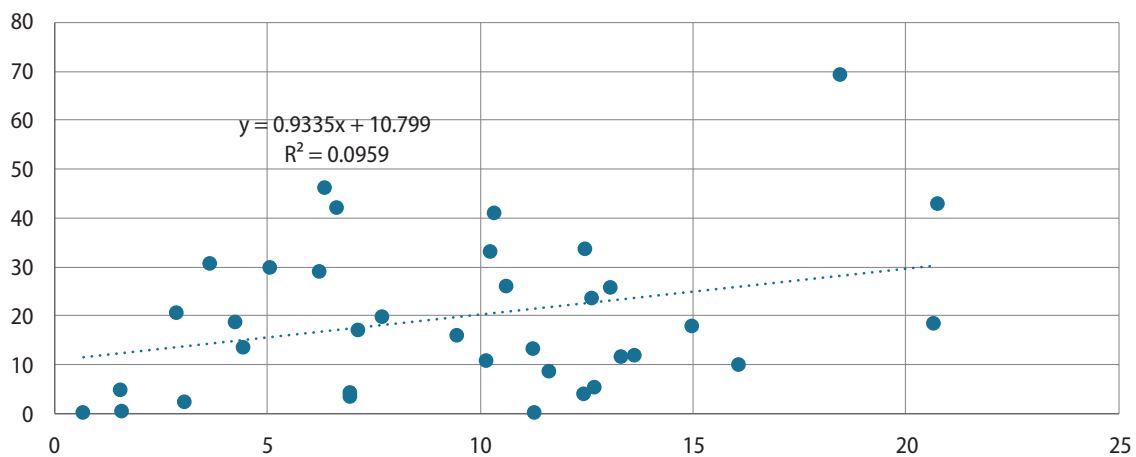
business operations. Mobile money could therefore improve women's economic empowerment. While correlation does not mean causation, especially when mobile money is still at low levels in many African countries, higher commercial borrowing is associated with a higher prevalence of mobile money accounts.

Figure 29: Men who have mobile money accounts and men who borrow for commercial use, by country (Percentage)



Source: World Bank (2019b).

Figure 30: Women who have mobile money accounts and women who borrow for commercial use, by country (Percentage)



Source: World Bank (2019b).

# Opportunities for addressing gender in representation, regulation and rights

## 6

### Key issues: opportunities

- Gender inequality gaps continue to exist in science, technology, engineering and mathematics. In 2013, the proportion of women researchers employed in research and development was 30 per cent in Africa, compared with 47 per cent in Central Asia.
- Across Africa, women's representation at the ministerial level saw the largest increase, in absolute terms, between 2010 and 2020. Women held portfolios in public works and planning, education, employment, labour and training, science and technology, and research and development.
- In 2020, 21.7 per cent of members of parliament in Africa were women, compared with a global average of 24.9 per cent.
- The lack of women's inclusion in all stages and processes of financial policymaking, in financial institutions, in credit reference bureaux and in legal systems remains one of the largest barriers to the development of an inclusive financial system.

- Unprecedented cross-border and cross-sectoral cooperation is required to ensure that regulation matches the pace of development of digital products, in particular in the financial sector.
- In sub-Saharan African countries, the proportion of men with formal identification is, on average, 9 percentage points higher than the proportion of women, even though identification is often required to obtain mobile phone services. In some countries, the gap is twice as wide.
- The ability for all people to have adequate recourse to consumer protection processes that protect their rights could be embedded digitally.



Women's underrepresentation in decision-making has a significant impact on the structural transformation of economies and on the attainment of the Sustainable Development Goals. Political underrepresentation, restrictions on participation and discriminatory working practices can contribute to a lack of gender-sensitive policy and legislative frameworks. Wom-

en can also be excluded and prevented from fully embracing financial technology trends and innovations by negative cultural attitudes and by individual- and household-level factors such as family and social norms. For example, some women do not use the Internet because doing so would be perceived negatively by society and family members.

Digital technologies can improve women's welfare and empowerment, but an appropriately funded and adaptable regulatory framework is vital to support the advancement and usage of digital finance in particular. Ensuring that individuals can enjoy their basic right to freedom of access to information is equally important, as is guaranteeing access to justice and legal recourse. In countries where a greater proportion of women own mobile phones and have access to services, such as Botswana, Namibia and South Africa, the percentage of women with Internet access – and almost every other indicator of empowerment through ICT – is lower for women than for men (Deen-Swaray and others, 2012).

Gender inequality gaps continue to exist in science, technology, engineering and mathematics. Many African Governments have expressed their commitment to implement long-term strategies that harness science, technology and innovation. Data published by UNESCO (2020) indicates that, in 2017, only 30 per cent of researchers worldwide who were employed in research and development were women (UNESCO, 2022). In Africa, the number

of women in science and engineering in 2013 was less than 20 per cent of the total workforce, and the proportion of women researchers employed in research and development was 30 per cent in sub-Saharan Africa, compared with 47 per cent in Central Asia (World Health Organization, n.d.).

Major gender disparities are also evident in the places of work and levels of responsibility of research scientists, with women working mainly in academic and government institutions and men more likely to work in the private sector, with higher salaries and better opportunities (World Health Organization, n.d.).

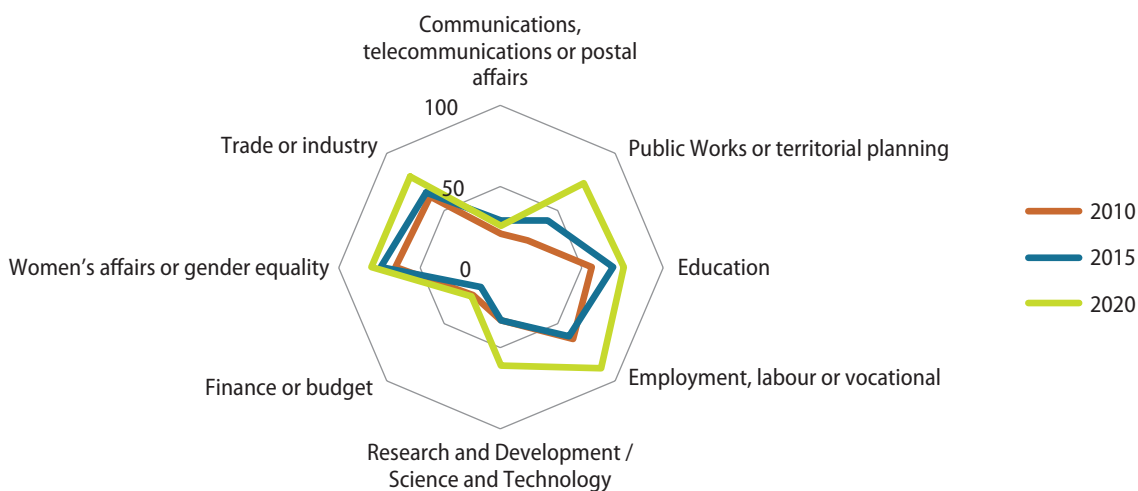
### **6.1. Women's representation in decision-making**

For women to be represented in digital finance and for gender policies to be strengthened, there needs to be a high-level commitment to an understanding of the issues that women face. The inclusion of women at the highest levels of decision-making is a fundamental component of this process. The proportion of women in ministerial-level positions can provide one indication of women's inclusion and the extent to which gender-related concerns are reflected in relevant areas of policy. Figure 31 shows the number of portfolios held globally by women ministers between 2010 and 2020 that are relevant to digital finance. In Africa, the largest increases in women's representation at the ministerial level were in public works and planning, education, employment,

labour and training, science and technology, and research and development. Large-scale representation of women is a key component of addressing the challenges that women face in terms of digital infrastructure and connectivity, skills and capacity development. Women need to be well represented in labour markets and in the design, development and use of digital applications to strengthen the coordination required across line ministries and government agencies, which can drive national-level efforts to strengthen digital finance and related systems.

In 2020, 21.7 per cent of members of parliament in Africa were women, compared with 24.9 per cent worldwide. Global data obtained by the International Parliamentary Union (2020) from 167 parliamentary chambers paint a contrasting picture of women's leadership in parliamentary committees. Women currently chair 26 per cent of committees that deal with foreign affairs, defence, finance, human rights and gender equality, although this figure varies greatly by committee type, ranging from 73 per cent for gender-equality committees to 10 per cent for defence committees. Women chair one in three human rights committees, one in five foreign affairs committees and one in eight finance committees (IPU, 2020). Only 12 per cent of those working on machine learning are female (Schnoebelen, 2016). Even the content of digital news media is affected by gender, with women making up only 26 per cent of the people who are mentioned in Internet news stories and media news tweets (UN-Women, 2020).

**Figure 31: Digital finance-related portfolios held by women ministers, globally, 2010-2020**



*Source:* Inter-Parliamentary Union and United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women) data, Women in Politics Maps.

While many barriers discussed in this section may be attributed to inherent discrimination and unconscious bias introduced indirectly at a systemic level, rather than direct discrimination by individuals, one of the most effective ways to address these concerns is by including women in all stages and processes of financial policymaking, in financial institutions, in credit reference bureaux and in the legal system.

Digital transformation and its role in maximizing social and economic benefits across societies will be incomplete if women lack equal access to critical technology (Klapper, 2019). To achieve gender equality, stakeholders should support and fund research activities to explore the best ways to design digital finance systems that deliver digital finance services (Bill and Melinda Gates Foundation, 2019). However, efficient policies and regulations are vital to provide a supportive environment that underpins delivery and access. In addition, as is the case in any gender-sensitive and

inclusive framework for action, it is critical to ensure that countries produce and disseminate gender-disaggregated data relating to access, usage and intermediary enablers and constraints, with a view to setting targets, creating strategies, tracking progress and being fully incorporated into the structural framework of economies (GSM Association, 2021).

## 6.2. Regulatory concerns and digital finance

It is critical to ensure that regulation matches the pace of development of digital products, in particular in the financial sector. Over the last few decades, we have often seen how limited financial regulatory capacity across many African countries – encapsulated by a lack of sufficiently trained individuals combined with dated or insufficient laws – resulted in negative outcomes, in the form of poor lending practices and insider lending. These out-



comes can have a negative impact on bank customers. Digital financial products are being rolled out and adopted so quickly that it is necessary to ensure that financial regulations are up to date to safeguard consumer rights.

Equally, regulation should not be overly restrictive, so that equal access is not limited. Cameroon, Chad, Gabon and the Niger, for instance, have regulations that prevent women from opening a bank account in the same manner as men (Bill and Melina Gates Foundation, 2019).<sup>10</sup> Easing financial regulation may provide momentum for improved access, as was the case in Ghana between 2014 and 2017, when the penetration of mobile money technology tripled to 39 per cent following the introduction of new regulations in 2015, the development of a three-tier know-your-customer system and the reduction of paperwork requirements for low-value accounts.

### **6.2.1. Markets and institutions**

Digital finance services and associated policies need to be tailored to the needs and circumstances of those who require them most. This includes promoting affordability, consumer protection and education to ensure trust in the financial system (Demirgüç-Kunt and others, 2018). It is therefore important to complement the introduction of digital finance services with well-grounded regulations that are supported by information campaigns that raise awareness of the safeguards that underpin mobile money among potential

users (International Telecommunication Union, 2019a).

Future-proofing regulatory frameworks for digital finance services requires unprecedented levels of cross-border and cross-sectoral cooperation, since digital systems typically function beyond national borders. The aim should be to create a high level of financial inclusion in respect of mobile money, digital identification systems and electronic commerce, while providing affordable and meaningful access to the Internet and digital public goods and protecting consumer rights. These aims can be fulfilled with effective digital cooperation and coordination, which require strengthened multilateralism from the local to the global levels. This multilateralism should also be complemented by the involvement of various stakeholders through a whole-of-society approach that includes governments, civil society, academia, the tech industry and the private sector (United Nations Secretary-General's High-level Panel on Digital Cooperation, 2019).

### **6.2.2. Consumer protection**

Governments should help to allocate financial, human and other resources to ensure that consumer protection mechanisms are gender-inclusive, effective and enforceable within their jurisdictions. The use of high-cost and short-term credit and high late-repayment and default rates suggest that decision-makers should take a more cautious approach to the develop-

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<sup>10</sup> According to data obtained by the World Bank (2018), married women could not get an identification card in the same way as married men in 11 economies (concentrated in South Asia, the Middle East, North Africa and sub-Saharan Africa).

ment of digital credit markets. It is essential to consider the lessons learned from the consumer protection safeguards put in place during the development of the non-digital banking sector. Those lessons are important for strengthening credit reporting systems. Requiring the reporting of information from all sources of credit, including digital lenders, will improve the accuracy of credit assessments. It is also important to analyse whether prevailing digital-credit screening models are strong enough and appropriate to ensure that first-time borrowers are not assessed unfairly. There should also be clear rules to block corporations that extend reckless lending to the digital domain (Izaguirre, Kaffenberger and Mazer, 2018).

### **6.3. Emerging gender dimensions of technology**

#### **6.3.1. Digital identity and registration for digital finance services**

In some African countries, such as Ethiopia and the Niger, men are 18 percentage points more likely than women to have formal identification, which is a common prerequisite for obtaining mobile phone services (Klapper, 2019). Digital identification is therefore likely to be an important catalyst for improving access to and use of digital finance services. This will likely have an indirect impact on trade, governance, social protection, financial inclusion, domestic resource mobilization, security and human rights.

Digital identification documents could be harmonized and made interoperable across platforms as proof of legal identity, which is necessary for a digital finance account and for other procedures such as applying for a passport, driving licence, voter's card or other official documents. Digital identification can be made more robust and sustainable if it is integrated with civil registration. This integration would also prevent duplication of efforts, reduce costs and time, and make public service delivery more efficient. ECA is leading a digital transformation initiative that focuses primarily on digital identification, which is key to efficient, smooth and secure digital services. Such policy initiatives are necessary because a majority of Africans are still excluded from reaping the benefits of digital technology.

The requirements that underpin legal digital identity processes are to some extent already embedded across several social protection frameworks in Africa through unique identification for individuals and the use of national registration systems and databases, such as the National Information System for Social Assistance, in Lesotho. The combination of these identification systems could further spur innovation and entrepreneurship by reducing transaction costs and providing efficient access to digital finance services. It could also strengthen the capacity of State institutions and their ability to deliver essential social services to citizens, including social benefits and scholarships. Digital identification is the basis for digital economy platforms and can facilitate the participation

of Africans in the digital economy, yielding dividends for inclusion and sustainable development (Economic Commission for Africa, 2019). However, digital identification needs to be efficient and secure to minimize the risk of money-laundering and terrorist financing (Sy, 2019).

## **6.4. Integrating rights and equal access to justice for women**

Gender-sensitive and inclusive regulations are at the centre of women's empowerment and should be central to the development of digital identification systems. Legal empowerment and deprivation affect the poorest disproportionately and are particularly harmful to women at both the household and business levels. Ultimately, rights and access to justice are directly linked to the broader goals of women's empowerment and poverty reduction, which are two pillars of the global community's commitment to achieving the Sustainable Development Goals. It is therefore essential to ensure that digital frameworks incorporate gender-sensitive and inclusive consumer protection and rights (Lawson, Dubin and Mwambele, 2020).

### **6.4.1. Financial regulatory services and court systems**

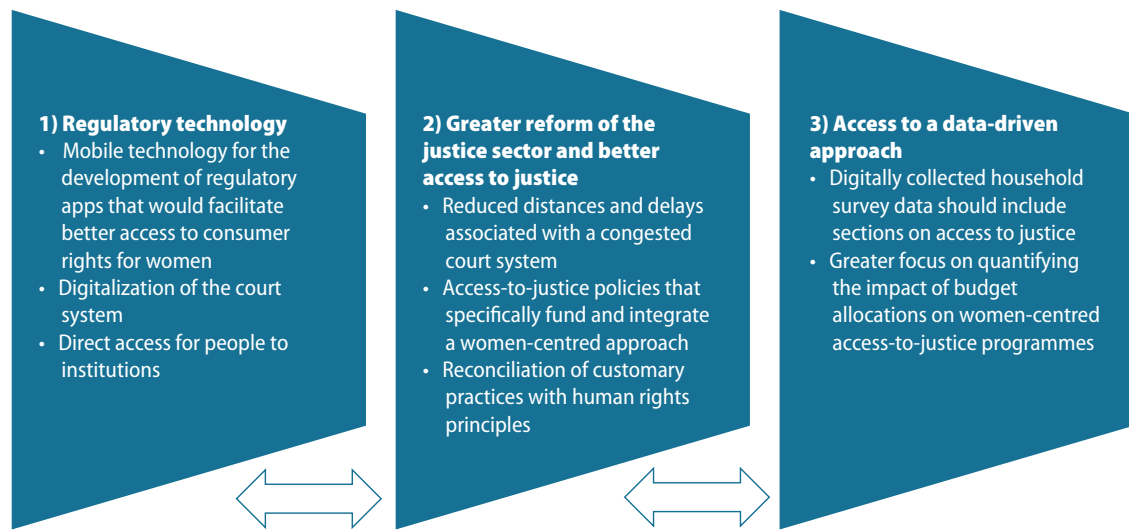
The ability for all people to have adequate recourse to consumer protection processes can be embedded digitally. To reduce the delays associated with financial regulatory services and congested court sys-

tems, governments must allocate more resources to courts, expand infrastructure and initiate the digitalization and integration of court systems. This would streamline complaints, investigatory processes and court operations while enabling users to track an application or an appeal through each stage of the legal process. Policies and programmes developed must be backed by adequate funding and should take into account the specific needs of women within the broader financial regulatory environment and the justice system.

Identifying the interfaces and interactions between improved financial regulatory services and court systems will create feedback loops and seamless integration and shed light on what measures need to be taken to protect rights. Figure 32 shows an overview of how, among other benefits, digitization could facilitate access to regulation (through mobile apps), enhance reform of the justice sector, and support the push for a data-driven approach that can foster gender-equal national budgets. Regarding the latter, which falls under regulatory and justice-sector reform, there should be greater focus on quantifying the impact of budget allocations on access to consumer rights, regulatory services, justice and human rights programmes, as well as better and greater use of data to analyse the complexities of policymaking, with a view to improving access to justice.

Greater investment should be made in relevant technology, such as mobile apps, to facilitate increased access to information on rights and to regulatory services

Figure 32: Digitalization of the regulatory sector and the enablement of justice



Source: Abridged from Lawson, Dubin and Mwambene (2020).

and justice-related legislative processes. Such apps could provide access to a range of services, including information about consumer rights, ombudsman facilities, financial regulatory services, legislation and

the possibility of filing a complaint. At the heart of these services there needs to be a commitment to investing in the advancement of the rights of women and girls.

# Policy considerations: digital finance to promote women's economic empowerment

# 7

## Policy considerations and the way forward

While it is essential to develop and implement policies that support the majority of women, it is equally important to design policies that are adapted to individual and evolving circumstances. In other words, policy considerations should take into account people who might be left behind and new technology developments that might create new policy scenarios and considerations. Furthermore, when a country's underlying social and economic contexts

improve, especially with regard to the Sustainable Development Goals, it will be in a better position to harness digital finance for the benefit of the population in general and for women in particular. Nevertheless, protection of the most vulnerable is vital, in particular in the early stages of a country's social and economic development.

Short- and long-term policy measures are both important furthering the objectives of the emerging African Continental Free Trade Area. Digital identification and interoperable digital systems are welcome developments that can boost intraregional trade in Africa. Domestic and international trade need reliable, smooth and efficient support systems. Digital infrastructure is crucial for the modern economy and for

cross-border traders across Africa, many of whom are women. Cross-border trade currently takes longer than it should, involves numerous barriers and places women in difficult situations, as they are more vulnerable than men to violence and threats of violence in border towns.

It is essential to enact policies, regulations and campaigns that genuinely and sustainably transcend social norms that obstruct gender equality and women's economic empowerment. Decision makers need to take bold steps to remove systems and mindsets that restrict the opportunities afforded to women in society, and they need to put in place policies that promote women's access to and control over productive resources. Access to resources, financial literacy and general education are all factors that have a major effect on women's access to credit and financial inclusion. Affordable access to digital finance is underpinned by connectivity and financial inclusion. Financial policies must create a regulatory environment that eliminates entry barriers for women.

### **7.1. Enhance digital and mobile connectivity across the region and promote greater use of information and communications technology among women and girls**

Despite the improvements that have been made to digital infrastructure and the relatively high levels of access to mobile money, there is not a sufficiently enabling environ-

ment for digital connectivity. To address this, the use of digital technology among women and girls needs to be increased and continent-wide digital financial infrastructure needs to be built. In addition to the physical and digital hard infrastructure, other relevant components are needed to create an enabling framework that can form the basis for gender-sensitive and gender-inclusive development over the next few decades. A functional identification system, ICT connectivity and fast, stable and reliable Internet services are all essential ingredients. Such infrastructure should not be concentrated in urban areas, but should also be accessible in rural areas (Demirgüç-Kunt and others, 2018).

By strengthening infrastructure development, countries can reduce the barriers to women's inclusion in digital technology in general, and digital finance in particular, and make digital finance more widely available, more accessible and more affordable for women, thus removing the main barriers that they face. Connectivity is very expensive in some subregions of Africa, and since women typically work in the lower echelons of African economies, digital access remains a major obstacle to their integration into the digital economy. At the same time, given the number of digitally excluded women in Africa, there is a significant opportunity for growth. Affordability is critical to closing the gender gap in digital finance. Mobile connectivity is particularly important, as mobile money is a key lever for acceleration – a measure in which Africa is already leading the way globally, albeit with gender gaps.

The energy infrastructure gaps that underpin digital finance technology usage need to be remedied by establishing an appropriate mix of energy sources to generate electricity and by improving the governance of public utilities to ensure an adequate provision of electricity and Internet services. To that end, scarce public resources will need to be supplemented by domestic and foreign private financing and concessional resources. Policymakers will need to mitigate the risks associated with investing in infrastructure projects in their countries. They will also need to mobilize the financing needed to invest in electricity generation, transmission and distribution and in the critical Internet infrastructure and the hardware and software systems needed, such as fibre-optic links. Investment costs are only one part of the capacity and accessibility challenge; operations and maintenance, not just construction, must also be included in budgets to ensure that electricity is reliable and affordable (Sy, 2019).

## **7.2. Explore and confront negative social and cultural norms that discourage women and girls from pursuing education, training and career opportunities in science, technology, engineering and mathematics**

Educational disparities for women and girls across the region need to be addressed, especially in science, technology, engineering and mathematics. These sub-

jects are the core components of digital and financial literacy, which are vital to ensure strong uptake of digital technologies, and more specifically digital finance tools and platforms. Although women's and girls' enrolment and attainment have improved significantly across North Africa, surpassing even global benchmarks, the rest of Africa is lagging significantly behind North Africa and far behind the global average.

Investment in digital education and financial literacy are critical for women's economic empowerment. Although literacy, education and training do not necessarily correlate with the direct economic empowerment of women and girls, they provide the basis for the increased usage of digital platforms, a deeper understanding of financial and economic principles and the integration of gender considerations into the design of digital finance tools and platforms that meet the specific needs of women.

Advocacy needs to be stepped up to change the perception that science, technology, engineering and mathematics are not appropriate fields for women and girls. This requires further investigation and research into why women are so reluctant to embrace training in those fields and greater advocacy to challenge negative social and cultural norms that contribute to these self-deprecating perceptions. Such perceptions have been documented by various studies over the years, with girls scoring themselves lower than boys when evaluating their own confidence and com-

petence in studying science, technology, engineering and mathematics, even when they were higher achievers than boys in that regard.

Measures are needed to ensure that technology design stops catering exclusively to male preferences and that women's needs are no longer considered to be secondary. Examples of such bias include the use of virtual assistants who are modelled on submissive secretary-like women, the use of aggressive and competitive language in technology job descriptions and profiles, and the expectation that technology is a field for men and boys. Designers of digital experiences need to be mindful of the skewed nature of technology design, which, for decades, has placed men and boys at the centre of the narrative and made them feel comfortable and engaged in immersive digital environments, with women often left feeling alienated from these curated digital experiences.

### **7.3. Address financial inclusion and lower the risks of accessing credit, especially for those who are already financially vulnerable**

The mechanisms through which digital finance can boost women's economic empowerment are multi-layered. There should not be a sole reliance on credit to boost women's economic empowerment; instead, programmes should promote the development of income streams and the building of savings. Policymakers can cre-

ate enabling environments for women's economic empowerment through fiscal and monetary policies, welfare systems, education opportunities, childcare, health care and labour laws, among other channels. It is also important to boost women's income and wealth through labour-market reforms, that is, through capacity-building across empowerment components. It is equally important to integrate digital technologies into education from the primary to the tertiary levels, as well as in specialized education, to ensure that people have adequate digital and financial skills.

Gender-informed policy interventions should be promoted to enhance gender parity throughout society. Such interventions include conditional cash transfers to female-headed households, stipends for education, free or low-cost transport, health services and child allowances. The end goal is to increase the income and wealth of women so that they have better access to and can harness digital finance, thus reducing their reliance on credit. Improving women's financial resources would also strengthen their creditworthiness and loan-repayment capacity.

#### **Due diligence should be sufficient to ensure duty of care in digital finance.**

Digital finance has the potential to provide alternative forms of credit and financing for people who do not have access to traditional financial institutions and financial mechanisms. This includes people who cannot afford credit, people who cannot commit themselves to repayment plans,



people with specific or complex financial needs, and people with other needs, whether related to finance, accessibility or a specific type of vulnerability.

#### **7.4. Remove inherent, invisible and unwitting barriers that hinder women's access to financial products and services**

Promoting the use of mobile money by women reduces gender gaps in saving and borrowing. In addition, in countries where women save and borrow more, there is a tendency for mobile money to be used to facilitate transfers, with mobile money being a vehicle for financial resources that already exist. In such circumstances, mobile money would play a positive administrative role, but not necessarily a monetary role. Administrative and logistical roles can reduce costs and accelerate procedures, thus benefiting the livelihoods and business operations of women.

Barriers that hinder women's access to financial services need to be tackled, since digital finance services seem to contribute to women's economic empowerment. One such barrier is that credit reference checks are often biased against women, affecting financial outcomes for women and resulting in an unfair evaluation of their creditworthiness. In automated systems, that bias is sometimes by design: the algorithms assume that women are financially dependent on their husbands or assume that lending to women is more risky.

Non-traditional financial assessments need to be expanded to improve women's access to digital finance. Traditional financial assessments, whereby immovable assets such as land or property are used to calculate net worth or are accepted as collateral against secured borrowing, are unsuitable for women in countries where they face barriers to ownership of land or other assets and economic resources. It is becoming increasingly important for such gender considerations to be embedded within innovative financing systems, with measures taken to modify and diversify the tools used to assess credit-worthiness and to provide alternatives to collateral-based lending.

#### **7.5. Managing digital finance risks through effective regulation**

Data used in digital financial services need to be confidential and reliable. To achieve this, people's identity must be verified and protected from hackers and fraudsters. Services must be sufficiently smooth, attractive and cost-effective for small merchants and their customers, accessible to all adults and interoperable across service providers. They should also be consistently available and secure, protecting users' digital identities and data and ensuring that money and identities are secure (International Telecommunication Union, 2019b).

The gap between the fast-moving digital sphere and slow-moving regulation needs to be addressed. A priority area is to create appropriate digitalization regulation that protects citizens and organizations to guarantee financial stability, integrity and consumer protection from cyberfraud, cyberintrusion and other risks in the digital sphere (Sy, 2019). Given that building regulatory capacity within each country can be particularly difficult, owing to resource constraints, cross-border and regional agreements should be considered.

The risks associated with digital finance should be fully considered. Uncertainty around the impact of financial technology persists, especially given its rapid adop-

tion. Policymakers must manage the risks that it poses to stability, security, financial integrity and transmission channels to other parts of the economy (Rowntree, 2019).

Digital infrastructure that is interoperable across countries and subregions would allow users to transact across borders while using different service providers. Similarly, to maximize efficiency of service, create competitive pricing and coverage and minimize access limitations, financial exclusion and market monopolies, a single, preferably pan-African, digital identification system should be implemented that all people can use across all digital platforms (Bill and Melinda Gates Foundation, 2019).

## Making digital finance gender-sensitive: 10 policy action points

### Digital connectivity and ICT usage

1. Strengthen national development policies and plans by introducing strategic pillars that focus on ICT and social development and provide gender-sensitive and gender-inclusive policy frameworks.
2. Explicitly integrate a gender perspective into national ICT policies while ensuring that gender-disaggregated data on mobile ownership and Internet usage are collected in national household surveys.

### Financial and digital literacy and skills

3. Establish a critical mass of trained individuals, especially women, to build relevant ICT skills to harness digital finance by embedding ICT skills as a core component of school curricula and prioritizing policy initiatives that are focused on science, technology, engineering and mathematics.
4. Determine levels of financial knowledge and literacy through national household surveys and the inclusion of African countries in global surveys.

### Financial inclusion and access to credit

5. Embed digital strategy frameworks and financial literacy into national curricula to encourage and facilitate children's understanding of digital finance; create work, employment and entrepreneurial training schemes.
6. Amend financial laws at all levels of government to encourage mobile money uptake (which is positively associated with savings), in particular for women, across many countries in Africa, thereby increasing savings ratios and accentuating empowerment.

### Financial products and services

7. Establish credit bureaux and registries to support the financial inclusion of larger segments of the population to address the challenges of gender bias and associated assumptions in credit reporting systems.
8. Prioritize the collection of gender-disaggregated financial data by financial service providers (in surveys on doing business) to support digital finance initiatives and determine how social and cultural norms and financial products and services affect women's economic empowerment.

### Representation, regulation and rights

9. Prioritize women's representation in digital finance, in particular by including women in decision-making at the highest levels, and set industry targets for women's representation.
10. Establish continental frameworks for regulation and access to justice in digital finance by using the African Continental Free Trade Area as a platform and embedding digital identification using national registration systems and databases as a springboard for gender-sensitive digital finance frameworks.

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