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Gender disparities in financial inclusion in Tanzania

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Abstract: Although Tanzania has made notable progress in enhancing access to financial services, the gender gap in financial inclusion persists. This paper examines gender disparities in financial inclusion in Tanzania using descriptive and regression analyses. While the advent of mobile phone money services has led to increased access to formal financial services, women still lag behind in access to and utilization of formal financial services. Based on FinScope Tanzania survey data for 2017, the empirical results show that women—especially married women—are less likely to access mobile money services and banking financial services compared with men. Similarly, women are less likely to save and borrow compared with men, with a higher percentage opting to keep cash at home or save with a saving group. The gender gaps in financial inclusion are attributable to factors such as lack of income, limited financial literacy, and lack of access to smartphones and other digital facilities. There is a need to be cognizant of gender differences in preferences. Policy initiatives to enhance access to digital financial services, improve women’s education and financial literacy, and promote saving groups are critical to enhance women’s access to formal financial services.

Key words: gender, financial inclusion, mobile money, Tanzania

JEL classification: G00, G21, G23, G5

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1 Introduction

The role of affordable financial services in reducing poverty and promoting economic growth and development is increasingly recognized. The belief that access to and use of quality financial services can lift the poor out of the cycle of poverty has motivated the widespread adoption of policies, programmes, and reform measures that aim to promote financial inclusion (Ardic et al. 2011; Pande et al. 2012; World Bank 2014). Great strides have been made towards financial inclusion as countries leverage digital financial technology to promote access to affordable financial products and services such as payments, transfers, savings, credit, and insurance. Financial empowerment has been proven to increase female participation in community decision-making, improve well-being, and combat socio-economic marginalization (World Bank 2015, 2020a).

The use of digital financial services has been the main driver of financial inclusion (GSMA 2020b; Pazarbasioglu et al. 2020; World Bank 2020a, 2020b). Modern technological developments and the adoption of digital financial services such as mobile money, Internet banking, and electronic payment systems have not only increased efficiency in service delivery, but have also lowered the cost of financial transactions, thereby increasing outreach to the poor (Sahay et al. 2020; World Bank 2020a). Globally, the share of adults who had an account with a financial institution or mobile money service rose from 62 per cent to 69 per cent between 2014 and 2017 (Demirguc-Kunt et al. 2018). In particular, mobile financial services enabled by mobile phone technology and financial innovations have tremendously transformed the financial landscape in Africa, with increased outreach to rural areas, where the majority of the population not only live but were previously excluded (Nguena 2019; Pazarbasioglu et al. 2020).

Despite these developments, there still exist gender gaps in financial inclusion. In 2017, the gender gap in account ownership remained at seven percentage points globally and nine percentage points in developing countries, an indication that the disparity in opportunities that women face in accessing formal financial services persists across regions and time. Unequal social relations and unequal opportunities create gender-specific barriers to financial access, which in most cases have resulted in missed opportunities for growth and persistent inequalities (Sahay et al. 2020; World Bank 2008, 2020b). The shift towards digital technology during the COVID-19 pandemic has exposed the deep digital divide and missed opportunities, particularly for unbanked women and rural populations (Agur et al. 2020; GSMA 2020b; OECD 2020; World Bank 2020a). As countries continue to embrace the ‘new normal’, digital financial services will play a more prominent role as a platform for individuals and businesses to access a variety of financial products and services.

Tanzania is one of the African countries that have made notable progress in the expansion of access to formal financial services, which increased from 58 per cent in 2013 to 65 per cent in 2017, largely driven by mobile money services. The increase was reflected in both access to and use of formal financial services, with the proportion of the rural adult population living within a five-kilometre radius of a financial access point increasing from 66 per cent to 78 per cent. However, despite concerted efforts to enhance access to formal financial services, financial inclusion in Tanzania is not gender-neutral. Women still lag behind in both access to and use of formal financial services.

Gender disparities in financial inclusion undermine the important role of women in poverty alleviation and economic development. This is particularly the case in Tanzania, where women account for slightly over 50 per cent of the total population. While Tanzania’s National Financial Inclusion Framework for 2018–22 aims to increase access to financial services among the adult population to 92 per cent by 2022 (NFIF 2018), challenges remain regarding women’s access to

and use of financial services. The elimination of gender disparities in financial inclusion may be at risk or remain a mirage, partly because of unequal access to and use of digital financial channels, especially given the accelerated shift to digital financial services. There is a need for a better understanding of gender dynamics and barriers to financial inclusion in the context of ever-changing dynamics in technological innovations. Yet there is a paucity of research analysing gender disparities in financial services in Tanzania. The available studies tend to be general and exclude the growing importance of digital financial services.

Against this background, this paper provides an in-depth analysis of gender disparities in financial inclusion in Tanzania. Specifically, the paper seeks to analyse gender disparities in access to formal financial services, focusing on traditional bank-based and mobile money services as the main forms of financial services. Furthermore, we also analyse gender disparities in saving and borrowing, which are key indicators of the extent of utilization of financial services, and provide insights to inform policy and debates on gender and financial inclusion. A descriptive analysis and a regression analysis using a logit model are employed. The analyses are undertaken using the latest available data sets, with multiple financial inclusion indicators that encompass access to and use of traditional and digital financial services. The main data sources are FinScope Tanzania surveys,¹ which provide comprehensive financial information, complemented by the World Bank's Global Findex data and Global Systems for Mobile Association (GSMA) data.

The analysis shows that mobile-based financial services remain the most widely used and preferred mode of access to and use of formal financial services across genders. The uptake of mobile financial services increased from 50 per cent in 2013 to 60 per cent in 2017. Nonetheless, the FinScope 2017 survey revealed a gender gap of 9.4 percentage points in access to formal financial services, with 60.7 per cent of women compared with 70.1 per cent of men having such access. The survey further revealed that 30.3 per cent of women were financially excluded, while 9.0 per cent relied on informal financial services. The persistent gender disparities reflect underlying inequalities and constraints in both access to and use of digital financial services such as mobile phones, electronic cards, computers, and the Internet, by which digital financial services are enabled. A GSMA (2019) report showed that 77 per cent of women in Tanzania owned mobile phones, compared with 86 per cent of men.

The empirical results show that after we control for a variety of factors such as education, income, and employment, women—especially married women—are less likely to access mobile phone and bank-based financial services compared with men. Additionally, women are less likely to save and borrow compared with men. Constraints on financial inclusion include insufficient income, limited financial literacy, and limited access to digital financial facilities such as smartphones.

The rest of the paper is organized as follows. Section 2 provides an overview of the literature on financial inclusion. Section 3 presents the conceptual framework, focusing on constraints on formal financial inclusion, while section 4 describes the empirical strategy and data. Section 5 provides an in-depth descriptive analysis of financial inclusion, including a regional comparison. Section 6 presents and discusses the empirical findings. Section 7 provides conclusions and policy insights.

¹ The findings and conclusions expressed in this paper are entirely those of the authors and do not necessarily represent the views of FinScope Tanzania.

2 Literature review

Theories of development economics suggest that financial sector development is an integral component of poverty alleviation and economic growth. The link between finance and growth is mainly through saving and capital accumulation (Goldsmith 1969; McKinnon 1973; Romer 1986; Shaw 1973) and technological innovation (Aghion and Howitt 1992; Grossman and Helpman 1991; Romer 1990). According to Levine (2005), financial systems facilitate economic growth through the mobilization of savings and pooling resources, the facilitation of information-sharing, the trading, diversification, and management of risks, and the exchange of goods and services.

Economic agents continuously engage in stimulative innovative activities in order to make technological advances to gain a profitable market niche (Galor and Moav 2004; King and Levine 1993). However, Greenwood and Jovanovic (1990) showed that in the initial stages of financial sector development, there exists a high level of income inequality, which declines as more people gain access to the system. The main constraints include financial market frictions such as credit constraints and asymmetric information, which restrict the poor's access to investment opportunities (Aghion and Bolton 1997; Banerjee and Newman 1993; Berger and Udell 2006; Galor and Zeira 1993). In addition, the lack of a legal and regulatory framework and information infrastructure undermines the scale and efficiency of finance systems (Honohan 2004). These constraints not only prevent the poor from exploiting investment opportunities, but also slow down aggregate growth by keeping capital from flowing to its highest-value use (Banerjee and Newman 1993; Galor and Zeira 1993; Greenwood and Jovanovic 1990; Honohan, 2004; Zhuang et al. 2009).

Earlier empirical research focusing on traditional banking services used supply-side bank-level data, such as the number of bank branches and automated teller machines (ATMs), loan and account deposits, the requirements and charges for opening and maintaining a bank account, and the provision of credit to the private sector, among other variables, as measures of financial outreach (Beck et al. 2006, 2007; Honohan 2004, 2007). Findings from these studies revealed that barriers to financial inclusion arose mainly from banks' rational decisions based on their business models, the regulatory environment, and economic policies (Beck and De la Torre 2007; Beck et al. 2006). However, these studies mostly relied on these supply-side indicators, with limited gender-disaggregated information on the extent of financial inclusion of the poor and other marginalized populations (World Bank 2014).

Given the increased availability of financial inclusion surveys, empirical analyses that use demand-side survey databases such as the Global Findex Database, FinScope, and FinAccess surveys to assess demand-side drivers of financial inclusion have been on the rise (Allen et al. 2016; Aterido et al. 2013; Demirguc-Kunt and Klapper 2012; Demirguc-Kunt et al. 2014, 2018; Ellis et al. 2010; Fanta and Mutsonziwa 2016). Some of the findings from these studies have shown that access to and use of financial services is not gender-neutral. There exist disparities between men and women, influenced by both demand-side and supply-side constraints. Some of the non-financial factors include legal and regulatory barriers (Chakraborty 2014; Delechat et al. 2018; Demirguc-Kunt et al. 2013), sociocultural and institutional barriers (Buvinic and Berger 1990; Chakraborty 2014; Chamlou et al. 2008; Chen 2013; Coleman 2002; Safavian and Haq 2013), and socio-economic factors (Botric and Broz 2017; Delechat et al. 2018; Honohan and King 2009; Naidoo and Hilton 2006; Narain 2009; Ouma et al. 2017).

Studies undertaken in the context of Africa include that by Fanta and Mutsonziwa (2016), who analysed the financial inclusion of women in Southern African Development Community countries using FinScope survey data covering the period 2013–15, as well as Global Findex data.

The empirical analysis was based on panel data using a logistic regression model, with ownership of a bank account as a proxy for access to financial inclusion, and access to credit and saving as proxies for usage. The findings showed that a gender gap prevailed even in countries with the highest levels of financial inclusion, with a wider gender gap in account usage than in account ownership. The main barriers to women's financial inclusion included remote bank branches, lack of finances, and financial literacy.

Using FinScope and FinAccess surveys undertaken during 2004–09 across nine countries in Southern and East Africa, including Tanzania, Aterido et al. (2013) analysed gender differences in the use of formal and informal financial services, using both multivariate panel data and univariate country-specific regressions. The study further applied a Oaxaca-Blinder decomposition to assess gender dynamics in the use of financial services. The findings revealed that barriers to financial inclusion arose more from demand-side constraints than supply-side constraints. Specifically, the lower use of formal financial services among women was explained by their lower levels of income, education, and employment status. On the other hand, women were found to be 5.8 per cent more likely on average to use informal financial services than men, and less likely to be excluded from informal financial services.

Ellis et al. (2010) examined the relationship between financial inclusion, household investment, and growth in Kenya and Tanzania. Their study found that key barriers to access to financial services included both supply-side and demand-side constraints, such as exorbitant bank charges, inaccessibility of financial services, qualifying requirements, and documentation. Similarly, a study by the Alliance for Financial Inclusion (2016) on barriers to and opportunities for women's financial inclusion in Tanzania, as well as studies by Idris (2018a, 2018b), revealed that inappropriate services and inefficiencies in delivery channels were the main supply-side constraints, while information asymmetries, lack of documentation, irregular income patterns, women's relatively lower incomes, and low financial literacy were the main demand-side constraints. In addition, the lack of a legal and regulatory framework, and delays in rolling out a national identification system, hindered contract enforcement. Ndanshau and Njau (2021) empirically assessed the determinants of financial inclusion in Tanzania without necessarily focusing on the role of gender.

More recent studies following the COVID-19 global pandemic show increased dependence on digital platforms for a variety of activities such as work, learning, healthcare, shopping, and entertainment. Yet various hurdles, such as limited access, affordability, lack of education, and inherent biases and sociocultural norms, still curtail women's and girls' ability to benefit from the opportunities offered by the digital transformation (GSMA 2020a, 2020b; IMF 2020; OECD 2020; World Bank 2020b). According to the OECD (2018), girls' low enrolment rates in science, information, and communication technologies, coupled with their limited use of digital tools, may widen gender gaps and inequalities. The World Bank (2020b) notes that while digital technology provided an armoury for the COVID-19 response in Tanzania, the affordability of smartphones, electricity connectivity, and transaction fees remained a hindrance to women's access and use.

Although the number of studies that examine demand-side factors by using financial inclusion survey databases is growing, few studies have delved into analysing the gender gap, especially in digital financial services in Tanzania. While Mndolwa and Alhassan (2020) examine the determinants of gender disparities in financial inclusion in Tanzania, their analysis is based on the 2013 FinScope survey, and the role of digital financial services is not considered.² Our study makes

² Whereas their results indicated a lower likelihood of women saving at a formal financial institution, women were two per cent more likely to borrow from such institutions.

a contribution to the literature by utilizing recent databases to analyse gender disparities in financial inclusion in Tanzania, using multiple indicators that encompass access to and use of both traditional bank-based financial services and digital services such as mobile money. Furthermore, gender disparities in usage indicators, i.e. saving and access to credit, are also analysed.

3 Conceptual framework

The concept of financial inclusion has evolved over the years to encompass not only access to financial services, but also the use and quality of financial products and services (Massara and Mialou 2014; World Bank 2014). An inclusive financial system allows broader access to formal financial services such as credit, savings, payments, money transfers, and other, risk-based management products such as insurance and pensions. Whereas access to formal financial services was traditionally considered to be supply-driven, usage of financial services is largely considered from both the demand and supply sides, based on the understanding that economic agents consume financial services (Beck and De la Torre 2007; World Bank 2014).

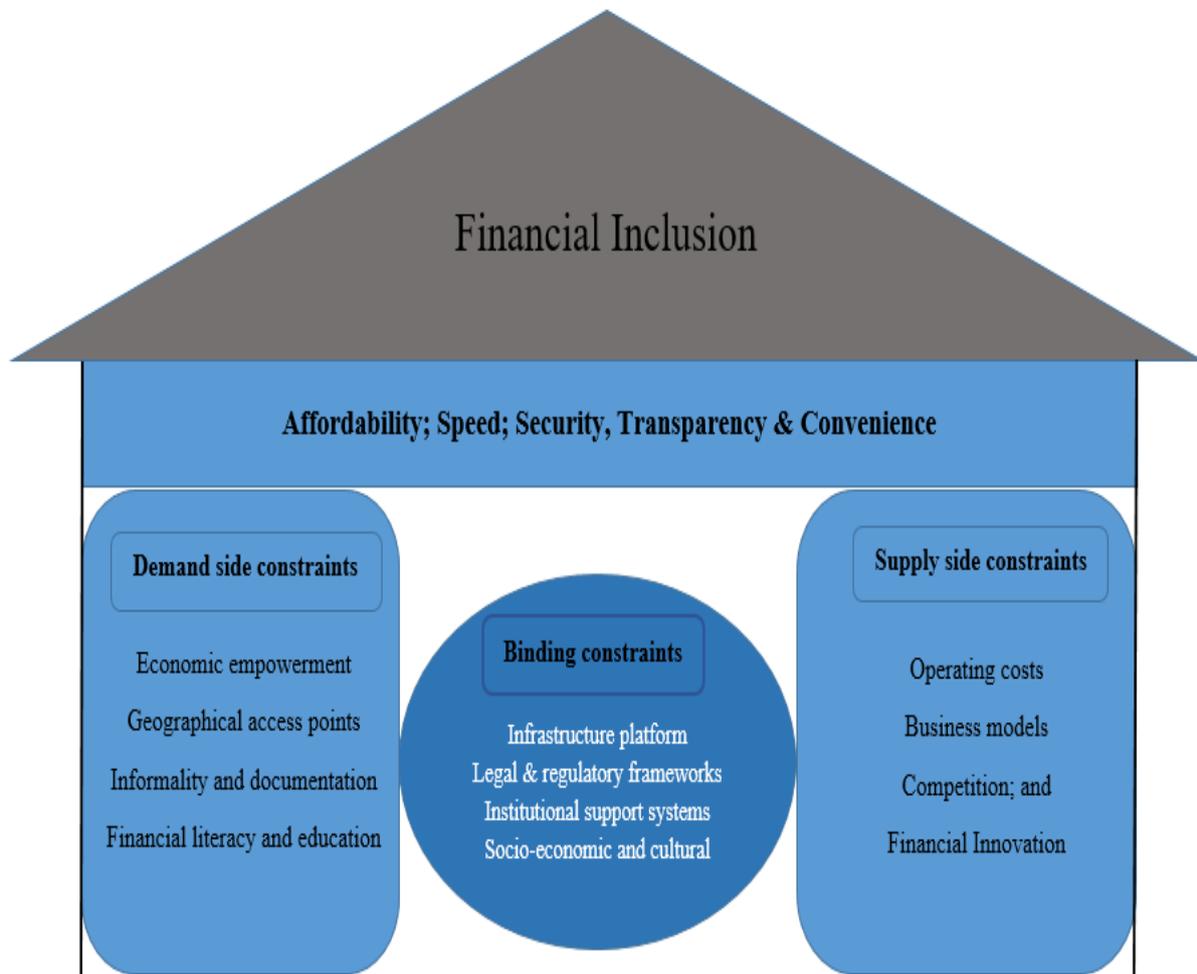
The call for universal access to financial services requires the elimination of barriers to financial inclusion through investment in affordable, faster, secure, transparent, and convenient financial services. Barriers to financial inclusion encompass demand-side and supply-side constraints (Figure 1). The key to success is the removal of binding constraints through investment in infrastructure, enforcement of legal and regulatory frameworks, support for the institutional system, and the elimination of socio-economic and cultural barriers that affect demand for and supply of financial products and services. Most developing economies, especially in Africa, are rural-based, with limited access to formal financial institutions such as commercial banks. Thus, the regulatory framework and the provision of basic infrastructure play a role in increasing access points that are closer to the people.

Investment in reliable and quality infrastructure provides a platform on which financial services become accessible and affordable to both suppliers and consumers, thereby positively influencing financial inclusion (World Bank 2020b). Infrastructure platforms include those that facilitate: (i) payments and money transfers (e.g., bank accounts, ATM cards, and mobile phone devices); (ii) user identification (such as national identification and passports); (iii) connectivity (global system for mobile (GSM) network connection, mobile data, Internet connectivity, electricity supply). Support for the use of digital technology requires reliable network connectivity and the rollout of infrastructures such as fibre and mobile base stations to support digital services. The GSM network coverage in East African Community (EAC) countries is still dependent on slower, narrowband, second- and third-generation 2G and 3G technologies, as opposed to the faster, broadband, fifth-generation 5G technology currently in use in most developed economies (GSMA 2020b). In addition, there is a need to invest in research and development for innovative financial products, services, and business models that can be used by different segments of the population.

Payment platforms have shifted from traditional 'bricks-and-mortar' bank branches and ATMs to digital platforms. Similarly, investment in digital infrastructures such as mobile banking, Internet banking, and point-of-sale machines has supported remote access to digital financial services, thereby promoting financial inclusion and reducing banks' operating costs. In 2020, the number

of feature mobile phone users reached 4.9 billion (approximately 61.3 per cent of the global population), while smartphone users reached 3.5 billion (44.9 per cent of the global population).³

Figure 1: Constraints on financial inclusion



Source: authors' illustration based on data from Beck and De la Torre (2007), Bank for International Settlements (2020), and World Bank (2020a).

Legal and regulatory frameworks form the basis for fair competition among market players in the provision of financial services, allowing new entries into the market and new products while fostering demand, building customer confidence, and safeguarding consumer needs. Legal 'know-your-customer' requirements oblige financial institutions and digital service providers to verify a customer's identity by checking and confirming identification. While such rules help to preserve the integrity of financial markets, they can sometimes exclude segments of the population, such as low-income populations, into which the majority of women fall.

On the demand side, socio-economic factors play a critical role. Despite the rapid adoption of digital financial services and the penetration of digital channels, affordability remains a key barrier, especially among low earners in developing countries such as Tanzania. According to the GSMA (2020a), women across low- and middle-income countries are eight per cent less likely than men

³ There are three types of mobile phones: basic phones can send SMS messages and make calls but cannot access the Internet; feature phones can send messages, make calls, and provide very basic Internet access; smartphones can send messages, make calls, and access the Internet plus other mobile phone applications.

to own a mobile phone. While the use of digital technologies such as smartphones has significantly reduced geographical barriers to access to financial services, the cost of mobile Internet data makes it expensive to use mobile Internet, especially for women. According to the GSMA (2020a), there is a wide gender gap in mobile Internet use, with over 300 million fewer women than men accessing the Internet on a mobile phone in low- and middle-income countries. The GSMA's (2019) global gender gap report cites affordability as a major barrier to mobile phone ownership and mobile Internet use, which ties closely to government policies on the taxation of mobile handsets and mobile phone services, and the uncompetitive pricing models of mobile services and other innovative technologies. The notable increase in access to financial services in EAC countries, including Tanzania, has largely been underpinned by access to cheap basic mobile handsets, with which basic mobile financial services such as money transfers and payments are undertaken. Access to smartphones, however, is still out of reach for the majority of the population, especially in rural areas.

While account ownership is a basic prerequisite for the use of formal financial services such as saving, other socio-economic factors, such as education and income, affect the savings behaviour of women and men. Women's lower labour force participation rate implies low employment rates, coupled with relatively low earnings for women. According to the ILO (2018), in sub-Saharan Africa (SSA) women's labour force participation is 64.7 per cent, compared with 74 per cent for men. Women's low earnings are associated with persistent gender gaps in education (Botric and Broz 2017; Kabubo-Mariara 2003). In 2017, the primary education completion rate for women in SSA was 66.7 per cent, four percentage points lower than for men, while women's literacy rate was 52.1 per cent compared with 69.4 per cent for men. The gender gap in education and literacy levels also affects women's financial knowledge and their uptake of the technological skills that can boost awareness and use of modern financial technology. All these factors hinder the usage of formal financial services. For instance, while 71 per cent of the population in developed countries report having saved, only 43 per cent of the adult population in developing economies report having done so, with the majority preferring semi-formal savings (Demirguc-Kunt et al. 2018). In SSA, the saving rate is even lower for women compared with men: only 11 per cent of women, compared with 19 per cent of men, report having saved in formal financial institutions.

Other factors likely to affect women's access to formal financial services include social-cultural discrimination against women. For instance, Demirguc-Kunt et al. (2013) attribute the significant gender gaps in financial account ownership to legal restrictions regarding the ability to work, head a household, and receive an inheritance, and other manifestations of gender norms. Not all women have the freedom to open a bank account or other financial account in their own name. Given the higher levels of illiteracy among women, the stringent legal and regulatory requirements for opening and operating a formal account, including the need for proper documents for identification purposes, can also act as a deterrent (Maina 2018). Similarly, collateral requirements to access bank credit may be a tall order for women with limited access to or control over property.

In view of the above, economic empowerment and the removal of stringent cultural practices, coupled with a conducive regulatory environment, may enable more women to access formal financial services. This study focuses on demand-side determinants of access to and use of financial services, such as education, employment, and income, among others.

4 Methodology and data

4.1 Data

The main databases used are the FinScope surveys, complemented by other databases such as the World Bank Global Findex Database on financial inclusion and GSMA data. These databases provide a rich set of information on access to and use of financial services. The FinScope surveys are national surveys representative of individuals aged 16 years or older. They were conducted in 2006, 2009, and 2013, with the latest survey in 2017 comprising a sample of 9,459. These surveys provide demand-side data comprising information about demand for formal and informal financial services, with key variables of individual characteristics including gender, age, marital status, and education. We undertook the empirical analysis using data from the FinScope survey of 2017.

The FinScope surveys use four ‘access strands’ to denote respondents’ levels of financial inclusion: (i) use banks; (ii) have or use non-bank formal products; (iii) use only informal mechanisms; (iv) are excluded. Respondents are ranked according to their highest level of usage. Formal bank institutions are those supervised by a financial services regulator. Non-bank formal financial institutions are those with some formal supervision, but not by a financial services regulator. This category includes savings and credit cooperative societies, microfinance institutions, remittance companies, and mobile money. The informal segment includes small, usually community-based organizations, such as saving or credit groups. The totally unserved or excluded category covers everyone else, and includes people who may use non-monetary means to save, borrow, or transfer money, i.e. friends and family, or saving at home or in-kind.

People who are formally financially included are individuals who have or use financial products and services provided by a financial service provider that is regulated or officially supervised. Individuals considered to be informally included are those who use financial mechanisms not provided by a regulated or supervised financial institution. The financially excluded are individuals who use no financial mechanisms and rely only on themselves, family, or friends for saving, borrowing, and remitting, with their transactions being cash-based or in-kind.

The Global Findex Database is compiled by the World Bank using surveys of adults aged 15 and above in over 140 economies worldwide. The surveys were conducted in 2011, 2014, and 2017, comprising a sample of 1,000 respondents. Access to a financial account denotes the percentage of respondents who report having an account (by themselves or together with someone else) at a bank or other type of financial institution, or who report having personally used a mobile money service in the previous 12 months. The database has additional information on how people make and receive payments, and on constraints on account ownership, which is used to complement our analysis of the FinScope surveys.

The GSMA has a mobile money programme, which collects and analyses industry data based on annual surveys and a range of quantitative information about the performance of mobile financial services. The data is used to track progress and provide insights into the performance of mobile financial service deployments that target unbanked and underserved customers globally (GSMA 2021). We largely utilize this database when assessing gender disparities in access to digital forms that facilitate access to digital financial platforms.

4.2 Methodology

Both descriptive and regression analyses are employed to examine gender disparities in financial inclusion. Descriptive analysis is used to explore dynamics and gender variations, based on various

indicators of access to and utilization of financial services. Following approaches used by similar studies, a binary regression model is used to empirically assess the role of gender in influencing one's likelihood of financial inclusion.

A logistic regression model allows us to establish the relationship between a binary outcome variable, which in this case refers to whether one is financially included or not, and a set of predictor variables modelled on a logit-transformed probability. The logistic regression model is described by the following function:

$$\text{logit}(\pi_i) = \log\left(\frac{\pi_i}{1-\pi_i}\right) = \alpha_0 + \alpha_1 x_{i1} + \alpha_2 x_{i2} + \dots + \alpha_p x_{ip} + \varepsilon_i \quad (1)$$

Let

$$f_i = \alpha_0 + \alpha_1 x_{i1} + \alpha_2 x_{i2} + \dots + \alpha_p x_{ip} + \varepsilon_i \quad (2)$$

Equation [1] can be transformed into probabilities by the following:

$$\pi_i = \frac{e^{f_i}}{1+e^{f_i}} \quad (3)$$

where π_i is the probability that the i^{th} person is financially included; f_i is the binary outcome for the i^{th} person, i.e. one if financially included, and zero otherwise; $x_{i1}, x_{i2} \dots x_{ip}$ is a set of explanatory variables including a gender variable, with p being the number of explanatory variables; e is the exponential term.

The logistic regression model expressed above estimates the parameter values $\alpha_0, \alpha_1 \dots \alpha_p$ via the maximum likelihood method. The model is used to assess the likelihood of women being financially included or excluded, while controlling for a variety of other factors that are likely to determine access to financial services. These include education, age, income, marital status, and mobile phone ownership. The dependent variable is defined using different indicators of financial inclusion. We largely focus our analysis on access to traditional bank-based services and mobile phone financial services, which are the main forms of formal financial services in Tanzania. For robustness, the estimations are conducted separately for each. Furthermore, we also analyse financial inclusion by capturing the extent of usage of financial services in terms of saving and credit access through borrowing.

The financial inclusion indicators used as dependent variables are defined as follows. Access to banking services is a binary variable, coded one for all respondents who had taken up or indicated that they used banking services, e.g., making payments, borrowing, and saving—also classified as banked—and zero otherwise. Access to mobile financial services takes the value one for all respondents who indicated that they had or used mobile money services such as receiving and sending money, making payments, etc. The saving variable is coded as one if the respondent indicated having saved or put money aside for this purpose in the previous 12 months, and zero otherwise. Access to credit equals one if the respondent had borrowed in the previous 12 months, and zero otherwise.

A brief description of the explanatory variables is given below:

- *Gender*, which is the key variable of interest, equals one if the respondent is female, and zero otherwise (i.e. if the respondent is male). We hypothesize that women are less likely to access or use financial services, especially formal financial services, compared with men.

- *Education* is measured as a binary variable that equals one if the respondent completed primary education or above, and zero otherwise. The latter case includes respondents with no formal education, only pre-primary education, or only some primary education. Studies such as Martinez et al. (2013) use a similar classification.
- *Age* is the number of years of age of each respondent. As a standard practice, age squared is included to capture the non-linear relationship between age and financial inclusion.
- *Income* is a dummy variable, equal to one if the respondent reports having an income of their own that they can spend as they wish, and zero otherwise. Unfortunately, there is no variable for actual income.
- *Employment status* describes whether a respondent is formally employed, i.e. received a salary, in which case the variable equals one (zero otherwise).
- *Household size* is the number of dependants aged 16 years or older in a household.
- *Marital status* equals one if the respondent is married and zero if single or divorced.
- *Access to mobile phone* is an explanatory variable because ownership of, or some form of access to, a mobile handset is the first step towards access to mobile financial services. Access to a mobile phone, especially a smartphone, also influences one's use of banking services as more and more banks incorporate Internet banking.

5 Descriptive analysis

This section provides a descriptive analysis of Tanzania's financial inclusion across various indicators, including a comparison with other EAC countries, gender disparities in access to digital financial platforms, and constraints on financial inclusion. Overall, the expansion of financial inclusion is largely attributable to increased access to mobile phone financial services. Nevertheless, Tanzania is lagging behind in the closure of gender gaps in financial inclusion.

5.1 Regional comparison of financial inclusion in the EAC

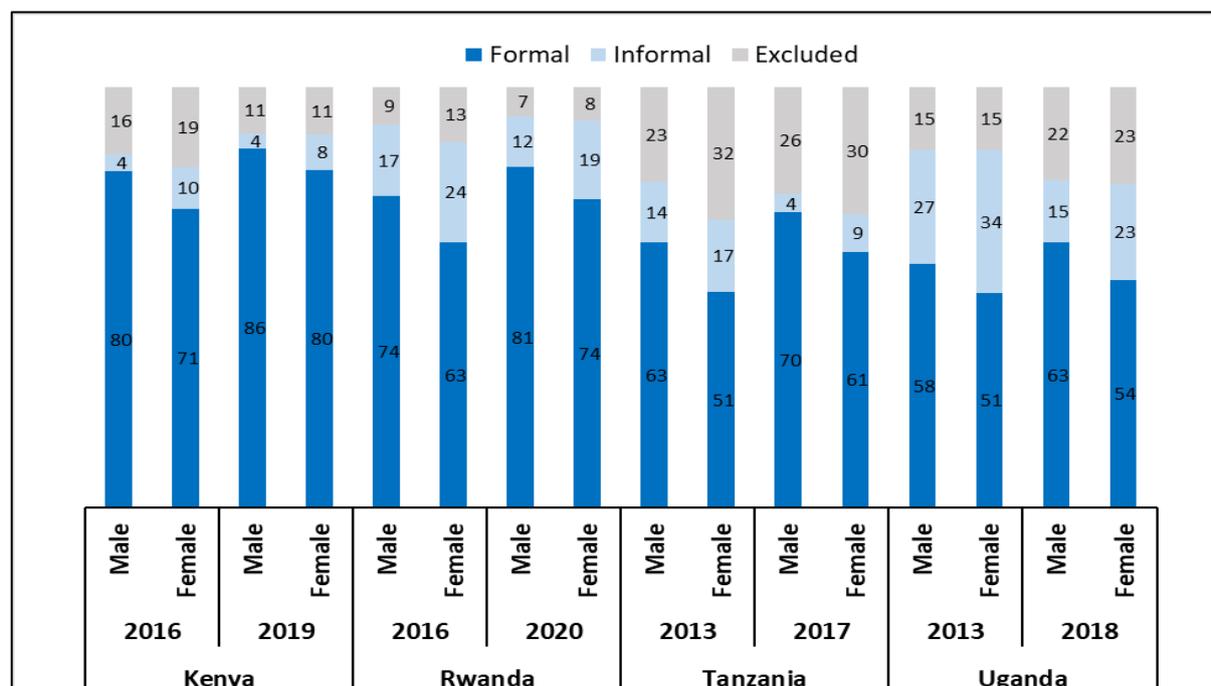
Financial inclusion in the EAC, which includes Tanzania, has improved over the years.⁴ This development is largely attributed to the increased uptake of mobile phone financial services, and the general shift from dependence on traditional bricks-and-mortar banking services to digital financial platforms. These platforms have facilitated financial outreach by significantly reducing transaction costs. Access to banking services such as account balance enquiries, utility payments, money transfers, and airtime purchases can be made conveniently, without a physical visit to the bank or utility service provider. In particular, mobile money has evolved beyond a simple money transfer platform to enable services such as payments, online deposits, savings, and credit services.

Despite the increased adoption of digital platforms to improve access to financial inclusion, there still exist gender gaps in access to and use of financial services. Women are often less likely to access formal financial services. The gender gap is persistent across EAC countries. Although Figure 2 shows a narrowing of the gender gap in all four of the included countries, there are comparatively bigger gender gaps in formal financial inclusion in Uganda and Tanzania, where women are less likely to have formal financial accounts. Tanzania's gender gap in access to formal

⁴The EAC is comprised of Burundi, Kenya, Rwanda, Tanzania, Uganda, and more recently South Sudan. Analysis of Burundi and South Sudan is not included because of limited data and information on financial inclusion.

financial services was 9.4 percentage points according to the 2017 FinScope survey. In Kenya, the gender gap narrowed by four percentage points in 2019, down from nine percentage points in 2016, with 86 per cent of men reported to have an account at a formal financial institution, compared with 80 per cent of women. In Rwanda, the 2020 FinScope survey revealed that 74 per cent of women had a formal financial account, compared with about 81 per cent of men, which implies a gender gap of seven percentage points.

Figure 2: Financial inclusion access strand by gender



Source: authors' illustration based on FinScope and FinAccess databases.

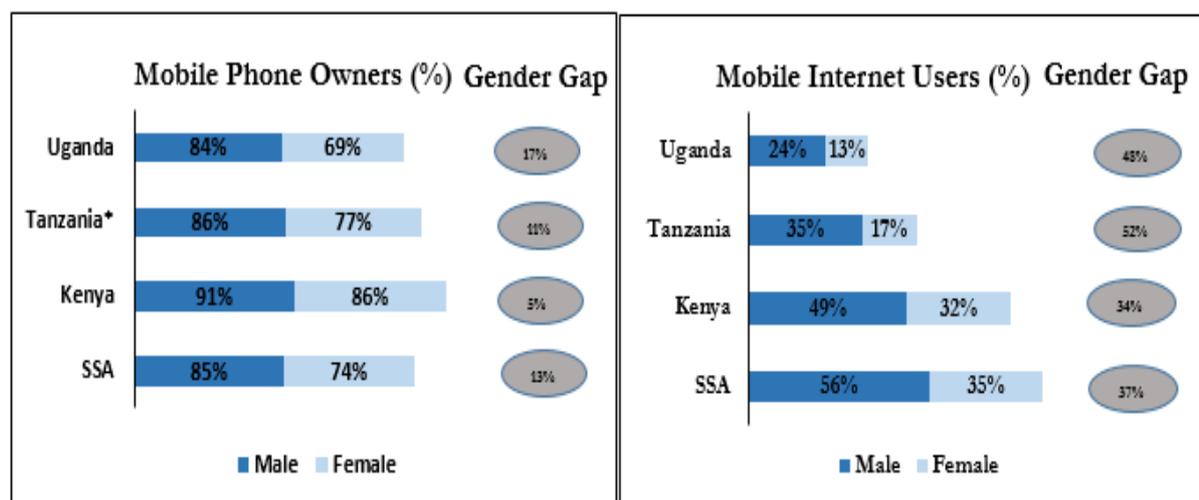
Analyses based on Global Findex data for 2017 and GSMA (2019) are consistent with FinScope and FinAccess survey data, which showed that notwithstanding the progress made, Tanzania was lagging behind in terms of access to formal financial services and use of digital financial services. According to the Global Findex database, the percentage of men and the percentage of women who reported using mobile money, a debit or credit card, mobile phone, and Internet to pay bills or buy goods online was highest in Kenya (77 per cent and 68 per cent respectively), followed by Uganda (57 per cent and 38 per cent), Tanzania (40 per cent and 33 per cent), and Rwanda (34 per cent and 24 per cent respectively). Similarly, GSMA (2019, 2020a) reported fewer women than men owned mobile phones or used mobile Internet. The gender gap was lower in Kenya, with mobile phone penetration among women at 86 per cent compared with 91 per cent among men, and higher in Uganda and Tanzania (Figure 3). Tanzania's gender gap in mobile ownership was 11 percentage points, with 77 per cent of women compared with 86 per cent of men owning mobile phones.⁵ Likewise, the gender gap in mobile Internet use was at 52 percentage points, with only 17 per cent of women compared with 35 per cent of men using mobile Internet (GSMA 2019) (Figure 3). Gender disparities in access to formal financial services are reflected in gender gaps in

⁵ According to the GSMA (2019, 2020a), the gender gap in mobile phone ownership and mobile Internet use is calculated as follows:

$$\text{Gender gap in ownership or use (per cent)} = \frac{\text{Male owners or users (per cent of male population)} - \text{Female owners or users (per cent of female population)}}{\text{Male owners or users (per cent of male population)}}$$

the use of digital financial platforms. According to Global Findex data for 2017, the percentage of men who used a mobile phone or the Internet to access an account was the highest in Kenya (77 per cent), followed by Uganda (57 per cent), Tanzania (40 per cent), and Rwanda (34 per cent). Similarly, the percentage of women was highest in Kenya (68 per cent), followed by Uganda (38 per cent), Tanzania (33 per cent), and Rwanda (24 per cent).

Figure 3: Mobile phone and mobile Internet penetration, percentage of total adult population



Note: * denotes data from GSMA (2019). SSA: sub-Saharan Africa.

Source: authors' illustration based on data from GSMA (2019, 2020a).

Table 1 shows the percentages by gender of respondents in four EAC countries who reported having received digital payments, based on Global Findex data. The percentage of female respondents who had received digital payments was lower than men in all four countries. It was lowest in Rwanda (23 per cent) and Tanzania (24 per cent), and highest in Kenya (54 per cent) in 2017, with not much difference between 2014 and 2017 for Tanzania.

Table 1: Respondents who had received digital payments in the previous year, percentages

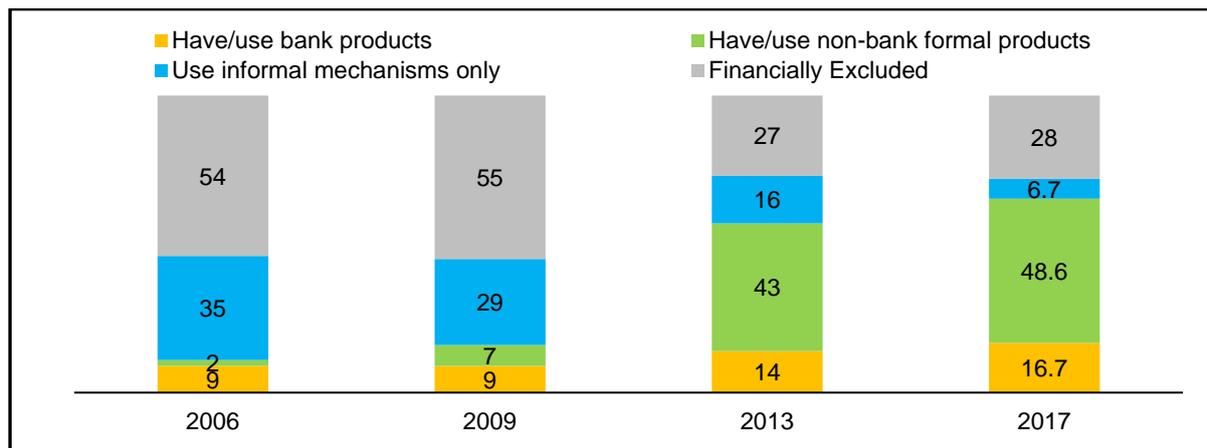
	2014		2017	
	Male	Female	Male	Female
Tanzania	33	23	34	24
Kenya	58	53	68	54
Rwanda	25	18	33	23
Uganda	36	26	45	35

Source: authors' compilation based on data from Global Findex Database (Demirguc-Kunt et al. 2018).

5.2 Financial inclusion in Tanzania

The uptake of formal financial services in Tanzania has increased over time, largely due to an increase in demand for non-bank formal products (Figure 4). According to Tanzania's FinScope survey data, the increase in the uptake of formal non-bank financial services, from 43 per cent in 2013 to 49 per cent in 2017, was mainly a result of increased access to mobile phone services, which rose by 10 percentage points. During the same period, the uptake of bank products increased modestly by 2.7 per cent, as commercial banks continued to introduce new digital products such as mobile banking and Internet banking. The proportion of the adult population that relied on informal financial services declined to 6.7 per cent in 2017, down from 16 per cent in 2013, while the financially excluded increased marginally from 27 per cent to 28 per cent over the same period.

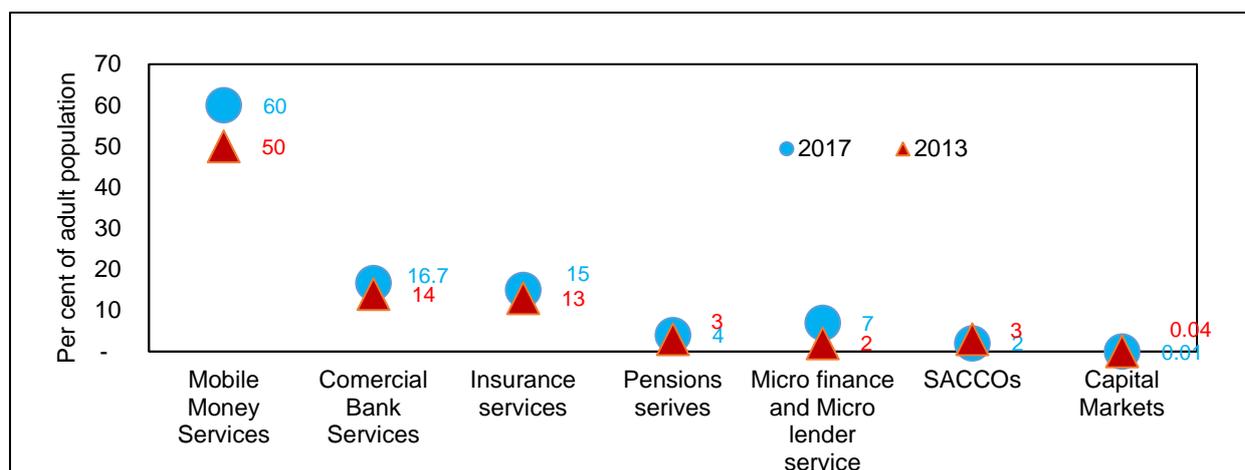
Figure 4: Access to financial services in Tanzania, 2006–17, percentage of adult population



Source: authors' illustration based on data from FinScope Tanzania (2017).

The increase in access to formal financial services was largely driven by the uptake of mobile money services, which increased from 50 per cent to 60 per cent between 2013 and 2017 (Figure 5). The penetration of traditional banking remained low, with only 16.7 per cent of the adult population having access to commercial bank services in 2017—a marginal increase from the 14 per cent recorded in 2013. Access to mobile phone handsets provided an impetus to financial inclusion through mobile money, which enabled the majority of the population that were initially excluded to access formal financial services. The number of mobile money agents more than doubled from 238,461 in 2014 to 560,043 in 2019, while active mobile phone users increased from 13.5 million to 24.0 million over the same period (Bank of Tanzania 2018). As a result, the volume and value of mobile phone money payments increased significantly, from 111 million transactions worth TZS3,571 billion in 2014 to 242 million transactions worth TZS8,214 billion in 2019. Mobile money banking services and Internet services also continued to gain in popularity.

Figure 5: Access to formal financial services in Tanzania, 2013 and 2017



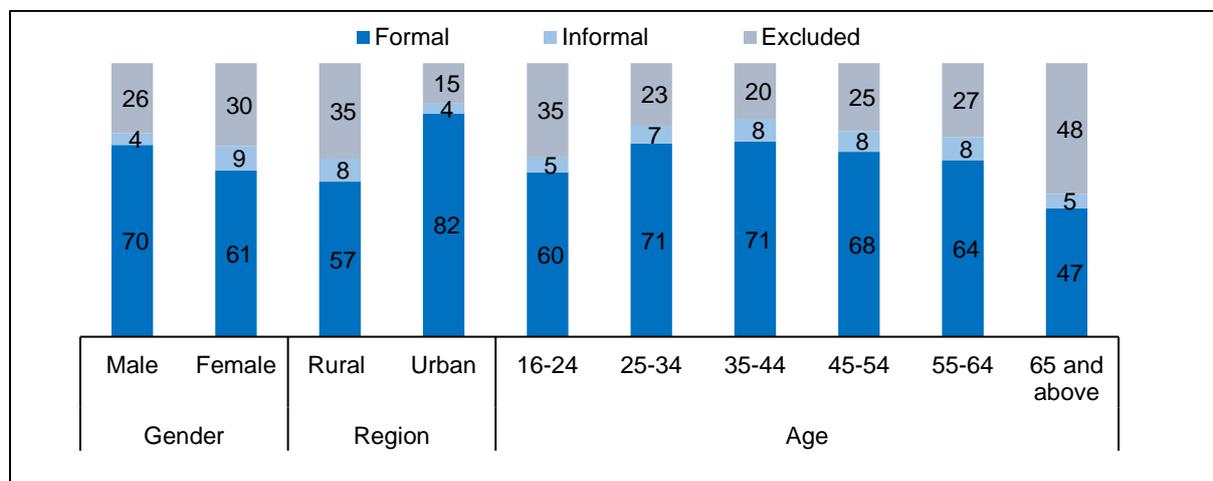
Note: SACCOs: savings and credit cooperative societies.

Source: authors' illustration based on data from FinScope Tanzania (2017).

Despite the notable progress, the gender gap in the uptake of formal financial services persists. The 2017 FinScope survey showed that the uptake of formal financial services was significantly skewed towards males and the urban population (Figure 6). The gender gap in access to formal financial services of 9.4 percentage points, with 60.7 per cent of women compared with 70.1 per cent of men accessing formal financial services in 2017. Nine per cent of women had access to informal financial services, while nearly a third (30.3 per cent) were financially excluded.

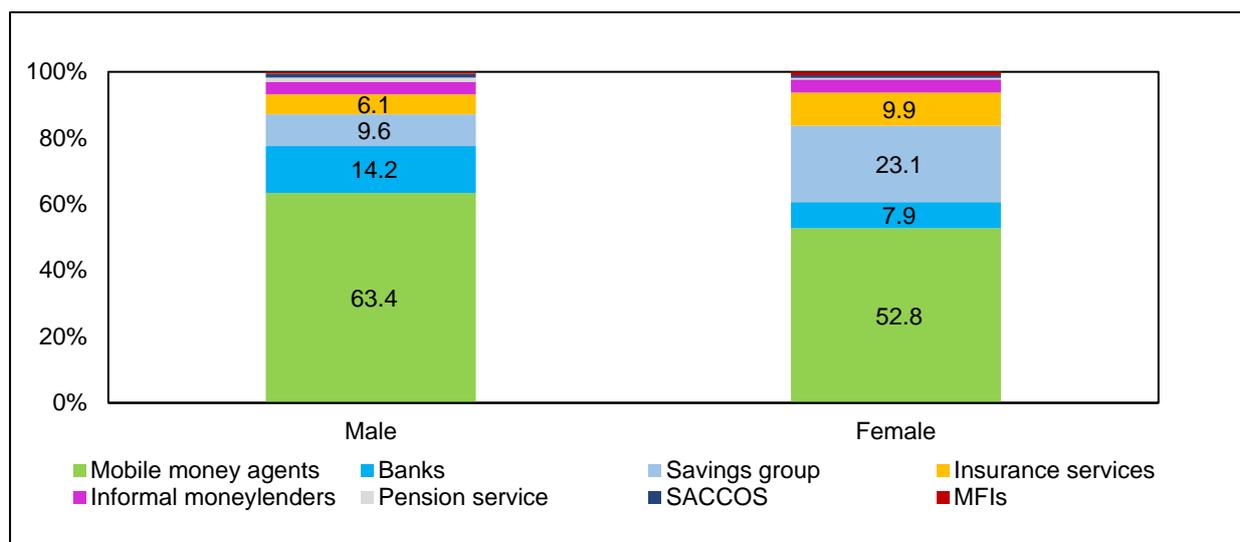
The gap between rural and urban access to formal financial services was 25 percentage points, with 57 per cent of the rural adult population accessing formal financial services compared with 82 per cent of the urban population. Thus, the financially excluded were mainly women and those residing in rural areas (Figure 6). In terms of age distribution, the majority of those accessing formal financial services fell into the 25–65 age bracket. This age group is considered to be of working age and therefore able to afford formal financial services.

Figure 6: Access to financial services by gender, region, and age in Tanzania, 2017



Source: authors' illustration based on data from FinScope Tanzania (2017).

Figure 7: Preferred financial service providers by gender



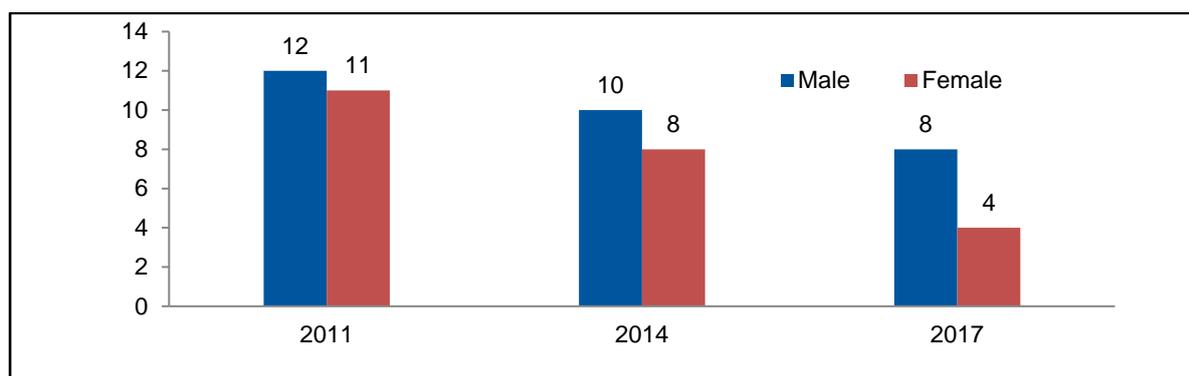
Note: SACCOs: savings and credit cooperative societies. MFIs: microfinance institutions.

Source: authors' illustration based on data from FinScope Tanzania (2017).

Although mobile money agents were the most important or preferred financial services provider for both men and women, fewer women (52.8 per cent) than men (63.4 per cent) relied on mobile money agents (Figure 7). After mobile financial services providers, saving groups were the second most important source for women to meet their financial needs: 23.1 per cent of women preferred this source, compared with only 9.9 per cent of men. Moreover, only 7.9 per cent of women relied on banks as a key provider of financial services, compared with almost double that figure for men at 14.2 per cent (Figure 7).

Figure 8 shows that the proportion of people who saved in a financial institution was not only low but also decreased between 2011 and 2017, particularly for women—from 11 per cent to four per cent.

Figure 8: Respondents who saved in financial institutions in Tanzania by gender, percentage



Source: authors' illustration based on Global Findex Database (Demirguc-Kunt et al. 2018).

5.3 Constraints on financial inclusion

The main reasons for not having a financial account were similar across EAC countries and not necessarily unique to Tanzania (Table 2). According to the 2017 Global Findex survey, lack of sufficient income was a major bottleneck for financial inclusion, indicated by at least 80 per cent of respondents. This is not surprising, given that nearly 70 per cent of the population reside in rural areas and engaged in either agricultural activities or other informal work, with low or irregular returns. Other constraints on formal financial services in the region, including Tanzania, were affordability, the accessibility of financial institutions, and the lack of necessary documentation (Table 2).

Table 2: Reasons for not having an account (percentage of respondents without a financial institution account), 2017

	Kenya	Rwanda	Tanzania	Uganda
Financial institutions are too far away	33%	6%	35%	42%
Financial services are too expensive	40%	12%	39%	53%
Lack of necessary documentation	30%	10%	30%	28%
Lack of trust in financial institutions	22%	3%	11%	25%
Religious reasons	4%	2%	3%	6%
Insufficient funds	81%	94%	80%	83%
Someone in the family has an account	12%	6%	6%	14%
No need for financial services	2%	0%	1%	1%

Source: authors' compilation based on Global Findex Database (Demirguc-Kunt et al. 2018).

Figure 9 provides a summary of various barriers to the use of mobile money services, based on the 2017 FinScope survey. The topmost reason for not using mobile money services among both

men and women was that they did not need those services, with a slightly higher proportion of men (38.2 per cent) compared with women (35.3 per cent). The second was lack of access to a smartphone, with a higher percentage of women (24.1 per cent) compared with men (20.4 per cent). Other barriers to access, particularly for women, included lack of financial literacy or access to financial information (they did not know or had never heard about mobile money, and they did not know how to get it), required documents, and lack of approval by the family, which points to women’s relatively limited (financial) independence. Although the proportion of women who did not understand the service or found it difficult to use was slightly higher, there was little difference between women and men in this regard. The proportion of respondents who reported a lack of family approval was higher among women (2.1 per cent) compared with men (0.5 per cent).

Figure 9: Barriers to usage of mobile money by gender



Source: authors’ illustration based on data from FinScope Tanzania (2017).

Given that mobile phone-based financial services are the main gateway to formal financial services, lack of access to mobile phones, especially smartphones, is a key constraint (GSMA 2019, 2020b). Basic mobile phone handsets only permit basic services such as mobile phone money transfers and payment services. Smartphones are superior because they allow access to a variety of services such as mobile banking, Internet banking, and other digital financial services such as savings, credit, and deposits. Internet use on a smartphone is typically much richer, but affordability remains a key barrier, especially among women, due to their relatively lower incomes and limited financial autonomy to purchase smartphones of their own (FinScope Tanzania 2017; GSMA 2020b; World Bank 2020b). In rural Tanzania, where the majority of the population reside, access to smartphones is relatively lower compared with urban areas (World Bank 2020b). Moreover, the gender gap in access to smartphones is persistent across income groups, with fewer women having access to smartphones. Given the strong link between smartphone ownership and digital inclusion, this limits women’s access to formal financial services.

The affordability of mobile Internet data also matters. Costly mobile Internet data limits the use of digital financial services, including Internet-based financial services, credit, and savings services. Table 3 shows that among the four EAC countries analysed, the use of the Internet via mobile data is relatively expensive in Tanzania. Low-income households usually use small data baskets (100 megabytes (MB), 500 MB, and one gigabyte (GB)), but the pricing is more expensive than in

other EAC countries, whereas large data baskets (ten GB and 20 GB) are cheaper than in other EAC countries. In addition to affordability, education and financial literacy skills may also reduce women’s ownership of smartphones, since women tend to use fewer services than men, and prefer to make and receive video calls. According to the GSMA (2017), video calling not only presents lower hurdles to women, who are less confident in using the Internet, but is also more socially accepted as a way to remain in touch with family members. Men are conversely more likely to browse the Internet, and to download and use apps.

Table 3: Mobile data basket prices charged by dominant operators, fourth quarter 2019, US dollars

	100 MB	500 MB	1 GB	2 GB	5 GB	10 GB	20 GB
Kenya	1.46	2.58	4.14	4.88	9.76	19.52	28.99
Rwanda	1.07	2.15	2.15	4.29	9.2	10.73	21.47
Tanzania	4.35	4.35	4.35	5.59	13.05	15.22	21.74
Uganda	1.49	2.3	4.07	5.42	9.22	13.55	23.23

Source: authors’ compilation based on data from World Bank (2020b).

More recent digital technologies, such as digital identification, biometrics, and big data analytics, have factored in end-user information, giving rise to new business models and customized products, which have lowered the costs and increased the speed, transparency, security, and availability of more tailored financial services. However, adoption in Tanzania remains low (World Bank 2020a, 2020b).

Limited (financial) literacy and skills and sociocultural barriers are some of the key considerations with regard to women not using mobile money in Tanzania. According to the GSMA (2019), women are often less confident about independently acquiring the digital skills required to use a mobile phone, and are more concerned about the consequences of making mistakes. Literacy skills remain a major challenge: 72 per cent of Tanzanians can read and write in Kiswahili, compared with only 27 per cent who can read and write in English, yet English remains the main mode of communication for most formal financial products, and indeed for digital applications (FinScope Tanzania 2017). This hinders both the uptake and use of formal financial services.

6 Empirical analysis

The empirical results of the estimated logit model for access to formal financial services, i.e. mobile financial services and banking services, are reported in columns 1 and 2 respectively in Table 4. Columns 1a and 2a show the basic results without interaction terms, while columns 1b and 2b show the findings when the gender variable is brought into interaction with marital status. The results are based on a robust estimate of variance.⁶ The coefficient for the gender variable is negative and highly statistically significant for both mobile money services and banking services. In other words, females are less likely to use formal financial services compared with their male counterparts (columns 1a and 2a). However, the highly significant interaction term between being female and marital status implies that married women are the most likely to be excluded from access to formal financial services (columns 1b and 2b).⁷ This may be due to a variety of reasons,

⁶ A robust variance estimator is used to ensure that results are robust to model misspecification errors and heteroscedasticity.

⁷ Although we do not report the results here, for further analysis we examined the impact of the gender variable when it is brought into interaction with education, and we found a positive but insignificant effect. In other words, the fact that one is female and has primary school education or above does not in itself significantly influence one’s likelihood

such as their having limited resources of their own amidst numerous family demands such as childcare, as well as other intra-household relations which the data do not allow us to explore. Furthermore, the now positive coefficient for marital status suggests that unlike married women, married men are more likely to utilize mobile money services. Thus, the empirical results provide further evidence of gender disparities in access to formal financial services in Tanzania. The results are consistent with similar findings in the literature (e.g., Demirguc-Kunt et al. 2013, 2014; Lotto 2018).

Table 4: Empirical results for financial access to mobile money and bank services

Variable	Mobile money		Bank services	
	1a	1b	2a	2b
Constant	-3.51*** (-9.50)	-3.57*** (-10.9)	-7.11*** (-16.0)	-7.13*** (-16.1)
Age	0.066*** (8.22)	0.060*** (7.48)	0.057*** (4.51)	0.052*** (4.51)
Age squared	-0.0008*** (-8.82)	-0.0008*** (-8.38)	-0.0006*** (-3.88)	-0.0006*** (-3.88)
Marital status	-0.187*** (-3.70)	0.143* (1.75)	-0.026 (-0.35)	0.172 (1.59)
Education	1.25*** (24.0)	1.25*** (24.0)	2.08*** (15.5)	2.08*** (15.5)
Female	-0.431*** (-9.0)	-0.083 (-1.02)	-0.47*** (-6.89)	-0.221* (-1.83)
Income	0.21*** (4.15)	0.21*** (3.98)	0.62*** (7.09)	0.62*** (7.01)
No. of dependants	-0.053** (-2.74)	-0.052** (-2.71)	0.029 (1.08)	0.029 (1.09)
Mobile phone access	2.14*** (17.7)	2.14*** (17.6)	1.89*** (5.88)	1.89*** (5.86)
Salaried	1.53*** (10.7)	1.51*** (10.6)	2.49*** (24.9)	2.48*** (24.8)
Female*marital status		-0.535*** (-5.20)		-0.380*** (-2.53)
Pseudo R squared	0.16	0.17	0.22	0.22
No. of observations	9456	9456	9456	9456

Note: statistical z-values in brackets. ***, **, and * denote p-values of <1 per cent, <5 per cent, and <10 per cent respectively.

Source: authors' calculations based on data from FinScope Tanzania (2017).

The results were obtained after we controlled for a variety of other factors such as education, income, marital status, and employment. The key control variables have the expected signs. In particular, education, mobile phone access, and formal employment (i.e. whether one is salaried) have a highly significant positive and bigger impact on the use of both mobile and bank financial services. The impact of education on banking services is nearly twice the impact on use of or access to mobile financial services. Similarly, income proxied by whether one has money of one's own is a key determinant of financial inclusion. For robust analysis, estimating the equations using ownership of property as a proxy for income yielded similar results. Given that women rank lower in both education and income, this further constrains their access to formal financial services.

of using mobile financial services. However, the coefficient for education, which in this case was the effect of education when female (with value zero, versus value one when male), was statistically significant and positive.

While the number of adult dependants in a household has a statistically significant negative impact on the use of mobile financial services, the impact on banking services is not statistically significant.

Table 5: Empirical results for saving and borrowing

Variable	Saved	Borrowed
Age	0.042*** (5.72)	0.074*** (9.37)
Age squared	-0.0005*** (-6.23)	-0.000*** (-10.1)
Marital status	0.12*** (2.53)	0.26*** (5.42)
Education	0.50*** (9.87)	0.41*** (8.21)
Female	-0.17*** (-3.77)	0.21*** (-4.62)
Income	0.64*** (13.1)	0.20*** (4.09)
No. of dependants	-0.053*** (-2.91)	-0.035** (-1.99)
Mobile phone access	0.62*** (6.89)	0.56*** (6.24)
Salaried	1.04*** (10.3)	0.35*** (3.96)
Constant	-2.18*** (-12.1)	-2.47*** (-13.1)
Pseudo R squared	0.07	0.05
No. of observations	9456	9456

Note: statistical z-values in brackets. *** and ** denote p-values of <1 per cent and <5 per cent respectively.

Source: authors' calculations based on data from FinScope Tanzania (2017).

The logit results for the likelihood of saving and borrowing are reported in Table 5. The results show that women are less likely to save and borrow relative to men, even after we control for a variety of factors. Employment, education, income, mobile phone access, age, and marital status are key factors that determine the likelihood of saving and borrowing. On the other hand, the higher the number of adult dependants, the lower the likelihood of saving or borrowing.

The main reasons respondents gave for borrowing were to cater for medical expenses (24.1 per cent), living expenses (23.1 per cent), emergencies other than medical (14 per cent), starting or expanding a business (10.1 per cent), farming expenses (8.6 per cent), education or school fees (6.1 per cent), and others (14 per cent). The main reasons given for saving were mainly to cater for living expenses when one did not have an income (46.7 per cent), emergencies other than medical (18.5 per cent), medical expenses (9.1 per cent), education or school fees (5.5 per cent), and others (20.2 per cent). Thus, it is clear from the analysis that very few people borrow or save for business purposes; they largely do so to cater for living and medical expenses.

The majority of the adult population still prefer to use informal saving methods. The preferred options that best serve their saving needs are keeping cash at home or in a secret hiding place (36.6 per cent), mobile phones (20.6 per cent), saving groups (13.5 per cent), and banks (11 per cent). Responses by gender show some variations: higher proportions of men use mobile phones (25.2 per cent) and banks (14.3 per cent) to save, compared with 16.3 per cent and eight per cent of women respectively. On the other hand, a higher proportion of women keep cash at home or in secret places (41.1 per cent) or save with saving groups (19.4 per cent), compared with 31.8 per cent and seven per cent of men respectively. Thus, policies to promote financial access and savings

should be cognizant of gender differences in these preferences. For instance, to encourage more women to save, policies and programmes should be geared more towards the promotion of saving groups, as bank-based saving products or initiatives mainly benefit men.

7 Conclusions and policy insights

Tanzania is one of the African countries that have made notable progress in the expansion of access to formal financial services. Nevertheless, a gender gap in financial access persists, despite the growing recognition of the role of financial inclusion in alleviating poverty and promoting inclusive development. This paper has provided an in-depth analysis of gender disparities in financial inclusion in Tanzania, using indicators that encompass access to and use of traditional bank-based and digital financial services, particularly mobile money services.

According to FinScope surveys for Tanzania, financial inclusion increased from 58 per cent in 2013 to 65 per cent in 2017, largely driven by mobile phone money services, which enabled more people to access formal financial services. The penetration of banking services is still low. Nevertheless, the gender gap has not improved substantially. Women are still lagging behind in both access to and use of formal financial services, with a gender gap of 9.4 percentage points in access to formal financial services in 2017. Moreover, 30.3 per cent of women are financially excluded. The gender gap in financial inclusion is reflected in gender disparities in access to and use of digital financial facilities such as mobile phones, especially smartphones that enable a variety of digital financial services. For instance, the gender gap in mobile phone ownership is 11 percentage points, while that for mobile Internet use is much higher at 18 percentage points.

The empirical results based on FinScope survey data for 2017 indicate that women, particularly married women, are less likely to access mobile phone and bank-based financial services compared with men. We obtained these results after controlling for a variety of factors such as education, income, marital status, employment, and mobile phone access. The impact of education on the likelihood of accessing banking services is nearly twice the impact on access to mobile financial services, which suggests the relative significance of education in the utilization of traditional bank-based financial services. Additionally, factors such as income, mobile phone ownership, and formal employment significantly increase financial inclusion. Given that women rank lower with regard to such factors, this places further constraints on their access to formal financial services.

Empirical analysis was further conducted to assess gender disparities in saving and borrowing, which are key indicators of the extent of utilization of financial services. The results show that women are less likely to save and borrow compared with men. Both men and women largely borrow and save to cater for living and medical expenses, and not for business purposes; this may suggest that access to medical services in Tanzania is a major concern that deserves attention. While a relatively higher proportion of men use mobile phones and banks to save, a higher percentage of women prefer to keep cash at home or save with a saving group.

The gender gap in financial inclusion is attributable to a variety of socio-economic factors including lack of income, limited access to digital financial facilities such as smartphones, and financial literacy, all of which constrain women from accessing and effectively utilizing formal financial services. Digital financial services are expected to continue to play a fundamental role, particularly given the global environment of the evolving COVID-19 pandemic. Thus, the promotion of access to and usability of digital financial facilities, including mobile phones and smartphones, across the board is critical for enhancing financial inclusion and closing the gender gap. This should be accompanied by the enhancement of financial literacy, especially among women. Policies to

promote financial inclusion should also be cognizant of gender differences in preferences. For instance, policies and initiatives to increase financial inclusion and the use of formal financial services by women should be geared towards promoting saving groups to reach out to more women, as bank-based products and initiatives largely benefit men. The provision of safety nets for extremely needy cases should be considered.

References

- Aghion, P., and P. Bolton (1997). 'A Theory of Trickle-Down Growth and Development'. *Review of Economic Studies*, 64(2): 151–72. <https://doi.org/10.2307/2971707>
- Aghion, P., and P. Howitt (1992). 'A Model of Growth Through Creative Destruction'. *Econometrica*, 60(2): 323–51. <https://doi.org/10.2307/2951599>
- Agur, I., S.M. Peria, and C. Rochon (2020). 'Digital Financial Services and the Pandemic: Opportunities and Risks for Emerging and Developing Economies'. IMF Special Series on COVID-19. Washington, DC: IMF. <https://doi.org/10.1596/1813-9450-5537>
- Allen F., A. Demirguc-Kunt, L. Klapper, and M. Peria (2016). 'The Foundations of Financial Inclusion: Understanding Ownership and Use of Formal Accounts'. *Journal of Financial Intermediation*, 27: 1–30. <https://doi.org/10.1016/j.jfi.2015.12.003>
- Alliance for Financial Inclusion (2016). 'Tanzania Narrows the Financial Inclusion Gender Gap: A Case Study of Policy Change to Support Women's Financial Inclusion'. Kuala Lumpur: Alliance for Financial Inclusion.
- Ardic, O., H. Maximilien, and M. Nataliya. (2011). 'Access to Financial Services and the Financial Inclusion Agenda Around the World: A Cross-Country Analysis with a New Data Set'. Policy Research Working Paper 5537. Washington, DC: World Bank.
- Aterido, R., T. Beck, and L. Iacovone (2013). 'Access to Finance in Sub-Saharan Africa: Is There a Gender Gap?' *World Development*, 47: 102–20. <https://doi.org/10.1016/j.worlddev.2013.02.013>
- Banerjee, A.V., and A.F. Newman (1993). 'Occupational Choice and the Process of Development'. *Journal of Political Economy*, 101(2): 274–98. <https://doi.org/10.1086/261876>
- Bank for International Settlements (2020). 'Payment Aspects of Financial Inclusion: Application Tools'. Basel: Committee on Payments and Market Infrastructures and World Bank.
- Bank of Tanzania (2018). 'Annual Report 2018/2019'. Dar es Salaam: Bank of Tanzania.
- Beck, T., and A. De la Torre (2007). 'The Basic Analytics of Access to Financial Services'. Policy Research Working Paper 4026. Washington, DC: World Bank. <https://doi.org/10.1596/1813-9450-4026>
- Beck, T., A. Demirguc-Kunt, and R. Levine (2007). 'Finance, Inequality, and the Poor'. *Journal of Economic Growth*, 12: 27–49. <https://doi.org/10.1007/s10887-007-9010-6>
- Beck, T., A. Demirguc-Kunt, and M.S. Martinez Peria (2006). 'Banking Services for Everyone? Barriers to Bank Access Around the World'. Policy Research Working Paper 4079. Washington, DC: World Bank. <https://doi.org/10.1596/1813-9450-4079>
- Berger, A.N., and G.F. Udell (2006). 'A More Complete Conceptual Framework for SME Finance'. *Journal of Banking & Finance*, 30(11): 2945–66. <https://doi.org/10.1016/j.jbankfin.2006.05.008>
- Botric V., and T. Broz (2017). 'Gender Differences in Financial Inclusion: Central and South Eastern Europe'. *South-Eastern Europe Journal of Economics*, 2: 209–27.
- Buvinic, M., and M. Berger (1990). 'Sex Differences in Access to a Small Enterprise Development Fund in Peru'. *World Development*, 18(5): 695–705. [https://doi.org/10.1016/0305-750X\(90\)90018-S](https://doi.org/10.1016/0305-750X(90)90018-S)
- Chakraborty, S. (2014). 'Laws, Attitudes and Financial Inclusion of Women: A Cross-Country Investigation'. *Economics Bulletin*, 34(1): 333–53.

- Chamlou, N., L. Klapper, and S. Muzi (2008). *The Environment for Women's Entrepreneurship in the Middle East and North Africa*. Washington, DC: World Bank. <https://doi.org/10.1596/978-0-8213-7495-5>
- Chen, M.K. (2013). 'The Effect of Language on Economic Behavior: Evidence from Savings Rates, Health Behaviors, and Retirement Assets'. *American Economic Review*, 103(2): 690–731. <https://doi.org/10.1257/aer.103.2.690>
- Coleman, S. (2002). 'Constraints Faced by Women Small Business Owners: Evidence from the Data'. *Journal of Developmental Entrepreneurship*, 7(2): 51–174.
- Delechat, C.C., M. Newiak, R. Xu, F. Yang, and G. Aslan (2018). 'What Is Driving Women's Financial Inclusion Across Countries?' IMF Working Paper 18/38. Washington, DC: IMF. <https://doi.org/10.5089/9781484344460.001>
- Demirguc-Kunt, A., and L. Klapper (2012). 'Measuring Financial Inclusion: The Global Findex Database'. Policy Research Working Paper 6025. Washington, DC: World Bank. <https://doi.org/10.1596/1813-9450-6025>
- Demirguc-Kunt, A., L. Klapper, and D. Singer (2013). 'Financial Inclusion and Legal Discrimination Against Women'. Policy Research Working Paper 6416. Washington, DC: World Bank. <https://doi.org/10.1596/1813-9450-6416>
- Demirguc-Kunt, A., L. Klapper, D. Singer, S. Ansar, and J. Hess (2018). 'The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution'. Washington, DC: World Bank.
- Demirguc-Kunt, A., L. Klapper, D. Singer, and P. Van Oudheusden (2014). 'The Global Findex Database 2014: Measuring Financial Inclusion Around the World'. Policy Research Working Paper 7255. Washington, DC: World Bank. <https://doi.org/10.1596/1813-9450-7255>
- Ellis, K., A. Lemma, and J. Rud (2010). 'Financial Inclusion, Household Investment and Growth in Kenya and Tanzania' Project Briefing 42. London: Overseas Development Institute.
- Fanta, A.B., and K. Mutsonziwa (2016). 'Gender and Financial Inclusion: Analysis of Financial Inclusion of Women in the SADC Region'. Policy Research Paper 01/2016. Johannesburg: FinMark Trust.
- FinScope Tanzania (2017). 'Insights That Drive Financial Inclusion'. Dar es Salaam: FinScope Tanzania. Available at: www.fsdt.or.tz/wp-content/uploads/2017/09/FinScope-Tanzania-2017-Insights-that-Drive-Innovation.pdf (accessed 10 May 2021).
- Galor, O., and O. Moav (2004). 'From Physical to Human Capital Accumulation: Inequality and the Process of Development'. *Review of Economic Studies*, 71(4): 1001–26. <https://doi.org/10.1111/0034-6527.00312>
- Galor, O., and J. Zeira (1993). 'Income Distribution and Macroeconomics'. *Review of Economic Studies*, 60(1): 35–52. <https://doi.org/10.2307/2297811>
- Goldsmith, W. (1969). *Financial Structure and Development*. New Haven: Yale University Press.
- Greenwood, J., and B. Jovanovic (1990). 'Financial Development, Growth, and the Distribution of Income'. *Journal of Political Economy*, 98(5): 1076–107. <https://doi.org/10.1086/261720>
- Grossman, G.M., and E. Helpman (1991). 'Quality Ladders in the Theory of Growth'. *Review of Economic Studies*, 58(1): 43–61. <https://doi.org/10.2307/2298044>
- GSMA (2017). '2017 State of the Industry Report on Mobile Money'. London: GSMA.
- GSMA (2019). 'Connected Women: The Mobile Gender Gap Report 2019'. London: GSMA. Available at: www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/02/GSMA-The-Mobile-Gender-Gap-Report-2019.pdf (accessed 10 May 2021).
- GSMA (2020a). 'Connected Women: The Mobile Gender Gap Report 2020'. London: GSMA. Available at: www.gsma.com/mobilefordevelopment/wp-content/uploads/2020/05/GSMA-The-Mobile-Gender-Gap-Report-2020.pdf (accessed 10 May 2021).
- GSMA (2020b). 'Mobile Money Recommendations to Central Banks in Response to COVID-19'. London: GSMA.

- GSMA (2021). 'Mobile for Development'. Available at: www.gsma.com/mobilefordevelopment/mobile-money/industry-data-and-insights/ (accessed 11 May 2021).
- Honohan, P. (2004). 'Financial Development, Growth and Poverty: How Close Are the Links?' In C. Goodhart (ed.), *Financial Development and Economic Growth: Explaining the Links*. London: Palgrave Macmillan.
- Honohan, P. (2007). 'Cross-Country Variation in Household Access to Financial Services'. *Journal of Banking & Finance*, 32(11): 2493–500. <https://doi.org/10.1016/j.jbankfin.2008.05.004>
- Honohan, P., and M. King. (2009). 'Cause and Effect of Financial Access: Cross-Country Evidence from The FinScope Surveys'. Paper prepared for World Bank Conference 'Measurement, Promotion and Impact of Access to Financial Services', March 2009. Dublin: Trinity College Dublin. Available at: www.tcd.ie/Economics/staff/phonohan/Honohan%20King%20Mar%202009.pdf (accessed 31 May 2021).
- Idris, I. (2018a). 'Barriers to Women's Economic Inclusion in Tanzania'. K4D Helpdesk Report. Brighton: Institute of Development Studies.
- Idris, I. (2018b). 'Mapping Women's Economic Exclusion in Tanzania'. K4D Helpdesk Report. Brighton: Institute of Development Studies.
- ILO (2018). 'World Employment and Social Outlook: Trends 2018'. Geneva: ILO.
- IMF (2020). 'Fintech Post Covid Pandemic'. Washington, DC: IMF.
- Kabubo-Mariara, J. (2003). 'Wage Determination and the Gender Wage Gap in Kenya: Any Evidence of Gender Discrimination?' Research Paper 132. Nairobi: AERC.
- King, R.G., and R. Levine (1993). 'Finance, Entrepreneurship, and Growth: Theory and Evidence'. *Journal of Monetary Economics*, 32(3): 513–42. [https://doi.org/10.1016/0304-3932\(93\)90028-E](https://doi.org/10.1016/0304-3932(93)90028-E)
- Levine, R. (2005). 'Finance and Growth: Theory and Evidence'. Working Paper 10766. Cambridge, MA: NBER. <https://doi.org/10.3386/w10766>
- Lotto, J. (2018). 'Examination of the Status of Financial Inclusion and Its Determinants in Tanzania'. *Sustainability*, 10(8): 2873. <https://doi.org/10.3390/su10082873>
- Maina, J. (2018). *Mobile Money Policy and Regulatory Handbook*. London: GSMA.
- Martinez, C.H., X.P. Hidalgo, and D. Tuesta (2013). 'Demand Factors That Influence Financial Inclusion in Mexico: Analysis of the Barriers Based on the ENIF Survey'. Working Paper 13/37. Mexico City: BBVA Research.
- Massara, A., and A. Mialou (2014). 'Assessing Countries' Financial Inclusion Standing: A New Composite Index'. Working Paper 14/36. Washington, DC: IMF. <https://doi.org/10.5089/9781475569681.001>
- McKinnon, R.I. (1973). 'Money and Capital in Economic Development'. Washington, DC: Brookings Institute.
- Mndolwa, F.D. and A.L. Alhassan (2020). 'Gender Disparities in Financial Inclusion: Insights from Tanzania'. *African Development Review*, 32(4): 578–90. <https://doi.org/10.1111/1467-8268.12462>
- Naidoo, S., and A. Hilton (2006). 'Access to Finance for Women Entrepreneurs in South Africa'. Washington, DC: World Bank.
- Narain, S. (2009). 'Access to Finance for Women SME Entrepreneurs in Bangladesh'. Policy Research Working Paper. Washington, DC: World Bank.
- Ndanshau, M.O.A., and F.E. Njau (2021). 'Empirical Investigation into Demand-Side Determinants of Financial Inclusion in Tanzania'. *African Journal of Economic Review*, 9(1): 172–90.
- NFIF (2018). 'A Public-Private Sector Initiative: National Council for Financial Inclusion'. Dar es Salaam: NFIF.
- Nguena, C.L. (2019). 'Mobile Financial and Banking Services Development in Africa'. Working Paper Series 323. Abidjan: African Development Bank.

- OECD (2018). 'Bridging the Digital Gender Divide: Include, Upskill, Innovate'. Paris: OECD.
- OECD (2020). 'Advancing the Digital Financial Inclusion of Youth'. Paris: OECD.
- Ouma, S.A., T.M. Odongo, and M. Were (2017). 'Mobile Financial Services and Financial Inclusion: Is It a Boon for Savings Mobilization?' *Review of Development Finance*, 7(1): 29–35. <https://doi.org/10.1016/j.rdf.2017.01.001>
- Pande, R., S. Cole, A. Sivasankaran, G. Bastian, and K. Durlacher (2012). 'Does Poor People's Access to Formal Banking Services Raise Their Incomes?' London: Institute of Education.
- Pazarbasioglu, C., A.G. Mora, M. Uttamchandani, H. Natarajan, E. Feyen, and M. Saal (2020). 'Digital Financial Services'. Washington, DC: World Bank.
- Romer, P.M. (1986). 'Increasing Returns and Long-Run Growth'. *Journal of Political Economy*, 94(5): 1002–37. <https://doi.org/10.1086/261420>
- Romer, P.M. (1990). 'Endogenous Technological Change'. *Journal of Political Economy*, 98(5): 71–102. <https://doi.org/10.1086/261725>
- Safavian, M., and A. Haq (2013). *Are Pakistan's Women Entrepreneurs Being Served by the Microfinance Sector?* Washington, DC: World Bank. <https://doi.org/10.1596/978-0-8213-9833-3>
- Sahay, R., U. Eriksson von Allmen, A. Lahreche, P. Khera, S. Ogawa, M. Bazarbash, and K. Beaton (2020). 'The Promise of Fintech: Financial Inclusion in the Post COVID-19 Era'. Departmental Paper 20/09. Washington, DC: IMF.
- Shaw, E.S. (1973). *Financial Deepening in Economic Development*. New York: Oxford University Press.
- World Bank (2008). 'Finance for All? Policies and Pitfalls in Expanding Access'. World Bank Policy Research Report. Washington, DC: World Bank.
- World Bank (2014). 'Global Financial Development Report 2014: Financial Inclusion'. Washington, DC: World Bank.
- World Bank (2015). 'Empowering Women Through Financial Inclusion'. Available at: www.worldbank.org/en/news/feature/2015/08/05/empowering-women-through-financial-inclusion (accessed 11 May 2021).
- World Bank (2020a). 'Digital Financial Services'. Washington, DC: World Bank.
- World Bank (2020b). 'Tanzania Economic Update: Addressing the Impact of Covid-19 Pandemic'. Washington, DC: World Bank.
- Zhuang, J., H.M. Gunatilake, Y. Niimi, M.E. Khan, Y. Jiang, R. Hasan, N. Khor, A. Lagman-Martin, P. Bracey, and B. Huang (2009). 'Financial Sector Development, Economic Growth, and Poverty Reduction: A Literature Review'. Economics Working Paper Series 173. Manila: Asian Development Bank. <https://doi.org/10.2139/ssrn.1617022>