



WORKING PAPER

A Digital Credit Revolution

Insights from Borrowers in
Kenya and Tanzania

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EXECUTIVE SUMMARY

Digital credit has expanded rapidly in both Kenya and Tanzania, yet there is limited evidence on who is using it, how it is used, and the risks customers face. Two large-scale surveys conducted in Kenya and Tanzania help to fill in this evidence gap.

The survey findings suggest that digital credit is not widely used by the most vulnerable groups characterized by irregular cash flows, such as those primarily receiving income through farming and casual work. To serve these segments, digital credit may need to be appropriately and adequately adapted, such as through more nuanced algorithms and flexible repayment structures, time frames, and pricing appropriate for their ability to repay. Alternatively, digital credit may prove unsuitable for these segments, and other solutions will be needed to help them build resilience and meet liquidity needs.

The findings and discussions with digital lenders suggest that growth in the digital credit market is driven by a segment of active users who borrow every month or even every week. This segment would benefit from opportunities to graduate to larger, more affordable loans with longer repayment periods that can be put to more productive purposes than the typically short-term, high-cost current offerings.

The results also indicate that better transparency and consumer protection requirements are needed, and regulators will need tools to monitor compliance and consumer outcomes. This includes tracking the potential risks of over-indebtedness and multiple borrowing, as up to 20 percent of borrowers report reducing food purchases to repay their loans and about half in each country report having repaid a loan late. Credit reporting requirements and

credit bureau functions may need to be updated, as the current practice of monthly reporting by lenders is not well suited for the speed of digital credit. Such rules should be extended to cover all lenders, including those that are currently unregulated, so that all borrowers have the same protections.

Investors and donors can play a greater role mitigating risks and ensuring digital credit markets grow responsibly. Investors can support responsible actors through their investment decisions and through guiding investees through active engagement. Further, donors and other development actors can work with market facilitators and country regulators to support development of regulatory and supervisory frameworks that adequately address existing and emerging risks. Donors and investors should work to ensure their funding minimizes negative consumer outcomes.

The following key findings emerge from this research:

- **Thirty-five percent of mobile phone owners in Kenya, and 21 percent in Tanzania, have taken out a digital loan.** In Kenya, 82 percent of digital credit users have used M-Shwari, while in Tanzania, the market is more evenly split among the top three lenders, M-Pawa, Timiza, and Nivushe.
- **Digital borrowers are active.** Sixty percent of digital borrowers in Kenya, and 54 percent in Tanzania had a digital loan outstanding at the time of the survey, and two-thirds of digital borrowers had taken out at least one loan in the past 90 days.
- **A significant minority have borrowed from multiple digital lenders.** Thirty-five percent of Kenyan digital borrowers have borrowed

from more than one digital lender, and 14 percent had loans outstanding with more than one digital lender at the time of the survey. In Tanzania, 15 percent have used more than one digital lender, and 6 percent had multiple digital loans outstanding.

- **Digital borrowers tend to be young, urban men. Individuals that count self-employment or wage-employment as their primary income source are over-represented among digital borrowers.** Those who report farming, transfers from others, or casual work as their main source of income are less likely than average to use digital credit (though the farmer segment still makes up a substantial portion of digital borrowers because it is the largest income group in each country).
- **Household and business needs dominate reasons for borrowing.** Digital borrowers report primarily taking out loans for ordinary household needs (35 percent in Kenya, 37 percent in Tanzania) or for business purposes (37 percent in Kenya, 31 percent in Tanzania).
- **Digital borrowers report rarely using digital loans for medical needs or emergencies.** Seven percent in Kenya and 9 percent in Tanzania report having used a digital loan for medical needs, including medical emergencies. Less than 2 percent in either country report having used a digital loan for any other emergency.
- **Some gender differences emerge in use cases.** In Tanzania, women are more likely to report using loans for business purposes, medical needs, and school fees, while men are more likely to borrow to pay for ordinary household needs, air-time, and to pay bills. In Kenya, the differences are smaller, with men more likely to borrow for the same purposes as men in Tanzania, and women more likely to borrow for school fees.
- **About half of borrowers report having repaid a digital loan late, and a significant proportion report having defaulted.** Fifty-six percent of borrowers in Tanzania and 47 percent in Kenya have repaid a digital loan late; 31 percent in Tanzania and 12 percent in Kenya report having defaulted. Reported rates of late repayment and default are relatively consistent across gender and education segments, as well as across those receiving income from different types of livelihoods. For example, in Tanzania, those with only primary education are most likely to report having defaulted (33 percent), but even among those with tertiary education, 25 percent have defaulted.
- **Some repayment behaviors may signal that borrowers are struggling to repay.** Twenty percent of Kenyan and 9 percent of Tanzanian digital borrowers reported reducing food purchases to repay a loan. In Kenya, 16 percent report having borrowed money to repay a loan, as have 4 percent in Tanzania.
- **Between a fifth and a quarter of borrowers have experienced a lack of transparency. Experiencing poor transparency is correlated with higher reported levels of late repayment and default.** Twenty-seven percent of digital borrowers in Tanzania and 19 percent in Kenya report experiencing at least one form of poor transparency (e.g., unexpected fees, unexpected withdrawal by lender, or not understanding costs or terms of loan).

- **Most borrowers have never contacted customer care.** Customer care for digital credit is little used—only 5 percent of digital borrowers in Tanzania and 10 percent in Kenya have ever contacted customer care with a question, concern, or complaint about a digital loan. About 10 percent in each country reported needing to contact customer care but not knowing how to do so.
- **Digital borrowers use more financial services than the average Kenyan or Tanzanian adult.** In both countries, digital borrowers are about twice as likely to have a bank account (other than those associated with a digital credit service) than average.
- **Digital credit is only one loan source among many.** Thirty-three percent of digital borrowers in Kenya and 25 percent in Tanzania were juggling loans from two or more sources (including digital and nondigital) at the time of the survey. Family members, friends, savings groups, and banks are the most common sources of nondigital loans among digital borrowers.
- **In Kenya, borrowers tend to use digital credit to substitute away from nondigital loans. In Tanzania, digital credit primarily adds to or complements the borrowers' existing credit sources.** Sixty-three percent of digital borrowers in Kenya reported reducing their use of at least one type of nondigital loan source since they began using digital credit. This suggests that many Kenyan borrowers use digital credit as a substitute for other sources. In Tanzania, only 34 percent report reducing use of other loan sources, suggesting digital credit complements, rather than replaces, other loan sources.

INTRODUCTION

Digital credit has reached millions of borrowers in Kenya and Tanzania since it launched in 2012. Its key characteristics—instant loan access, automated credit decisions, and remote disbursement and repayment—make it a fast, private, and convenient option for many borrowers. But these characteristics also hold potential risks.

Identifying who is using digital credit, the ways it is used, and the risks

borrowers experience is critical for understanding the role digital credit plays in borrowers' financial portfolios and how it affects financial inclusion. A deeper understanding is also critical for identifying actions providers, policy makers, investors, and development actors can take to maximize the benefits of digital credit while minimizing risks. See Box 1 for a brief description of digital credit, as it is referred to in this paper.

BOX 1. What is digital credit?

Digital credit in this study refers to loans that are delivered and repaid digitally, typically over a mobile phone. We differentiate digital credit from conventional loans by identifying three key characteristics: digital credit is instant, automated, and remote (Chen and Mazer 2016).

Instant. Digital lenders use digital data, such as airtime top-ups, mobile phone call records, and app-based data (on smartphones), on potential borrowers to make near-instant credit decisions. Disbursement also happens quickly because loans are delivered digitally.

Automated. From registration to application, disbursement, and repayment, lender decisions and actions are automated based on preset parameters.

Remote. Loan applications, disbursements, and repayments are managed and conducted remotely, generally eliminating human interaction from the loan process.

In Kenya and Tanzania, loan sizes are typically US\$30–50, though they can vary and increase with positive repayment history. Repayment periods are usually around four weeks (Hwang and Tellez-Merchan 2016).

Digital lenders take a variety of forms. The most commonly used digital lenders in Kenya and Tanzania (e.g., M-Shwari and M-Pawa) involve partnerships between mobile network operators (MNOs), which manage mobile money wallets and agent networks, and banks, which provide loans and assess creditworthiness using data from the MNOs. These credit offerings come with an associated savings account provided by the bank partner.

A second configuration involves an MNO partnering with a nonbank financial institution. This type of partnership is like an MNO-bank partnership, though nonbank financial institutions cannot provide formal savings accounts and are not regulated in the same way as banks.

In a third configuration, lenders operate and lend through smartphone-based apps. These lenders use data from a smartphone, such as geospatial data and data from social media apps, to assess creditworthiness.

Other configurations include a partnership that contracts with a third party to analyze creditworthiness of potential borrowers and others.

CGAP, Financial Sector Deepening Kenya (FSD Kenya), and Financial Sector Deepening Tanzania (FSD Tanzania) conducted large-scale phone surveys of digital credit users and nonusers in Kenya and Tanzania to learn more about their experiences with digital credit. The study also aims to contribute to international discussions on responsible digital finance, including efforts of the Global Partnership for Financial Inclusion (GPFI) and the G20 on Principle 5 of the High-Level Principles for Digital Financial Inclusion.

As the first large-scale demand-side surveys dedicated to these topics, the study emphasized identifying potential risks emerging from these new credit sources. The results shed light on market development and evolution in the two leading digital credit markets and provide insights on how more nascent markets might evolve.

Digital credit's beginnings: Context

Digital credit initially took off with the launch of M-Shwari in Kenya in November 2012, five years after the launch of the M-Pesa mobile money service. Created through a partnership between Commercial Bank of Africa (CBA) and Safaricom, M-Shwari provides a savings account and

access to digital loans through the M-Pesa platform. Leveraging Safaricom's and CBA's strengths, including Safaricom's brand and network of over 100,000 mobile money agents and CBA's risk management experience, M-Shwari attracted KSh 24 billion in deposits and disbursed KSh 7.8 billion in loans in just one year after launch. M-Shwari had a head start on the competition thanks to an exclusivity agreement between Safaricom and CBA that initially limited Safaricom's ability to offer competing lending services embedded on the M-Pesa platform. While other services such as Tala and M-Coop Cash launched their own app-based platforms in 2014 and grew considerably, they are limited to customers with smartphones, and they have not reached the scale of M-Shwari.

The first digital lender in Tanzania, M-Pawa, launched in 2014. Like M-Shwari, M-Pawa was a partnership between CBA and an MNO—Vodacom Tanzania. Six months later, Airtel Tanzania launched a competing service called Timiza with AFB, a pan-Africa nonbank credit provider. The following year, Tigo Tanzania launched Tigo Nivushe in partnership with Jumo Tanzania, a nonbank mobile lending platform. See Table 1 for a summary of the top lenders in Kenya and Tanzania.

TABLE 1. Main digital lenders in Kenya and Tanzania

Digital credit product	Partners involved	Bank or non-bank lender	Year of Launch	Country
Branch	Branch	Nonbank	2015	Kenya and Tanzania
Equity Eazzy	Equity Bank	Bank	2015	Kenya
KCB M-Pesa	Safaricom, Kenya Commercial Bank (KCB)	Bank	2015	Kenya
M-Coop Cash	Co-operative Bank	Bank	2014	Kenya
M-Shwari	Safaricom, Commercial Bank of Africa (CBA)	Bank	2012	Kenya
M-Pawa	Vodacom, CBA	Bank	2014	Tanzania
Nivushe	Tigo, Jumo	Nonbank	2015	Tanzania
Tala	Tala	Nonbank	2014	Kenya and Tanzania
Timiza	Airtel, Jumo	Nonbank	2014	Tanzania

In 2015, several developments and new entrants significantly expanded the reach of digital credit in Kenya. First, smartphone penetration continued to grow, which increased the pool of potential customers for app-based lenders such as Tala, M-Coop Cash, and new entrant Branch, which launched in 2015. Second, the contractual agreement that restricted Safaricom's ability to partner with others beyond CBA expired in 2015. This allowed Kenya Commercial Bank (KCB) to partner with Safaricom to launch KCB M-Pesa on the M-Pesa network. Third, Equity Bank introduced a mobile virtual network operator (MVNO) that runs on Airtel's network to offer a range of digital financial services, including a full mobile banking solution and a digital credit product called Eazzy Loans.

In 2016, instability in Kenya's banking sector decreased many institutions' appetites for risk. Moreover, the Kenyan government introduced an interest rate cap for regulated lenders of 4 percentage points above the Central Bank rate, which has remained between 9 percent and 10 percent (for a total of about 13–14 percent interest) since the cap was instated (CBK n.d.). Although the cap has not immobilized the digital credit market, it has led to significant changes. KCB M-Pesa and Equity Eazzy Loans lowered their interest rates and introduced other fees that brought the total cost closer to, but still lower than, the previous rate. Equity reduced the loan limits for a significant number of Eazzy Loans customers, and KCB M-Pesa temporarily stopped offering longer term (three and six months) loans. CBA made no changes to its pricing, and stated that the interest rate cap did not apply to M-Shwari's 7.5 percent monthly "facilitation" fee. CBA successfully defended this position in court after the Consumer Federation of Kenya sued CBA and Central Bank of Kenya (Fayo 2018).

In sum, the cap narrowed the range of products on offer, effectively decreasing providers' interest in experimenting or taking risks. In May 2018, the Kenyan Treasury Cabinet Secretary proposed the full repeal of the interest rate cap law in his 2018 budget speech (Herbling and Genga 2018). However, the proposal was opposed by some members of parliament and, as of July 2018, the way forward is unclear (Kamau and Omondi 2018).

Regulatory infrastructure

The advent of digital credit introduced complex regulatory questions, particularly those related to consumer protection and credit reporting. In both Kenya and Tanzania, general consumer protection regulation applies to digital credit products offered by or with a regulated financial institution. The rules, however, do not apply to nonregulated digital credit products, including those from app-based and "over-the-top" lenders or from partnerships between MNOs and unregulated lenders. This results in an uneven playing field, where regulated and unregulated lenders operate under different rules

For regulated lenders, the rules in both countries require clear disclosures of all fees and charges associated with a digital loan. In Kenya, banks are further required to present standardized APRs for traditional credit products (to be listed on the website <https://www.costofcredit.co.ke/>), but not for digital credit products.

Both countries have credit reporting requirements. The first credit reference bureau (CRB) in Kenya was licensed in 2010 and in Tanzania in 2013. Since 2014, CBK has required regulated banks and MFIs in Kenya to report "full-file" credit histories, meaning positive as well as negative items. Enforcement has been inconsistent, however, and one of

the largest lenders initially reported only negative information, impeding other lenders from accurately assessing potential customers' risk profiles and narrowing borrowers' options. Similarly, in Tanzania, regulated providers are required to report credit information.

These rules on disclosure requirements and credit reporting do not apply to nonregulated lenders in either country. In Kenya, nonregulated lenders can report to CRBs with permission from their customers and approval by CBK, but they are not required to report to CRBs. In Tanzania, one CRB announced in 2016 that it would begin collecting information from informal financial services providers that are not regulated by the Bank of Tanzania, but such reporting is optional. Further, the interest rate cap in Kenya does not apply to nonregulated lenders, meaning that some digital lenders can charge substantially different rates than others, and as a result offer different types of loans.

Survey methodology

To understand customer experiences with digital credit, uses of digital credit,

and emerging risks, CGAP, FSD Kenya, and FSD Tanzania partnered to conduct large-scale demand-side surveys on digital credit use in Kenya and Tanzania in 2017. The surveys measured customer experiences with digital credit, uses of digital credit, customer risks associated with digital credit, market penetration of digital credit, and demographics of digital credit users. The surveys in both countries were conducted via phone, and the samples were weighted to be representative of mobile phone owners in each country.¹ Because using digital credit requires access to a mobile phone, the subsample that had used digital credit can be considered representative of digital credit borrowers. (See Table 2.)

Respondents who had not used digital credit answered a set of brief questions on demographics and use of financial services, while respondents who had used digital credit answered the full questionnaire about their use of and experiences with digital credit. The results are comparable because the same questionnaire was used in both markets. See Annex 1 for details on methodology.

TABLE 2. Sample size summary

	Total sample size (Representative of mobile phone owners)	Of those, sample size that had used digital credit
Tanzania	4,574	1,132
Kenya	3,150	1,037

¹ Mobile phone penetration is about 77 percent in Kenya and 63 percent in Tanzania.

PENETRATION OF DIGITAL CREDIT

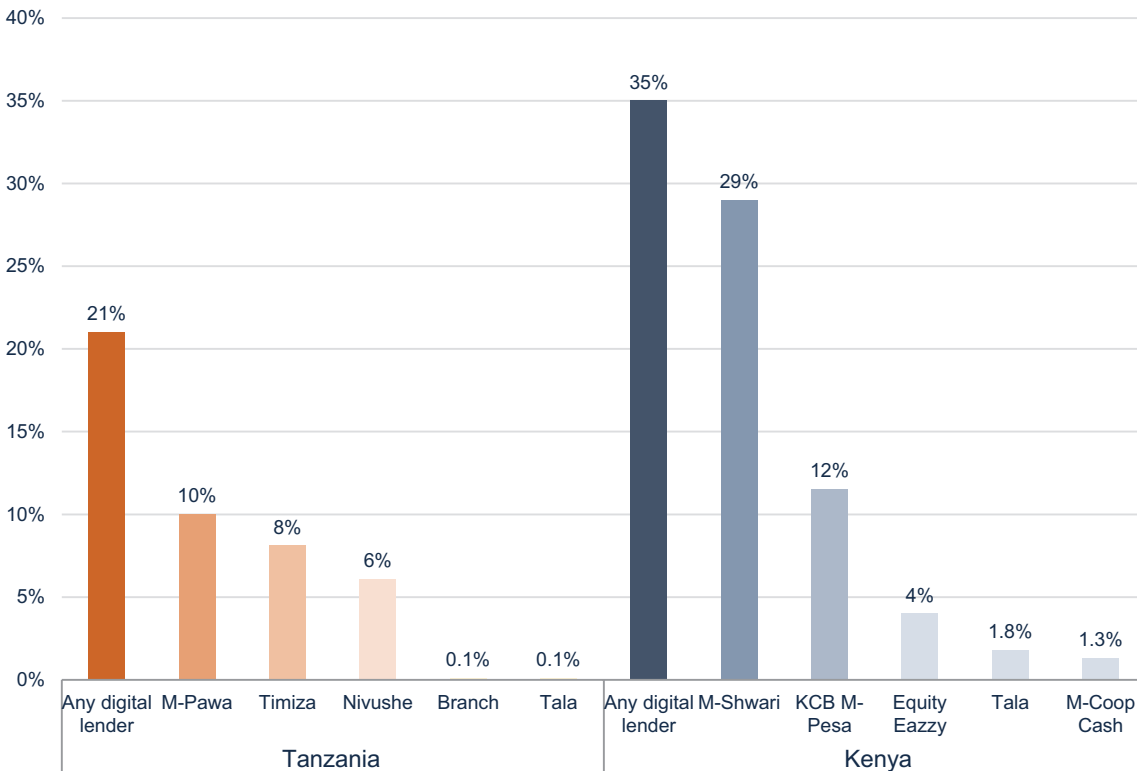
More than a third of mobile phone owners in Kenya and a fifth in Tanzania have taken out a digital loan—representing about 6 million unique borrowers in Kenya and 4 million in Tanzania.² (See Figure 1.)

The digital credit market is more concentrated in Kenya than it is in Tanzania, with 29 percent of phone owners (82 percent of digital borrowers) having used the leading lender, M-Shwari, and 12 percent of phone owners (34 percent of digital borrowers) having used the closest competitor, KCB M-Pesa.³ In Tanzania, the market is split more evenly, with 10 percent of phone owners (48 percent of digital borrowers) having used M-Pawa, 8 percent

of phone owners (39 percent of digital borrowers) having used Timiza, and 6 percent of phone owners (29 percent of digital borrowers) having used Nivushe.

The concentration in the Kenyan market suggests that M-Shwari benefitted from first-mover advantage (reinforced by the CBA-Safaricom exclusivity agreement) and maintained that advantage even after others launched. It continues to enjoy a greater market share than KCB M-Pesa, even though the two services operate on the same M-Pesa platform and therefore have access to the same customer base. Because lenders use data-driven algorithms to determine credit limits,

FIGURE 1. Share of mobile phone owners who have borrowed from each lender (top five in each country)



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June-August 2017 and were weighted to be representative of phone owners. Multiple responses were allowed.

2 In Kenya, about 77 percent of adults own a mobile phone, for an estimated total digital credit penetration of 27 percent of the adult population. Approximately 63 percent of adults own a mobile phone in Tanzania, for an estimated digital credit penetration of 13 percent of the adult population.
 3 Many digital borrowers have used more than one digital lender.

M-Shwari may benefit from a longer period of data collection on repayment behaviors. More data can enable lenders to better tailor loan offers and possibly offer larger loans to those with strong repayment history, potentially keeping borrowers loyal. M-Shwari’s persistent popularity could also indicate that the relationship between borrowers and lenders is sticky, with borrowers hesitant to switch.

Despite operating on Tanzania’s most popular mobile money platform and launching before any other digital credit product in the country, M-Pawa does not have the same outsized lead in Tanzania as M-Shwari has in Kenya. The mobile money market is also more competitive in Tanzania than in Kenya, driving greater competition for services like lending offered on the mobile money platforms.

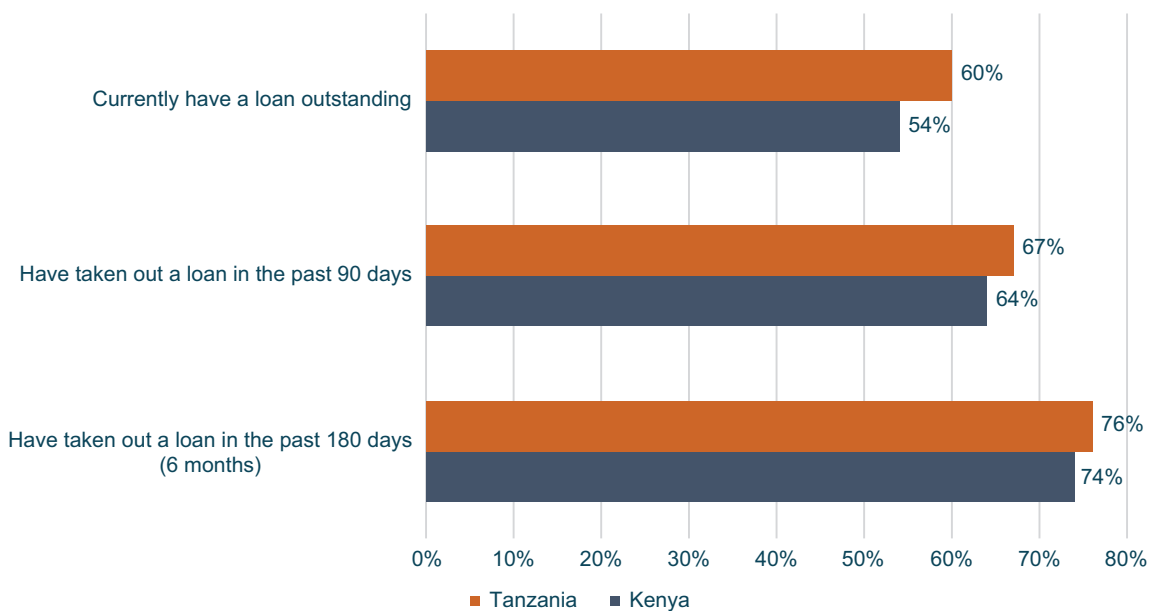
Active rates

Digital borrowers tend to be active—60 percent of Tanzanian borrowers had

at least one digital loan outstanding at the time of the survey, as did 54 percent of Kenyan digital borrowers (see Figure 2). To put this in context, borrowing from family and friends is the most common type of traditional, nondigital borrowing among the digital borrowers in our surveys. Of those who have borrowed from family or friends, 27 percent of Tanzanians and 29 percent of Kenyans had a current loan from a family member or friend at the time of the survey, so the active rate for digital loans is about double in each country.

Add to these numbers those who had borrowed digitally in the past 90 days (but did not have a current loan outstanding), and fully 67 percent of Tanzania’s digital borrowers were 90-day active, as were 64 percent of Kenya’s borrowers. The similar active rates in both markets, which have different market histories and structures, indicate that, at least in these two countries, once borrowers engage with digital credit, they typically remain active by taking out additional loans.

FIGURE 2. Active rates among digital credit users



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June-August 2017 and weighted to be representative of phone owners. Multiple responses were allowed.

By actively borrowing and repaying, many borrowers build positive repayment histories. Most digital lending models use such repayment histories to increase loan size, but keep interest or fee rates and repayment periods fixed—limiting borrowers’ ability to qualify for and use loans for longer-term investments. Recently, M-Shwari announced plans to segment borrowers by credit history and offer lower rates to borrowers with good credit history (Ngugi 2017). Based on the high active rates in Kenya and Tanzania, more lenders could take advantage of the positive credit history data they are obtaining to vary loan size, interest rate, and repayment period, thus deepening the credit markets and allowing loans to be used for broader and possibly more productive purposes.

Multiple borrowing

Thirty-five percent of Kenyan digital borrowers have borrowed from more than one digital lender as have 15 percent of Tanzanian digital borrowers. The high percentage in Kenya is primarily due to M-Shwari borrowers who have also borrowed from another digital lender. This indicates that digital lenders in Kenya should be aware that many of their customers already have a credit history with M-Shwari. Because M-Shwari had little competition for its first few years of operation, early M-Shwari borrowers may have been trying other offers as they became available.

Further, 14 percent of digital borrowers in Kenya had multiple digital loans outstanding at the time of the survey, compared to 6 percent of digital borrowers in Tanzania. In Kenya, a borrower using Safaricom’s phone service and M-Pesa mobile money can directly access both M-Shwari and KCB M-Pesa through their mobile money menu. In Tanzania, where the top digital lenders operate through

different mobile money platforms, a borrower would need SIM cards with two different phone and mobile money services, and would need to build a data history with each, to access loans from multiple providers.

While multiple borrowing can indicate high latent demand for credit, it can also lead to negative consumer outcomes. Digital lenders are unlikely to know about other outstanding loans their borrowers have because they often rely on data they or their partners hold rather than data from external sources, such as credit bureaus, to assess creditworthiness (Owens 2018).⁴ Even those that do check credit scores may not have a full picture of borrowers’ outstanding debts because CRBs typically receive data monthly (rather than daily or in real time), which means data on other short-term digital loans may not be up to date. The lack of data on other outstanding loans can result in loan offers that do not adequately consider ability to repay. For borrowers, the easy access to multiple digital loans combined with behavioral biases such as loss aversion and present bias can result in borrowing more than they need or can repay (Mazer and McKee 2017).

Multiple borrowing can also indicate debt cycling—taking out a loan to pay off another loan—which can be costly (Gordon and Lyon 2017). Debt cycling is not a new phenomenon, and it has been documented with microfinance loans as well (Rutherford 2017). With one-sixth of digital borrowers in Kenya balancing more than one digital loan simultaneously, and more than a third having borrowed from multiple digital lenders, this is an area where greater transparency on credit history and current debt load and continuous attentiveness and information sharing by regulators and lenders would be prudent.

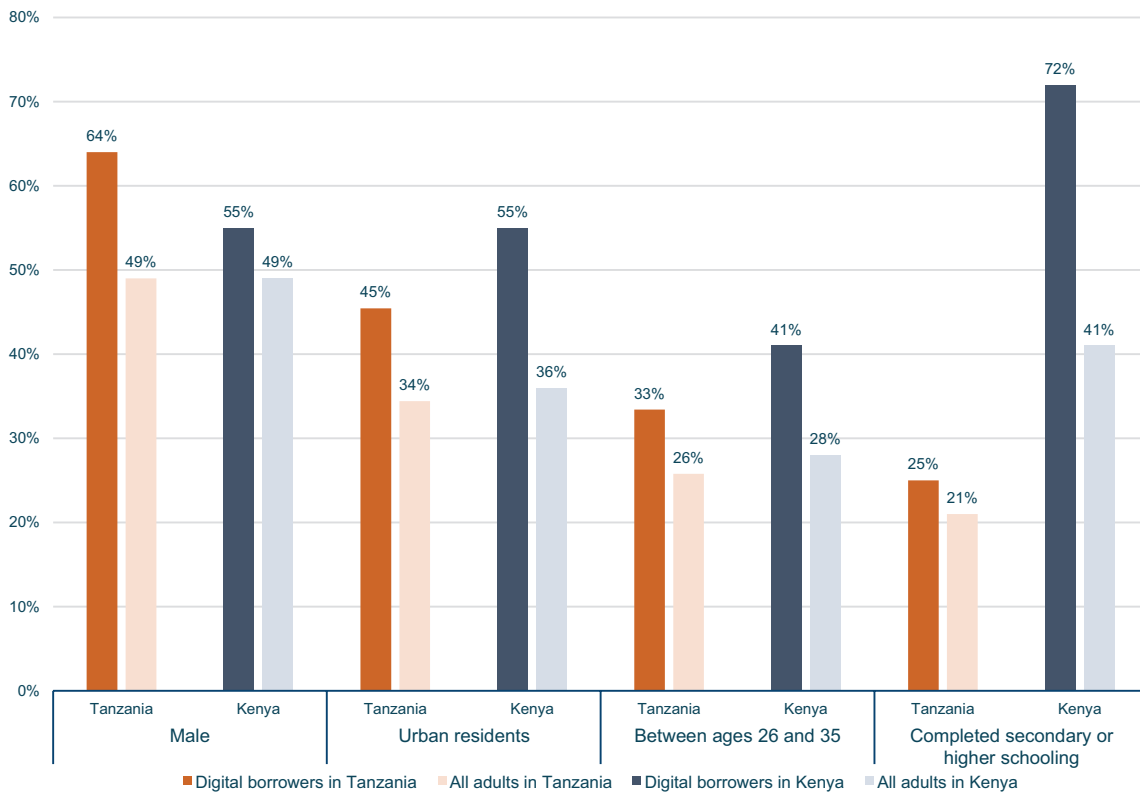
⁴ This was and still is a common problem for microfinance as well. See, e.g., Schicks and Rosenberg (2011).

DEMOGRAPHICS OF DIGITAL CREDIT BORROWERS

In both markets, young, urban men are the most common digital borrowers (Figure 3.). Compared to the average adult, the typical digital borrower in both markets is more likely to live in an urban area, be between 26 and 35 years old, and have completed at least secondary schooling. Education is a strong predictor of digital credit use in Kenya, with 72 percent of digital borrowers having secondary schooling or above, compared to 41 percent of all adults. In Tanzania, however, the share of digital borrowers who have completed secondary schooling (one in four) is only four percentage points above the national level.

Compared to an earlier study in Kenya, the gender gap in digital credit borrowers may be declining. The previous study estimated that men represented 59 percent of unique digital borrowers and women 41 percent—a gap of 18 percentage points. The study presented in this paper indicates a 10 percentage-point gap, with 55 percent male and 45 percent female unique borrowers (Gichuru 2017). That said, the gender gap in terms of volume and values of digital lending may persist: interviews with providers confirm that men tend to borrow more often and larger sums on average than women do.

FIGURE 3. Demographics of digital credit users versus all adults



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June-August 2017 and were weighted to be representative of phone owners. Tanzania “all adults” was calculated based on the nationally representative FinScope survey dataset with sample N=9,459. Kenya “all adults” data draw from the FinAccess Survey, a nationally representative survey with N=8,665 respondents. The data for females and rural residents are the inverses of those for males and urban residents.

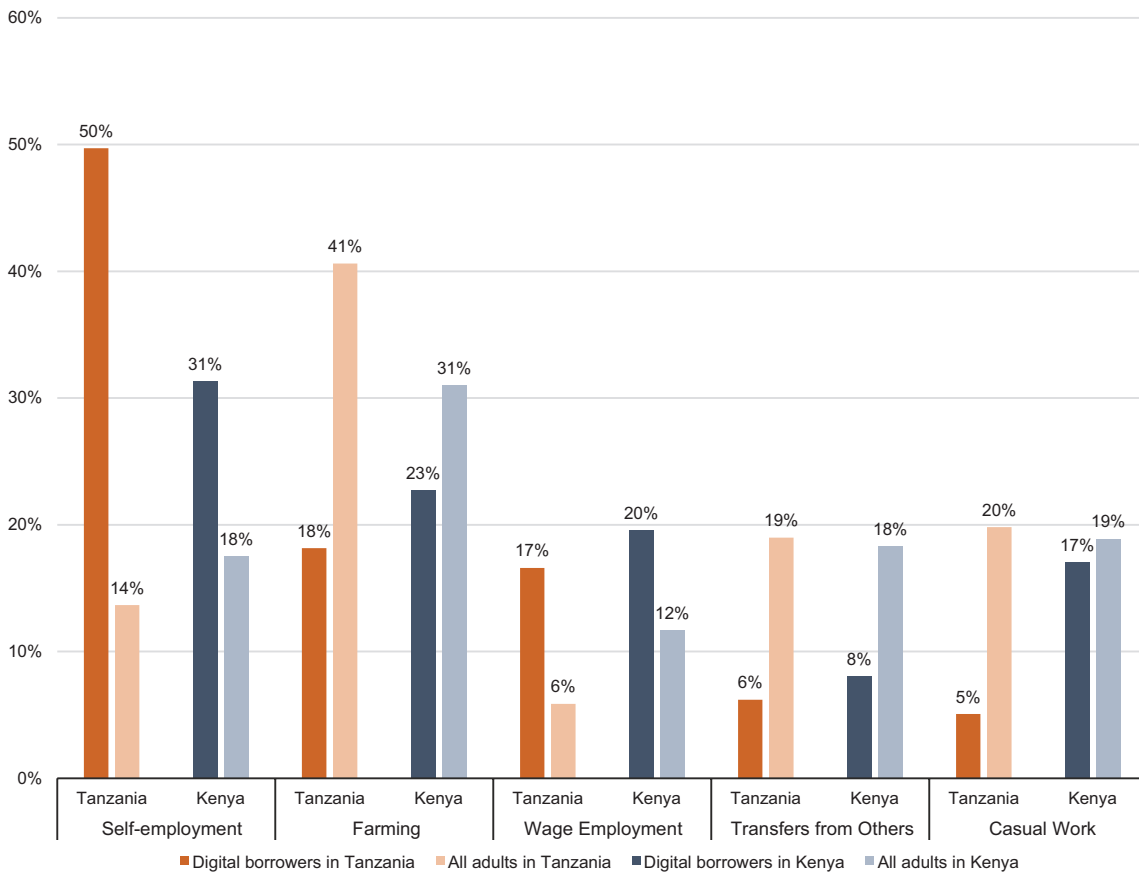
PRIMARY INCOME SOURCES OF DIGITAL CREDIT BORROWERS

In Tanzania, digital credit is concentrated in the relatively small segment of entrepreneurs: 50 percent of digital borrowers report self-employment as their primary income source, compared with only 14 percent of the adult population. (See Figure 4). In Kenya, those with self-employment as their primary income source are also the main users of digital credit (31 percent of digital borrowers), but the market is otherwise more spread across different types of livelihood groups.

In both countries, those with wage employment as their main source of

income are more likely to use digital credit than the rest of the adult population.⁵ In Tanzania, 17 percent of digital borrowers have wage employment as their main source of income, versus 6 percent of all adults. Similarly in Kenya, 20 percent of digital borrowers have wage employment as their main source of income versus 12 percent of all adults at the national level. This relatively high penetration among wage employees may be driven by scoring algorithms, which favor customers with regular cashflows. It also may stem from the demand of employees who need

FIGURE 4. Primary income sources of digital credit users versus all adults



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June–August 2017 and weighted to be representative of phone owners. Tanzania “all adults” was calculated based on the nationally representative FinScope survey dataset with sample N=9,459. Kenya “all adults” data draw from the FinAccess Survey, a nationally representative survey with N=8,665 respondents.

5 Based on the nationally representative FinAccess (Kenya) and FinScope (Tanzania) household surveys.

additional funds between monthly salary payments. In this case, digital credit may be serving a function similar to that of payday lending.

In both countries, the penetration of digital credit among those with farming, casual work, or transfers from others as their primary income source is relatively low. Uptake is particularly low for the farming and casual work segments in Tanzania, both of whom represent major livelihood groups (41 percent and 20 percent, respectively) but account for only 18 percent and 5 percent,

respectively, of digital credit borrowers. In Kenya, the contrast is less striking, although uptake is still disproportionately low among the farming segment and those who depend on transfers from others. People who report farming, casual work, or transfers from others as their primary income source are likely to be in the most vulnerable segments with the greatest liquidity constraints and consumption smoothing needs. The low uptake among these groups suggests digital credit is not meeting their needs in a way that is accessible, affordable, or appropriate.

DIGITAL CREDIT USE CASES

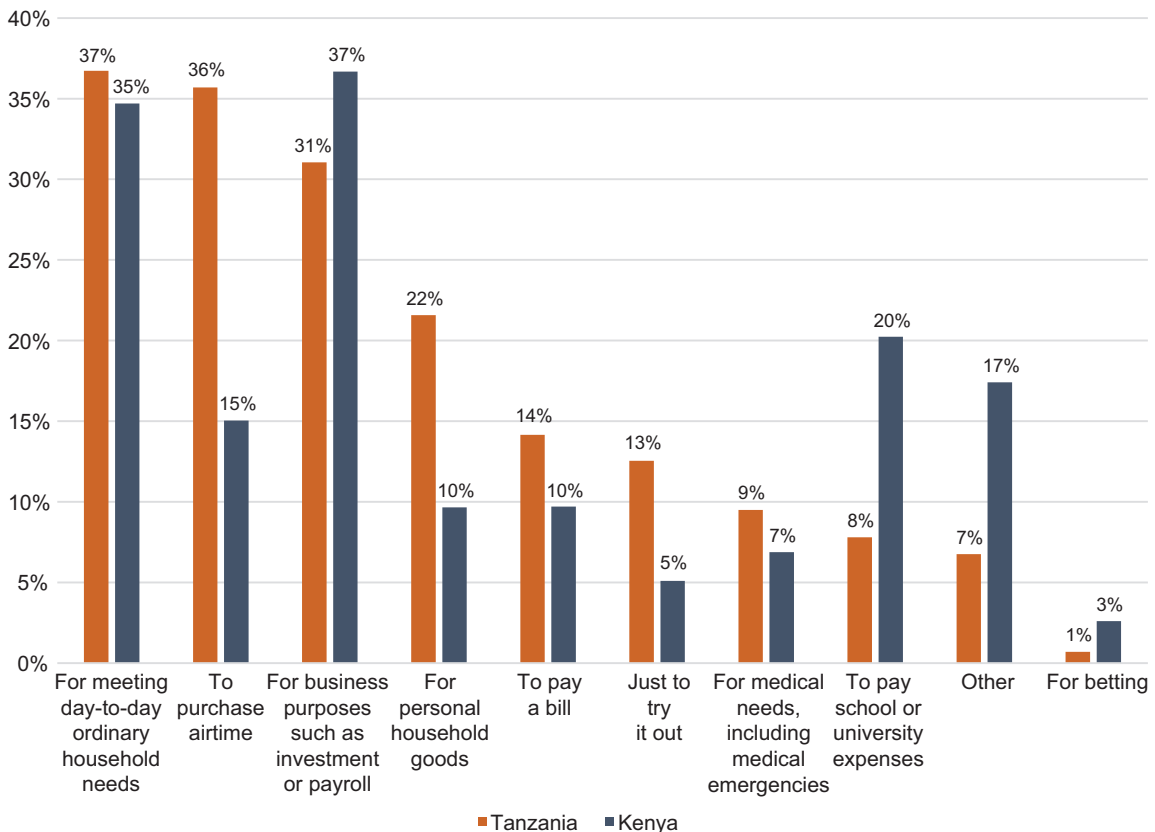
Across Kenya and Tanzania, borrowers report two widespread use cases of digital credit: basic “day-to-day” household needs (35 percent and 37 percent, respectively) and working capital for small enterprises and self-employment (37 percent and 31 percent, respectively). When day-to-day needs and “personal household goods” (22 percent for Tanzania, and 10 percent for Kenya) are combined, these household consumption purchases are by far the most commonly reported use cases for digital credit (Figure 5).⁶

Because these use cases are self-reported, and money is fungible, digital loans could have additional effects on borrowers’

financial portfolios beyond reported uses. Taking out money for one purpose could free up funds for another purpose.⁷ Evidence from behavioral economics, however, suggests that people often associate an account or source of credit with a specific purpose, which is called “mental accounting” (Thaler 1999). As such, reported use cases give important insight into both how the loans are used and the kinds of use cases with which borrowers associate digital credit.

Purchasing airtime is another common use case in Tanzania (36 percent), whereas it is much less common in Kenya (15 percent). This is likely because

FIGURE 5. Uses of digital credit



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June-August 2017 and weighted to be representative of phone owners. Multiple responses were allowed.

6 In the survey, “meeting day-to-day ordinary household needs” is defined as meeting needs such as food and transportation, while “personal or household goods” is defined as goods such as clothes and televisions.
 7 Further, self-reported use cases can yield under-reporting of some uses (such as betting), and over reporting of others.

Safaricom in Kenya provides airtime on credit through a service called Okoa Jahazi, which “lends” airtime only, not cash, and therefore is not analyzed in this study.

Kenyans are more likely to report using digital credit to pay school fees (20 percent) compared to Tanzanians (8 percent). In other research, 75 percent of Kenyan households with school-aged children reported that they did not have funds to pay for school (Kaffenberger and Braniff 2016). Further, according to the study, 60 percent of households with children enrolled in school were sending their children to schools that charge fees. In Tanzania, both situations are less common, with 46 percent lacking funds to pay for school, and only 18 percent sending children to schools that charge fees. This suggests that there could be a market in Kenya for loans tailored specifically for school fees and to the school calendar.

Small percentages in both countries report using digital loans for betting, including mobile betting. Because responses are self-reported, it is possible that the actual percent using digital loans for betting is higher, if respondents are reluctant to admit to this practice. See Box 2 for more information)

Despite expectations that the speed and convenience of digital credit can help the poor better cope with emergency expenses, few digital borrowers reported having used it for these purposes. Less than 10 percent of digital borrowers in each country report having used a digital loan for any kind of medical need, including medical emergencies, and less than 1 percent of Tanzanian and 2 percent of Kenyan digital borrowers report having used a digital loan for any other kind of emergency.

Loan uses by primary income source and gender

In Kenya, there is a close relationship between purposes of digital borrowing

and primary income source of borrowers (Figure 6). In Tanzania, on the other hand, uses of digital credit do not vary substantially across these groups (Figure 7).

In Kenya, two main groups emerge. The first group, borrowers who primarily earn income from running their own business, is far more likely to report using digital credit for business purposes. For example, anecdotal reports suggest considerable volumes of lending in the Kenyan market occur early in the morning, between 3 and 5, mostly by female traders who purchase fruits and vegetables from wholesale markets to resell over the course of the day (FSD Kenya 2017).

A second group comprises borrowers who receive their income primarily from wage employment, casual work, or transfers from others. This group uses digital credit mostly for basic, day-to-day consumption needs and for purchasing personal or household goods. Education is the second most common use case for those who primarily receive income through transfers from others or from wage employment.

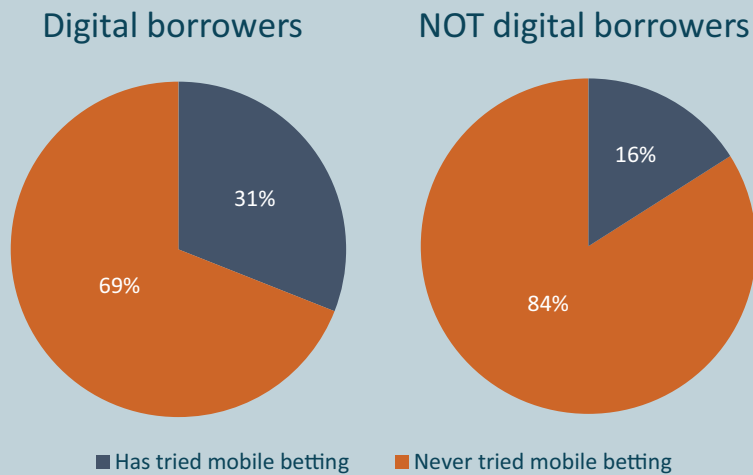
Most Tanzanian digital borrowers report similar uses of digital credit regardless of primary income source. Day-to-day household needs, airtime, and business purposes are the most common use cases, with medical needs and schooling among the least reported use cases. Individuals who reported casual work as their primary income source represented the main outlier. These individuals were much more likely to have used digital loans for day-to-day household needs, which may reflect their less consistent income streams.

Looking at use cases by gender, women in Tanzania are more likely than men to report using digital loans for business

BOX 2. The rise of mobile betting in Kenya: Reason for concern?

The rise of digital credit in Kenya has raised concerns about its possible connection to an increase in mobile betting. Although there is limited data on the size and volumes of mobile betting in East Africa, recent media reports estimate that 27 percent of adults in Kenya have engaged in mobile betting—this is, by far, the highest in East Africa.^a PriceWaterhouseCoopers estimated the sports betting industry (including both digital and nondigital) was worth \$20 million in Kenya in 2017, and it had the potential to grow to \$50 million by 2020.^b

FIGURE B2-1. Use of mobile betting by users and nonusers of digital credit



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, conducted June-August 2017 and weighted to be representative of phone owners.

It is difficult to determine the exact relationship between digital borrowing and mobile betting from survey data because there is reason to expect under reporting—borrowers may be reluctant to reveal that they use their mobile loans for betting. Only 3 percent of digital borrowers reported sports betting as a reason for taking out a loan. However, when respondents were asked if they had ever tried mobile betting, digital borrowers were almost twice as likely to report having tried mobile betting compared to nondigital borrowers—16 versus 31 percent, as shown in Figure B2-1.

This finding poses more questions than it answers. In addition, the correlation may be driven by other confounding factors (e.g., digital borrowing and mobile gambling appeal to the same demographics). More research is needed on this issue.

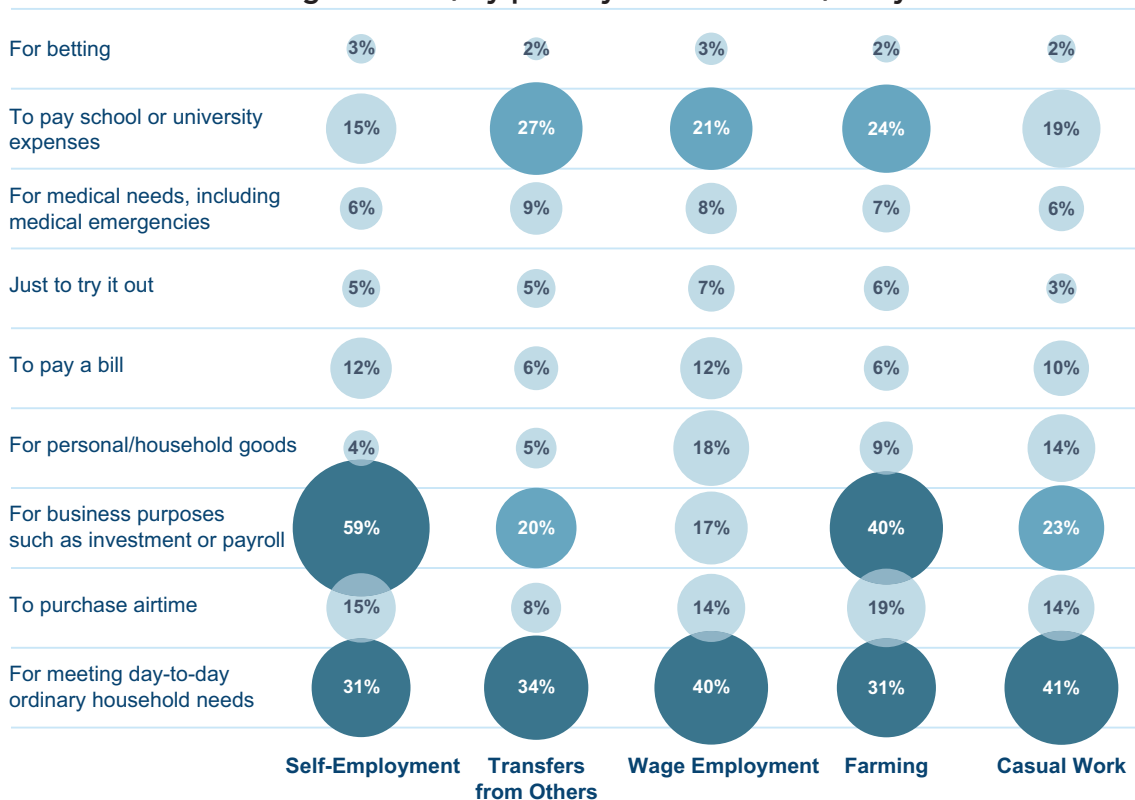
a. Penetration of mobile betting is estimated to be below 5 percent in the rest of East Africa. See Njanja (2018).

b. See Mwamba (2016).

purposes, medical needs, and school fees (Figure 8). In contrast, men are more likely than women to report using digital loans for meeting day-to-day household needs, purchasing airtime,

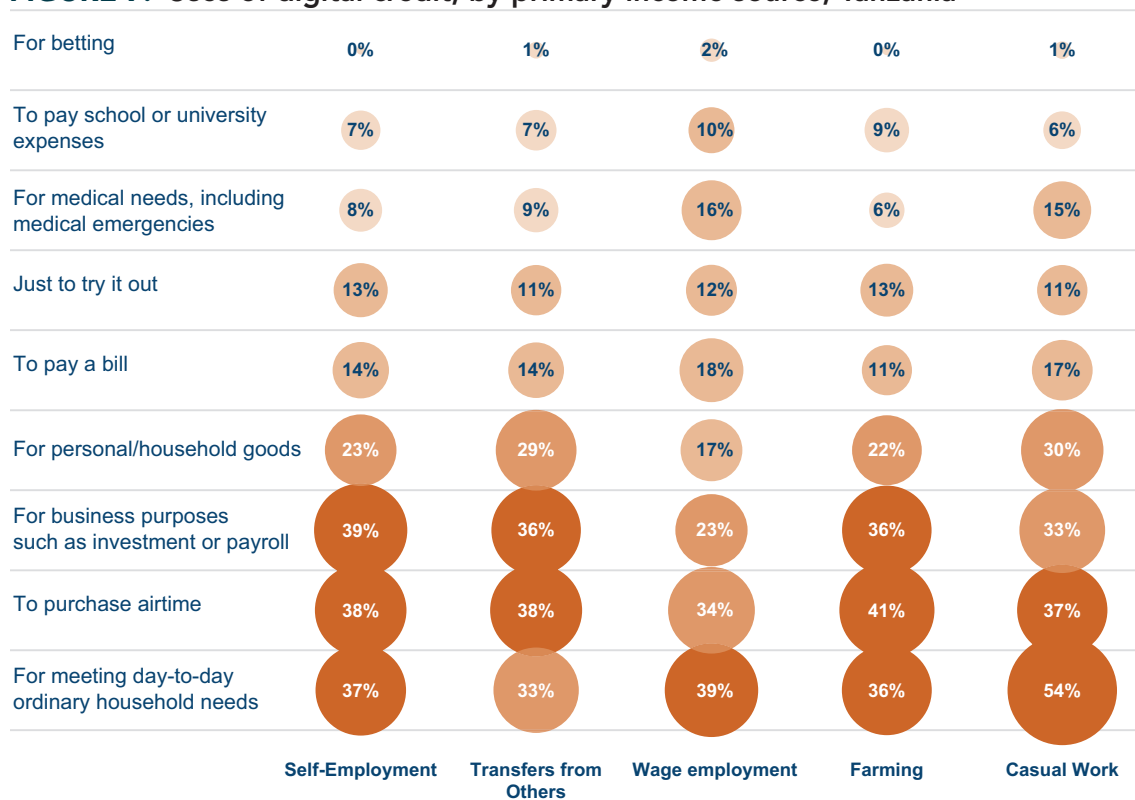
and paying bills. Similar findings apply to the Kenyan market, though in Kenya, there is less variation between men and women than there is in Tanzania (Figure 9).

FIGURE 6. Uses of digital credit, by primary income source, Kenya



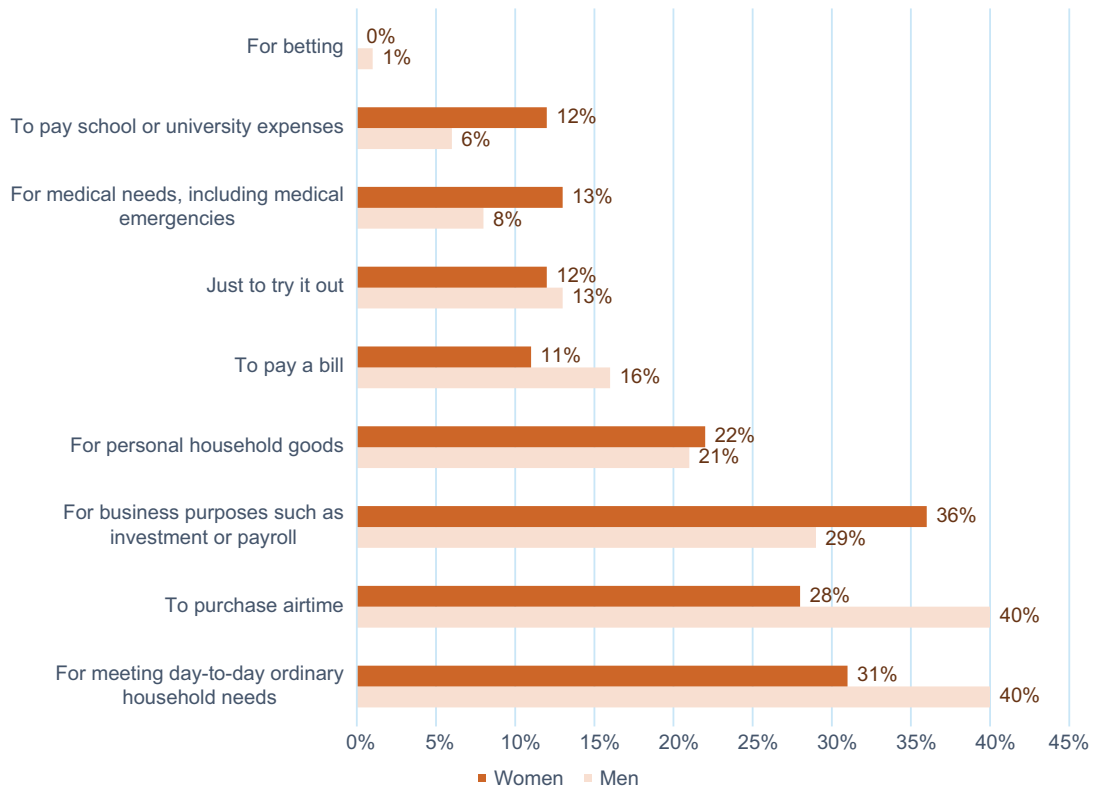
Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, conducted June-August 2017 and weighted to be representative of phone owners. Multiple responses were allowed.

FIGURE 7. Uses of digital credit, by primary income source, Tanzania



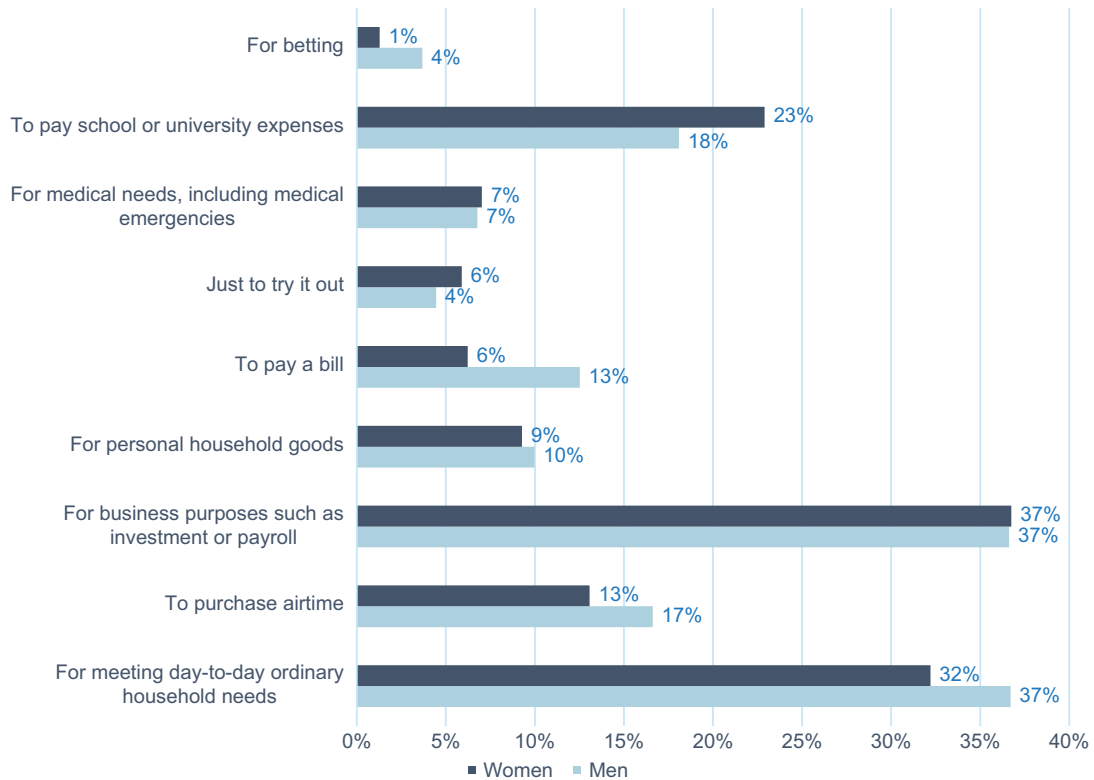
Source: National phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit, conducted June-August 2017 and weighted to be representative of phone owners. Multiple responses were allowed.

FIGURE 8. Uses of digital credit, by gender, Tanzania



Source: National phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit, conducted June-August 2017 and weighted to be representative of phone owners. Multiple responses were allowed.

FIGURE 9. Uses of digital credit, by gender, Kenya



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, conducted June-August 2017 and weighted to be representative of phone owners. Multiple responses were allowed.

LATE REPAYMENTS AND DEFAULTS

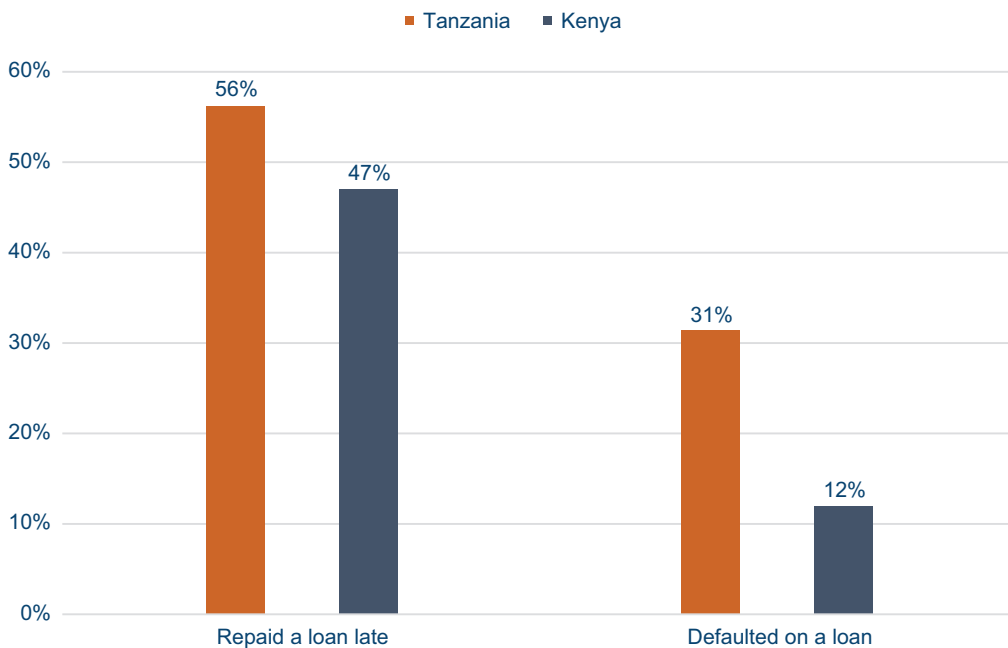
Late repayment of digital loans is widespread, with 56 percent of digital borrowers in Tanzania and 47 percent in Kenya reporting having ever repaid late (Figure 10). Because these numbers are self-reported, the actual rates could be higher. (For example respondents may not have reported instances of late repayment if they thought doing so would reflect badly on them.)

The similarity in late repayment rates in the two markets indicates this is a common occurrence with digital loans. Qualitative research has suggested that the privacy and lack of human touch with digital loans makes their repayment a lower priority for borrowers, compared to loans from family

or community members where borrowers' local reputations are at stake (Mustafa 2017b).

Late repayment can have significant consequences for borrowers. Lenders typically roll over loans and charge a second origination fee on the balance at the end of the initial loan period.⁸ Further, when borrowers are late in repaying their loans, both M-Pawa and M-Shwari freeze balances in the associated savings account up to the amount due until the loan and fees are repaid, and borrowers cannot use frozen funds to repay the loan. Both M-Shwari and M-Pawa also reserve the right to close a borrower's account if the loan is not repaid 60 days after disbursement

FIGURE 10. Percentage of borrowers who report having repaid late or defaulted on a digital loan



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June-August 2017 and were weighted to be representative of phone owners.

⁸ See, for example, Vodacom (n.d.).

(which would be 30 days late for typical loans), thus preventing customers from using the savings product as well (CBA 2014b).

If loans remain unpaid, regulated lenders are required to report borrowers to CRBs for failure to repay, resulting in a listing of a nonperforming loan (CBK 2014b; BoT 2012). If borrowers subsequently repay, the loan listing is changed to reflect that it has been paid, and the CRB keeps this listing for five years in Kenya and for six years in Tanzania. If borrowers do not repay and instead default on the loan, the nonperforming loan listing stays in place.

In both markets, borrowers who have repaid late report a variety of reasons for doing so (see Table 3).

In Tanzania, 31 percent of digital borrowers reported having ever defaulted on a digital loan, while in Kenya, 12 percent reported having ever defaulted. This information is self-reported and therefore could be underreported out of fear or embarrassment. The definition of “default” is also more ambiguous than “late repayment”, especially if borrowers do not understand credit reporting requirements, which could further contribute to under (or over) reporting.

Most digital lenders require borrowers to repay a loan before they can take out another loan. Therefore, borrowers who default on a digital loan cannot access other loans from that lender while the loan is in default.⁹ The requirement that regulated lenders report nonperforming loans to CRBs can also make it harder for borrowers to access loans from formal lenders, such as banks, which use data from CRBs in credit assessments.

TABLE 3. Reasons for repaying late, among digital borrowers who reported having repaid late

Reason	Kenya	Tanzania
Poor business performance	21%	32%
Did not plan well enough	17%	18%
Lost job or source of income	19%	8%
All money went to basic needs such as food or utility bills	10%	9%

The Smart Campaign, which has developed Client Protection Principles for microfinance and, more recently, has issued recommendations for digital credit, suggests that while credit bureaus are unequivocally important for strengthening credit markets, it may be beneficial to enact rules preventing negative credit reporting for small loan amounts (Rizzi, Barrès, and Rhyne 2017). A 2016 TransUnion survey found that more than 400,000 Kenyans were listed in CRBs for outstanding loans of less than Sh 200, presumed to be digital loans (Ngigi 2016).

Qualitative research in Kenya has suggested that borrowers typically have only limited awareness and knowledge of lender practices for reporting to CRBs and of processes for checking credit history, resolving incorrect entries, and clearing negative listings (Mustafa et al. 2017a). Better understanding of consequences of late repayment and default, including implications of being listed in a CRB, may help reduce the relatively high share of digital borrowers who have repaid late or have defaulted on a digital loan.

⁹ Because many digital lenders do not check CRB data, borrowers could potentially still borrow from other digital lenders.

Defaults by demographics and primary income source

In Tanzania, defaulting on digital loans is common across demographic segments and those reporting different primary income sources. A similar percentage of men (30 percent) and women (32 percent) report having defaulted. Among education levels, those with only primary education are most likely to report having defaulted (33 percent), but even among those with tertiary schooling, a quarter report having defaulted. Similarly, among different livelihood segments, those with casual work as their primary income source and those who depend on transfers from others for income are most likely to report having defaulted (42 percent and 38 percent, respectively), but even among those with wage employment as their primary income source, 26 percent report having defaulted (Table 4).

In Kenya, fewer respondents report defaulting, but the demographic patterns are similar. Respondents who had completed primary education or less were most likely to report defaulting (16 percent), but even among those with tertiary education, 11 percent report having defaulted. Across primary livelihood segments, those who depend on transfers from others are most likely

to report having defaulted (17 percent), while even among those with wage employment as their primary income source, one in 10 has defaulted.

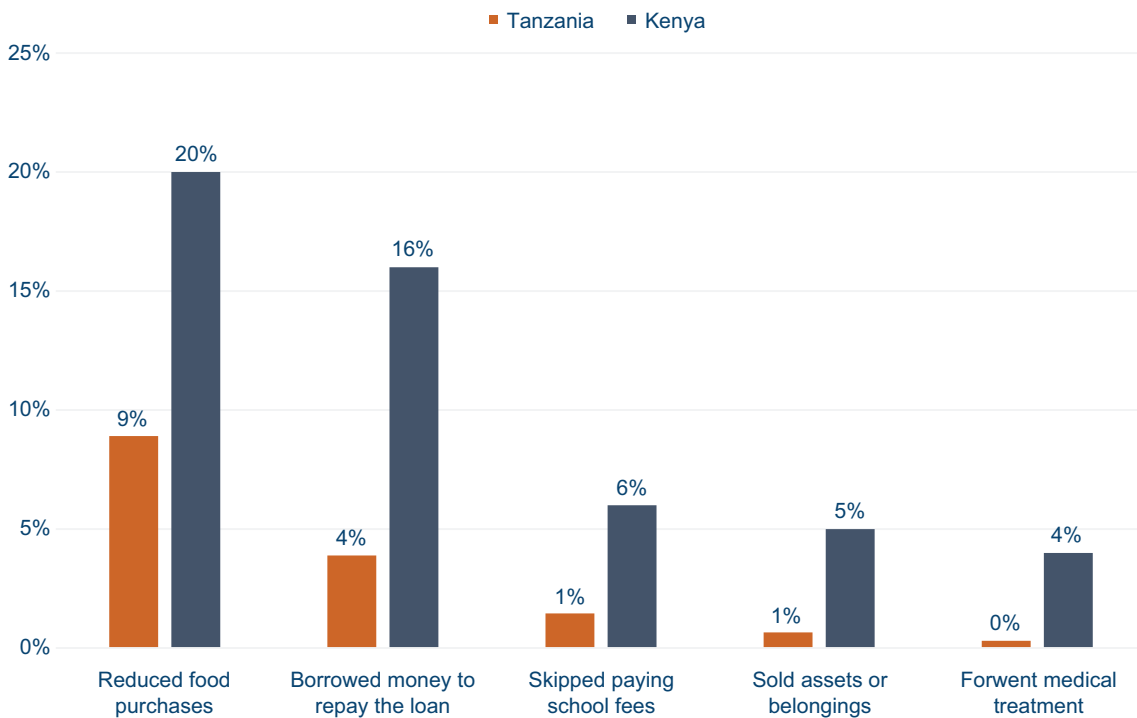
The similar shares of respondents across heterogeneous demographic and income-source segments who report having repaid late or defaulted may indicate that ability to repay may not be the only, or even the primary, driver of repayment behaviors. Qualitative research in both Tanzania and Kenya suggests that digital loans “feel” different from traditional loans, and that consumers experience loss and gain differently when money is digital (Mazer and Fiorillo 2015). While digital loans may feel different, the consequences of late repayment or default, such as being locked out of future loans, can be very real. Therefore, actions to make the consequences more salient could improve repayment rates and reduce negative repercussions.

Actions taken to repay

Even borrowers who do repay digital loans sometimes struggle to make repayments. When asked about specific actions taken to repay loans, one in five digital borrowers in Kenya and one in 10 in Tanzania report that they have reduced food purchases to repay

TABLE 4. Share of respondents who report having defaulted or made late repayments, by primary income source (%)

Primary income source	Kenya		Tanzania	
	Ever defaulted	Ever made late repayment	Ever defaulted	Ever made late repayment
Casual Work	13	47	42	71
Transfers from Others	17	50	38	60
Wage Employment	10	46	26	60
Farming	12	49	33	54
Self-Employment	11	47	34	56

FIGURE 11. Actions taken to repay loans

Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June-August 2017 and weighted to be representative of phone owners. Multiple responses were allowed.

a digital loan (Figure 11).¹⁰ In Kenya, 16 percent report having borrowed money to repay a digital loan, while in Tanzania, 4 percent report this. These behaviors fit patterns that are also seen with nondigital credit sources. For example, a

study in Ghana found that microborrowers struggling to repay reported depleting savings and reducing food purchases and—if this was insufficient—turning to debt cycling or borrowing a new loan to pay off an existing loan (Schicks 2011).

¹⁰ The same caveats for reported loan purpose apply for repayment behavior. Money is fungible, and it can be difficult to precisely identify the effect of servicing a particular debt on a household's entire balance sheet.

TRANSPARENCY AND RECOURSE

Transparency of fees and loan terms

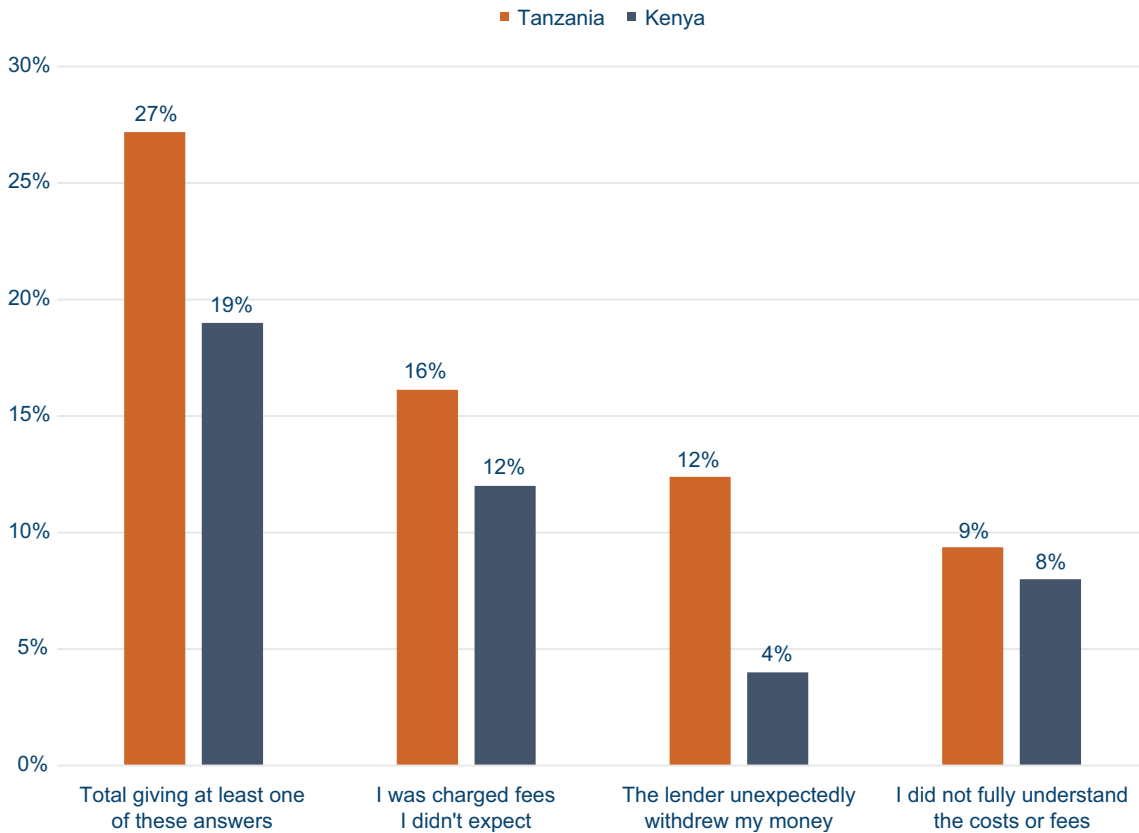
Clear disclosure and transparency of digital credit pricing and terms are critical to ensure borrowers understand their obligations and can make informed decisions when taking out a loan, and they have been recognized as an area of concern in digital finance (McKee, Kaffenberger, and Zimmerman 2015). More than a quarter of digital borrowers in Tanzania reported experiencing poor transparency of fees or terms, as did nearly a fifth in Kenya (Figure 12). Most commonly, these borrowers were charged fees they did not expect, indicating poor disclosure or understanding of fees. Others reported that lenders unexpectedly withdrew money from their

account—likely indicating policies in which lenders could auto-withdraw to retrieve loan payments—and that they did not fully understand the costs or fees.

In both countries, poor transparency was highest among older segments—roughly those older than 46—and lowest among the youngest group of 18–25.

In Kenya, poor transparency was highest among those with farming or casual work as their primary income source (21 percent of each) and lowest among those who depend on transfers from others.¹¹ In Tanzania, only those reporting wage employment as their primary income source reported considerably lower levels of poor transparency (about

FIGURE 12. Percentage of digital borrowers who reported each issue



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June–August 2017 and were weighted to be representative of phone owners. Multiple responses were allowed.

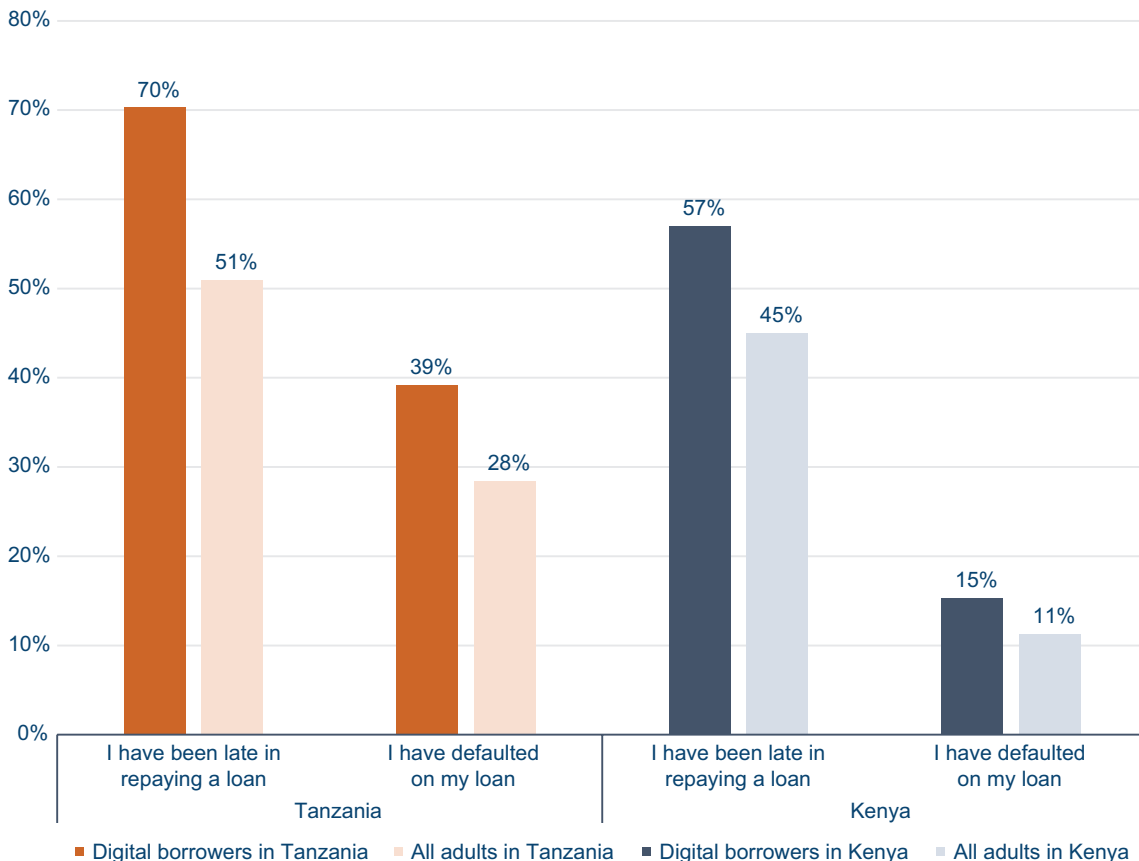
¹¹ Many of whom are students who depend on their parents for income and, therefore, may be better educated.

20 percent), while other segments had similar levels, with 25–28 percent reporting poor transparency.

Poor transparency has been well documented for digital finance products generally (ITU-T 2017), and with digital credit, it can take multiple forms. For example, many digital lenders provide access to credit terms and conditions only through a web link, making this information inaccessible to those without internet access (Mazer and McKee 2017). Further, interest rates or fees are not displayed in a standardized way across lenders, making it difficult for borrowers to compare loan costs (Kaffenberger and Chege 2016).

Digital borrowers in both Kenya and Tanzania who reported poor transparency were also more likely to report having repaid a digital loan late or defaulted on a digital loan (Figure 13). In Tanzania, poor transparency is associated with a 37 percent higher likelihood of having repaid late and 39 percent higher likelihood of having defaulted.¹² This finding is supported by experimentation by CGAP that found improving transparency can also reduce delinquency and improve lenders’ bottom lines. The experiments found, for example, that making costs of credit more salient, by separating loan principle from finance charges when disclosing

FIGURE 13. Late repayment and default among digital borrowers who reported and did not report poor transparency



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June–August 2017 and were weighted to be representative of phone owners.

¹² These are correlations and do not necessarily indicate causation.

costs, reduced defaults. Designing the purchase process so that borrowers are more likely to review terms and conditions also reduced delinquency (Mazer and McKee 2017).

Recourse

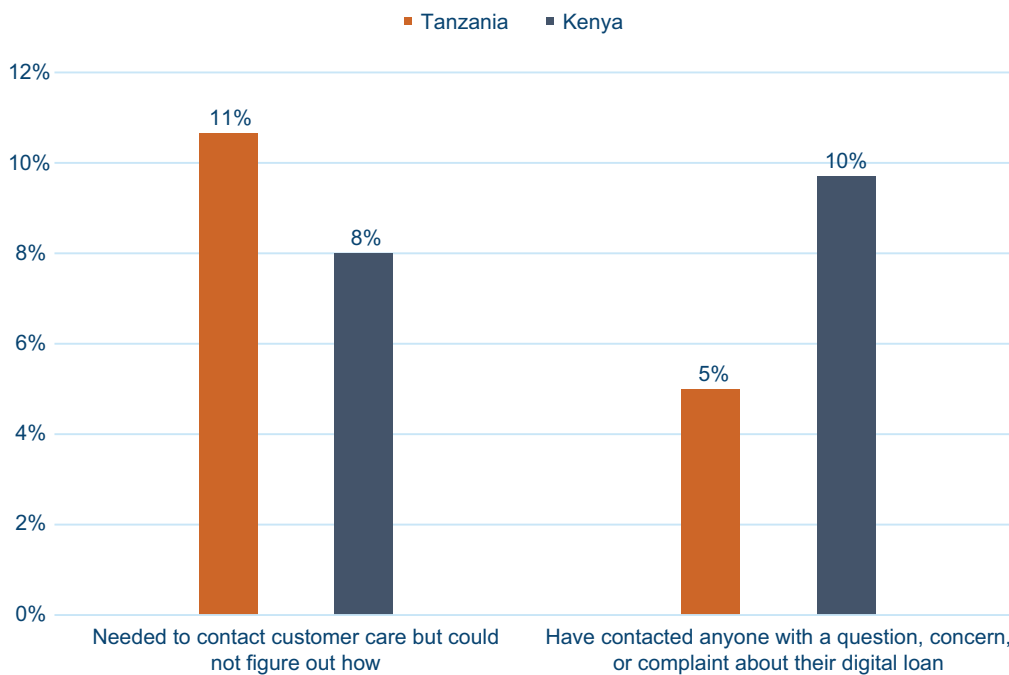
Access to adequate recourse is critical for consumers to be able to seek information and help when needed (McKee, Kaffenberger, and Zimmerman 2015). Timely and responsive complaint resolution mechanisms is one of the Client Protection Principles put forward by the Smart Campaign for digital credit (Rizzi, Barrès, and Rhyne 2017). Only 5 percent of digital borrowers in Tanzania and 10 percent in Kenya reported having contacted anyone with a question, concern, or complaint about their digital loan (Figure 14). This may indicate low demand for contacting customer care or difficulty doing so. In both countries, about 10 percent of

digital borrowers reported needing to access customer care and being unable to figure out how.

In Tanzania, the most common reason for contacting customer care was to complain about information reported to the credit bureau (Figure 15). The second most common reason was to report or complain about an unexpected charge or fee. Both complaints indicate a need for better disclosure of credit reporting policies and loan fees and terms.

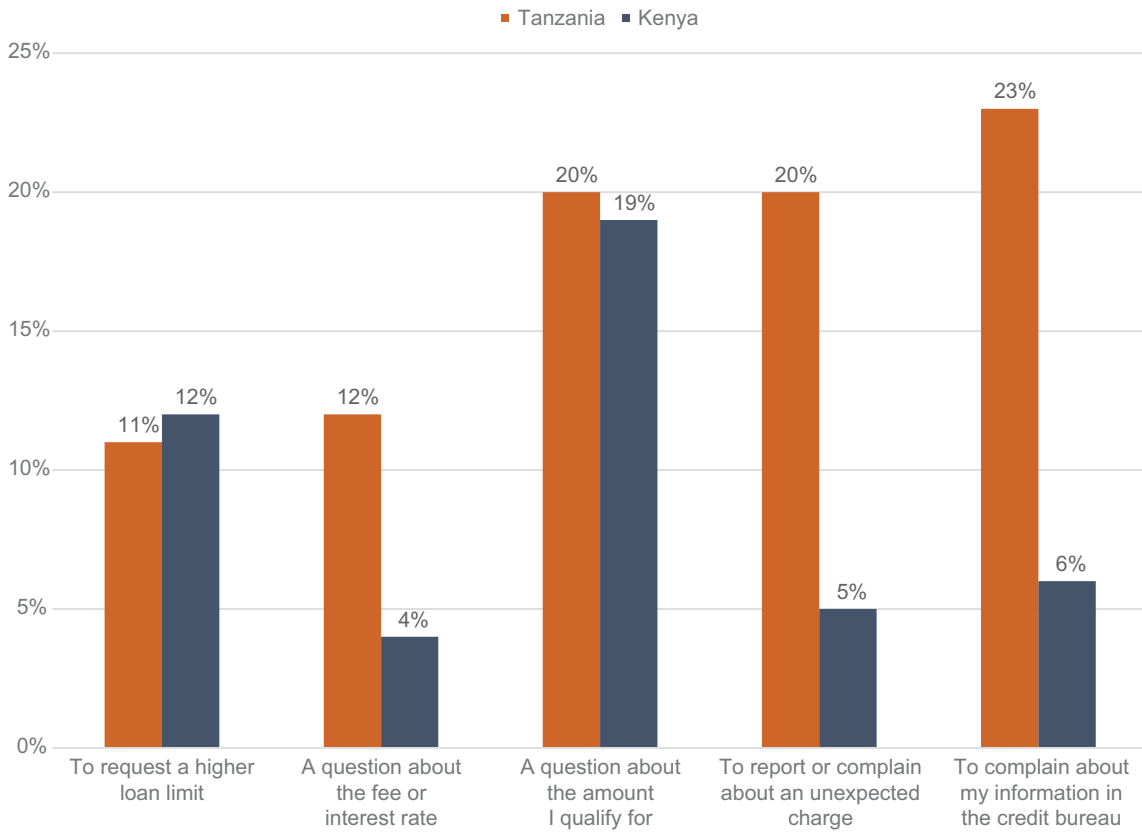
In Kenya, borrowers most commonly contacted customer care to ask about the loan amount they qualify for; the second most common reason is to ask about repayment requirements. Other common reasons to contact customer care are to report a problem with the app or messaging platform, indicating possible technology issues, and to request a higher loan limit.

FIGURE 14. Contacting customer care



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June-August 2017 and were weighted to be representative of phone owners. Multiple responses were allowed.

FIGURE 15. Digital borrowers' reasons for contacting customer care



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June-August 2017 and were weighted to be representative of phone owners. Multiple responses were allowed.

POSITIONING OF DIGITAL CREDIT IN EXISTING FINANCIAL PORTFOLIOS

In both markets, digital credit reaches those who were already more financially included. In Kenya, digital borrowers are 26 percentage points more likely than the typical adult to have a bank account, while in Tanzania they are 19 percentage points more likely (Figure 16). Digital borrowers are also more likely to have national health insurance and to engage with other financial services, including pensions and microfinance.

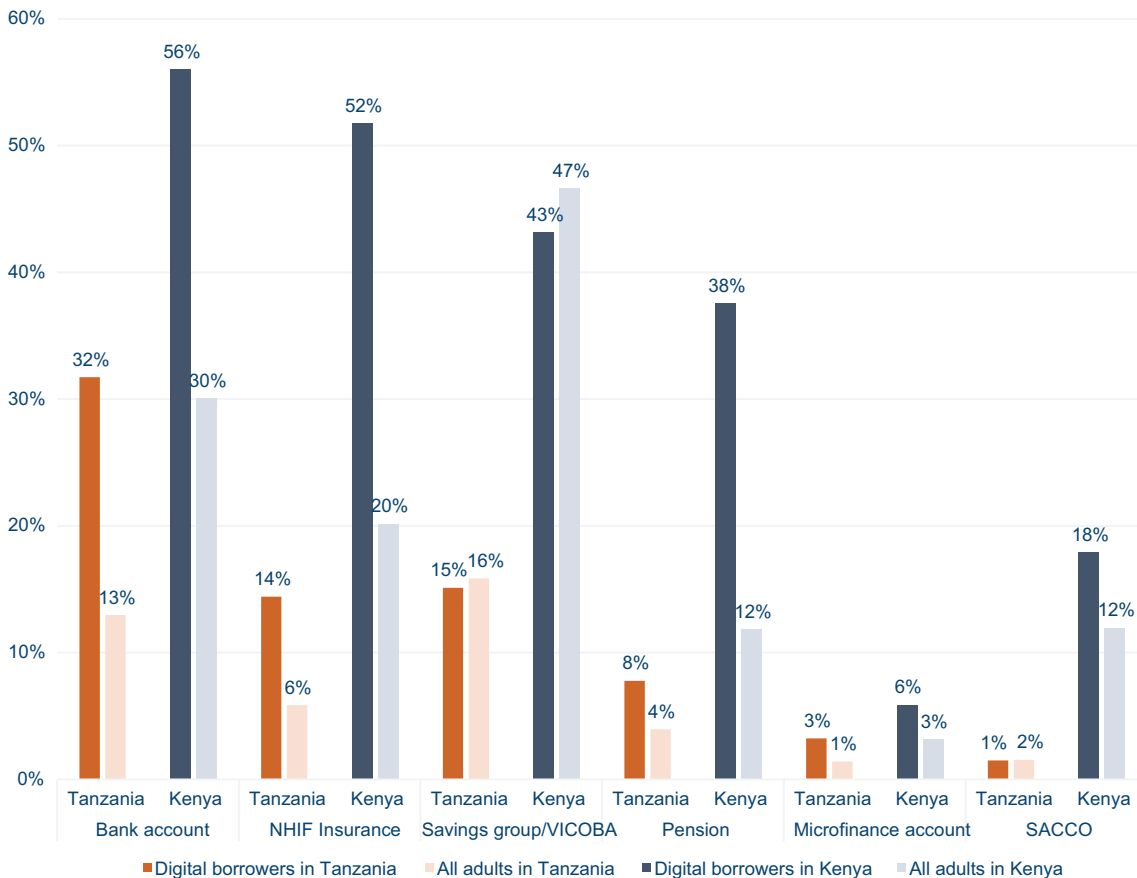
Use of other credit products

In both Kenya and Tanzania, digital borrowers tend to have diversified credit

portfolios. Most digital borrowers had a least one loan outstanding at the time of the survey (including both digital and nondigital sources) (Figure 17). One-third of digital borrowers in Kenya and a quarter in Tanzania were “juggling” two or more loans, often from diverse sources (i.e., digital, informal, and formal).

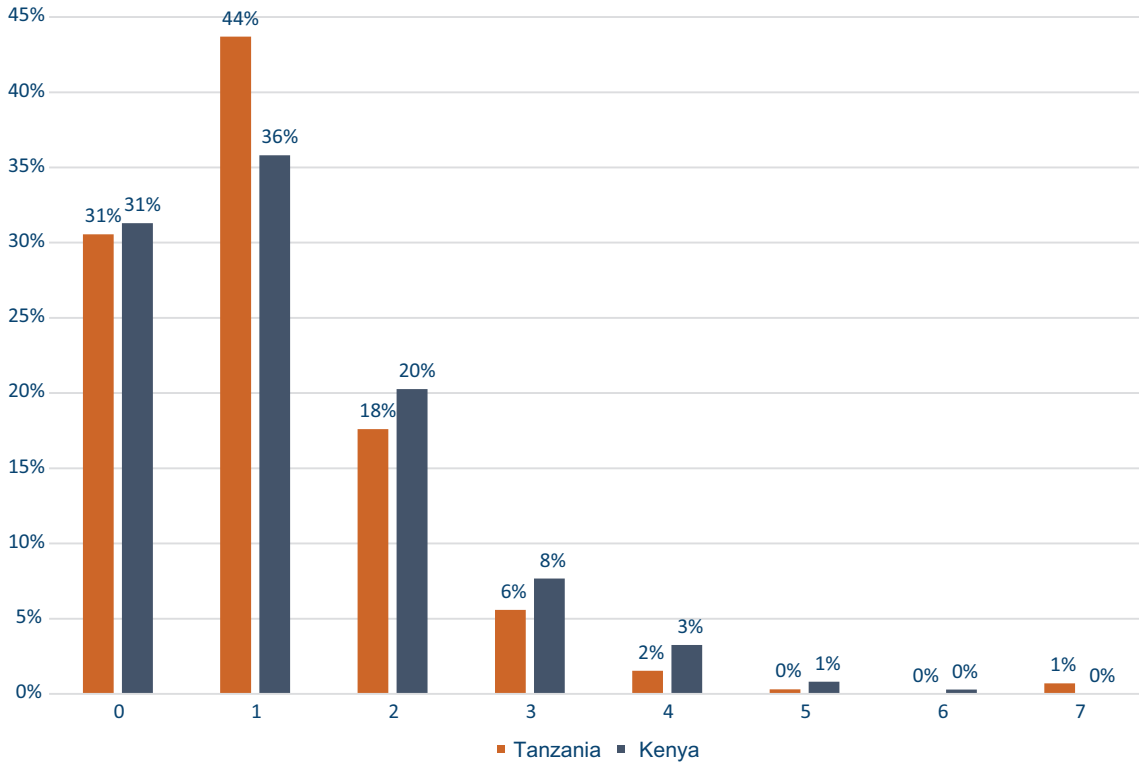
In Kenya, jugglers—those simultaneously repaying multiple loans—are most likely to earn income primarily through self-employment (36 percent are jugglers) or farming (35 percent are jugglers) and are less likely to depend on transfers from others (22 percent).

FIGURE 16. Use of financial services among digital borrowers and all adults



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June-August 2017 and were weighted to be representative of phone owners. Tanzania “all adults” was calculated based on the nationally representative FinScope survey dataset with sample N=9,459. Kenya “all adults” data draw from the FinAccess Survey, a nationally representative survey with N=8,665 respondents.

FIGURE 17. Total number of loan sources (digital and nondigital) currently used by digital borrowers



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June-August 2017 and were weighted to be representative of phone owners. Multiple responses were allowed.

Jugglers are most likely to be between 36 and 45 years old, and least likely to be young (18–25) or elderly (older than 55).

In both Kenya and Tanzania, borrowing from a family member or friend is the most common nondigital loan source and borrowing from a savings group is the second most common (see Figure 18). Bank loans are about twice as common in Kenya (9 percent) as in Tanzania (5 percent), and savings and credit cooperative organizations (SACCOs) are much more common in Kenya than in Tanzania.

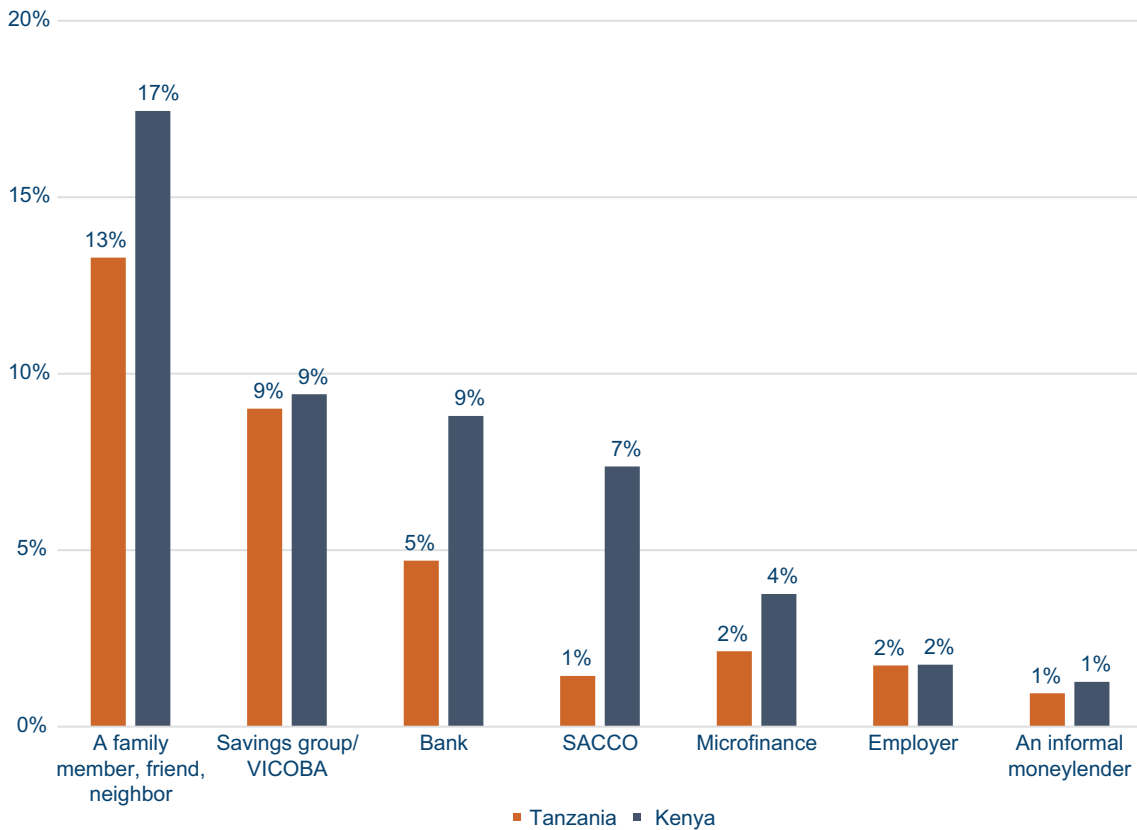
Digital credit as a substitute and complement to other loan sources

In Kenya, 63 percent of digital borrowers say they have reduced their use of at

least one type of (nondigital) loan source since they gained access to digital loans (see Table 5). This suggests some level of a substitution effect. Thirty percent of digital borrowers reported reducing use of shopkeeper credit, 19 percent reduced use of conventional bank credit, and 15 percent reduced use of loans from savings groups and 15 percent from family and friends. These data suggest that, while digital borrowers in Kenya continue to use many types of loans, they use them less often after accessing digital credit and substitute occasionally with digital loans. This likely represents an attempt by digital borrowers to keep their credit portfolio diversified and to avoid relying excessively on a single source of credit.

The Kenya Financial Diaries have shown that low-income Kenyans are often

FIGURE 18. Share of digital borrowers with current loan from each source



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June-August 2017 and were weighted to be representative of phone owners. Multiple responses were allowed.

active money managers who use an average of 17 different financial devices from both formal and informal institutions (FSD Kenya 2015). Different credit solutions are used to tackle different

needs at different times and under different conditions. Borrowers often keep relationships with credit providers open because they may become useful later. Borrowers, therefore, do not seem to

TABLE 5. Digital borrowers who report reduced use of each loan type since gaining access to digital credit (%)

Loan Type	Tanzania	Kenya
SACCO	2	12
Microfinance	3	11
Employer	5	7
Informal moneylender	5	4
Bank	6	19
Savings Group/VICOBA	8	15
Shopkeeper	11	30
Family member, friend, or neighbor	17	15
Total percent who have reduced their use of at least one loan source after gaining access to digital credit	34	63

end financial relationships with their social networks or informal institutions just because they are using digital credit. Rather, they seem to expand their portfolio and favor digital loans when they are the best option.

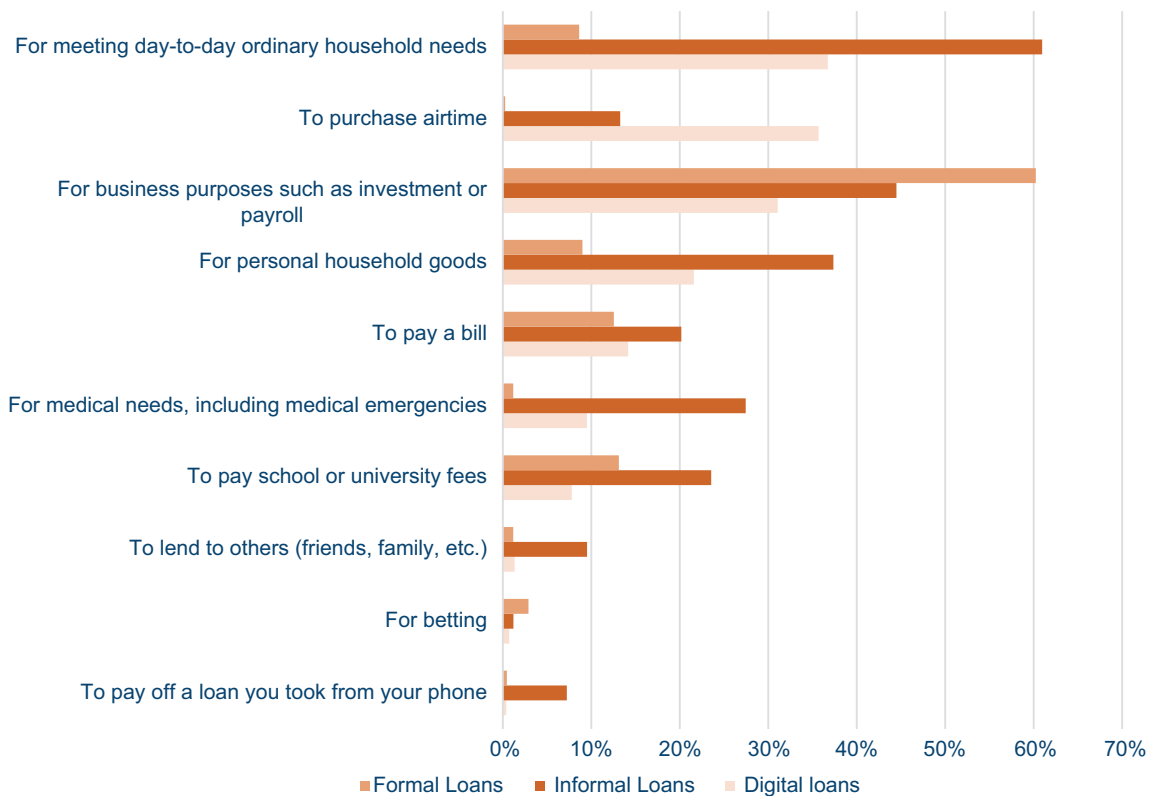
In Tanzania, this dynamic is less obvious, likely because use of other financial services is lower than in Kenya to begin with (see Figure 16). Thirty-four percent of digital borrowers in Tanzania report having reduced their use of other loan sources since accessing digital credit. The main sources affected are loans from friends and family (17 percent of digital borrowers reduced use of these loans) and shopkeeper credit (15 percent). In Tanzania, therefore, digital credit is primarily expanding and complementing the credit available to and used by borrowers, while in Kenya there is more substitution among options.

How different credit sources are used

Different loan sources provide different loan sizes at different costs, and with varying repayment periods, repercussions for late repayment, and other terms and conditions, making each fit for different purposes. Understanding how digital borrowers use digital loans compared to other loan types is instructive for understanding the place digital loans hold in their financial portfolios.

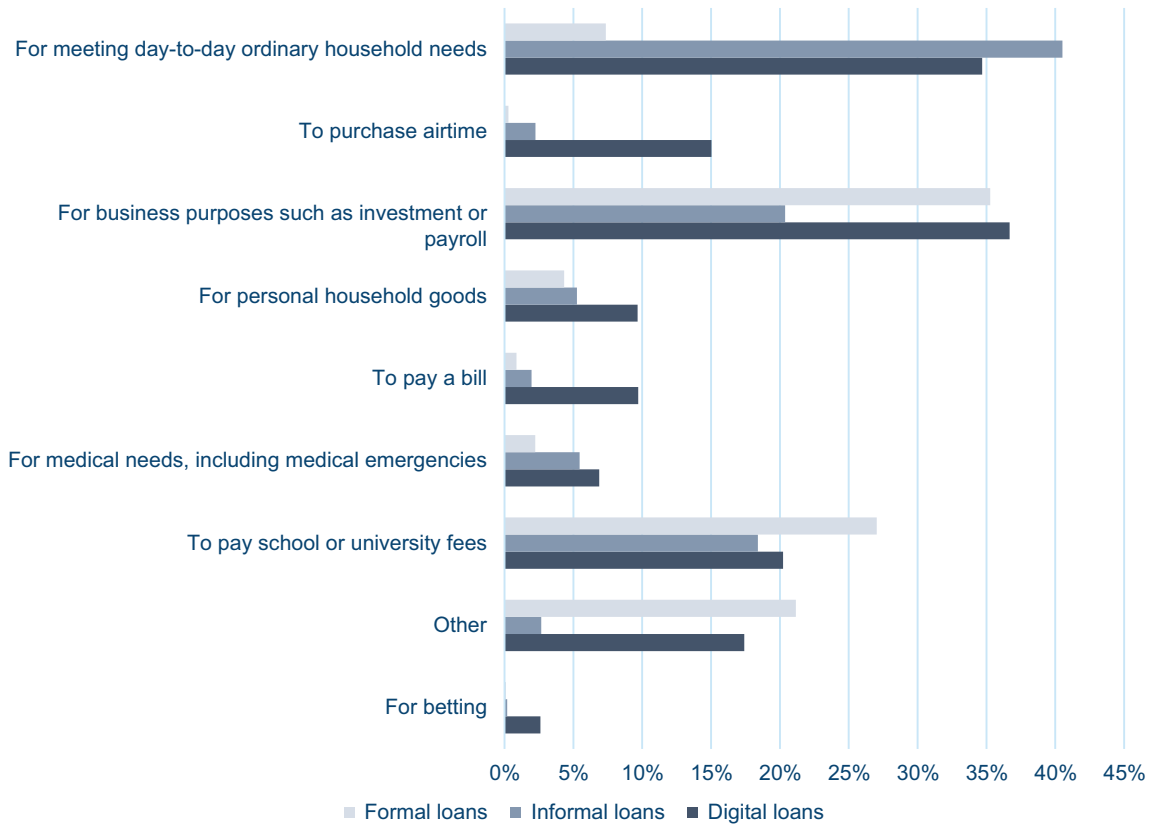
While, in both markets, day-to-day household needs are among the most common reported use case for digital credit, digital borrowers are even more likely to turn to informal sources for these needs rather than to digital sources (see Figures 19 and 20). In Tanzania, the dynamic is similar for business loans; both formal and informal sources are

FIGURE 19. Uses of different loan types, among those who have used each loan type, Tanzania



Source: National phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit, conducted June-August 2017 and weighted to be representative of phone owners. Multiple responses were allowed.

FIGURE 20. Uses of different loan types, among those who have used each loan type, Kenya



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, conducted June-August 2017 and weighted to be representative of phone owners. Multiple responses were allowed.

more commonly used than digital credit. This suggests that while the use of digital credit has expanded rapidly, other sources continue to have advantages.

In Kenya, borrowers report using digital loans and formal loans at similar levels for business purposes. The combination of digital and formal loans for business fits with findings from an earlier study of merchant digital credit, which found that most merchants who took out digital loans used

them to augment bank loans that were not quite big enough—indicating bank loans were the first choice, and digital loans were supplementary for business purposes (Kaffenberger and Nguyen 2017).

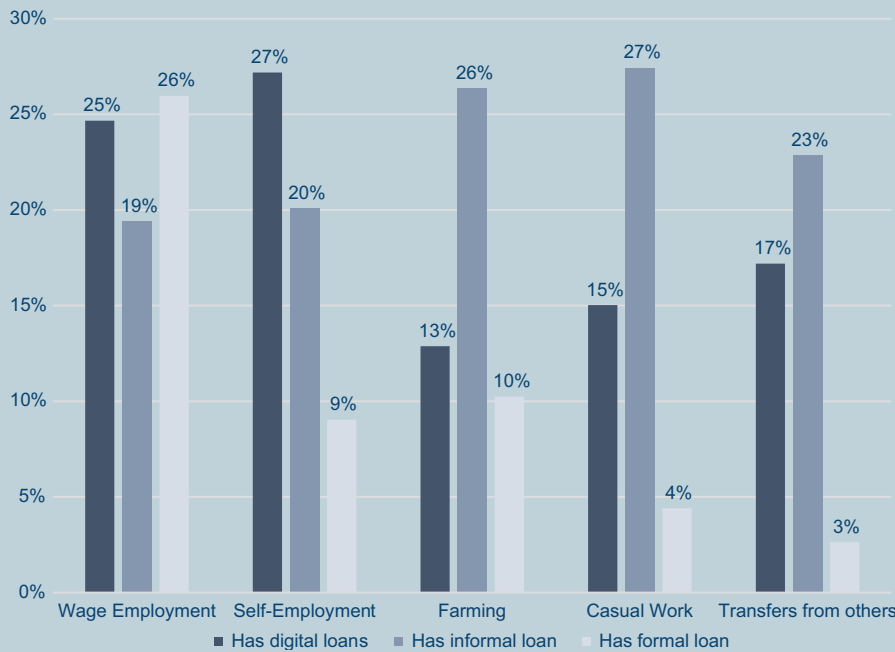
In Tanzania, the only use case where digital loans are more commonly used than either informal or other formal loans sources is for airtime purchases. Box 3 provides additional insights on credit sources and livelihoods in Kenya.

Box 3. Credit portfolios in Kenya

Among all phone owners surveyed—including digital borrowers and nondigital borrowers—livelihoods are an important determinant of credit portfolios in Kenya. Those who primarily earn income from wage employment (12 percent of adults) are the most likely to have a loan from a formal institution (e.g., banks, SACCOs, microfinance institutions) and are the least likely to have a loan from informal sources (e.g., friends, family, savings groups).

One in four phone owners in this wage employment segment also had an active digital loan at the time of the survey. Phone owners who primarily earn income from their own business are most likely to have a digital loan, and they are slightly less likely to use informal loans. Informal loans are prominent among those who primarily receive income from farming, casual work, or transfers from others. However, 10 percent of the farming segment also accesses formal loans, especially from credit cooperatives.

FIGURE B3-1. Among phone owners, percentage with current loan from each type of loan source, by primary income source, Kenya



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, conducted June-August 2017 and were weighted to be representative of phone owners. Multiple responses were allowed. These questions were not asked of nondigital borrowers in Tanzania, so similar comparisons cannot be drawn.

DIGITAL SAVINGS

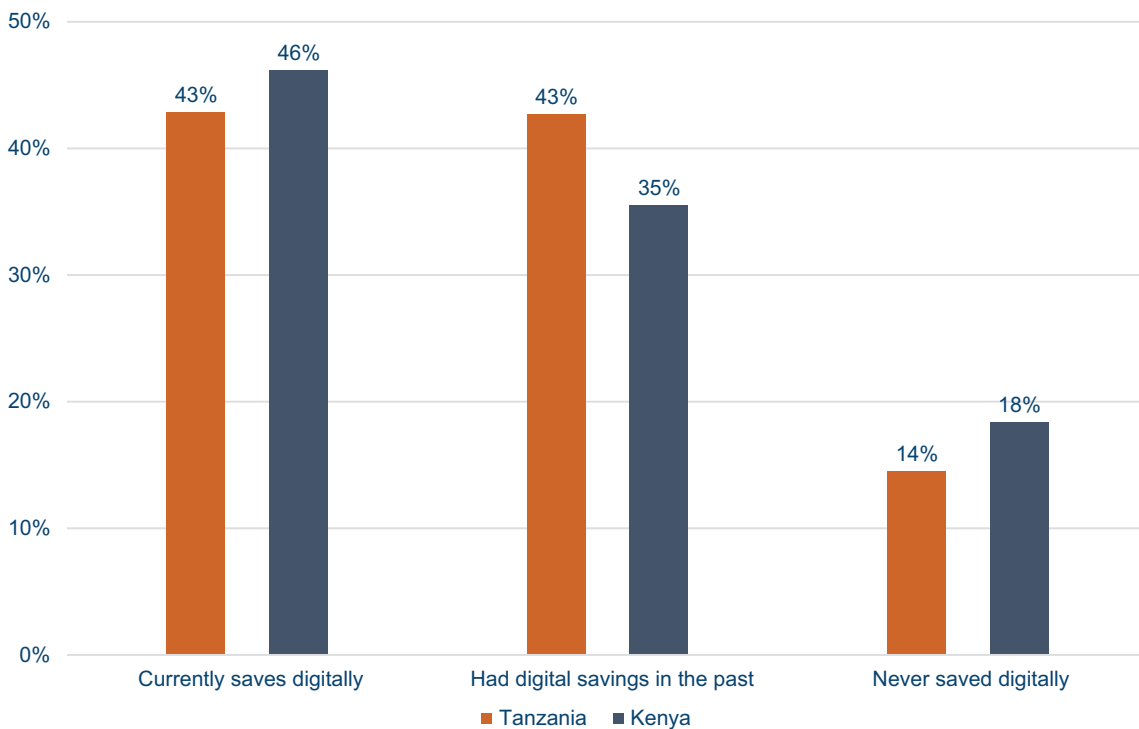
The surveys also examined use of digital savings accounts, which digital lenders offer in both markets. Regulated products (those that are operated by, or through a partnership with, a regulated financial institution, such as a bank) offer formal savings accounts. An example of a regulated product is M-Shwari, which provides mobile savings accounts with CBA, a regulated bank. Digital savings accounts allow customers to save and earn interest digitally, and data on savings behaviors are inputs to credit assessments. Nonregulated lenders, such as app-based lenders and nonbank institutions that operate outside the purview of central banks cannot provide these formal accounts. However, digital financial services users often treat mobile money wallets as a means for longer-term stored value, much like

a traditional savings account from a regulated institution.

The Kenya survey asked digital borrowers about their use of formal digital savings accounts offered by M-Shwari (with CBA), KCB M-Pesa (with KCB Bank), Equity Eazzy savings (with Equity Bank), and M-Coop Cash (with Co-Operative Bank). In Tanzania, only M-Shwari is offered through a formal bank, CBA, and therefore digital borrowers were also asked about saving digitally with Tigo Pesa and Airtel Money, both of which would involve saving and earning interest in a mobile wallet.

Just under half of digital borrowers in both markets currently save digitally (see Figure 21). Nearly all digital borrowers in both markets have tried

FIGURE 21. Use of digital savings among digital borrowers



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June-August 2017 and were weighted to be representative of phone owners. Multiple responses were allowed.

saving digitally at some point, with less than a fifth in each country having never tried it.¹³

Looking at digital savings by provider, M-Shwari dominates the market in Kenya, with 75 percent of digital borrowers having saved with it at some point. KCB M-Pesa has much lower savings use, at 26 percent (see Figure 22). In Tanzania, the market is more diverse, with about half having saved with M-Pawa, 40 percent with Tigo Pesa, and 33 percent with Airtel Money (see Figure 23). Some providers require all customers to make an initial deposit in the mobile savings account to qualify for a loan.

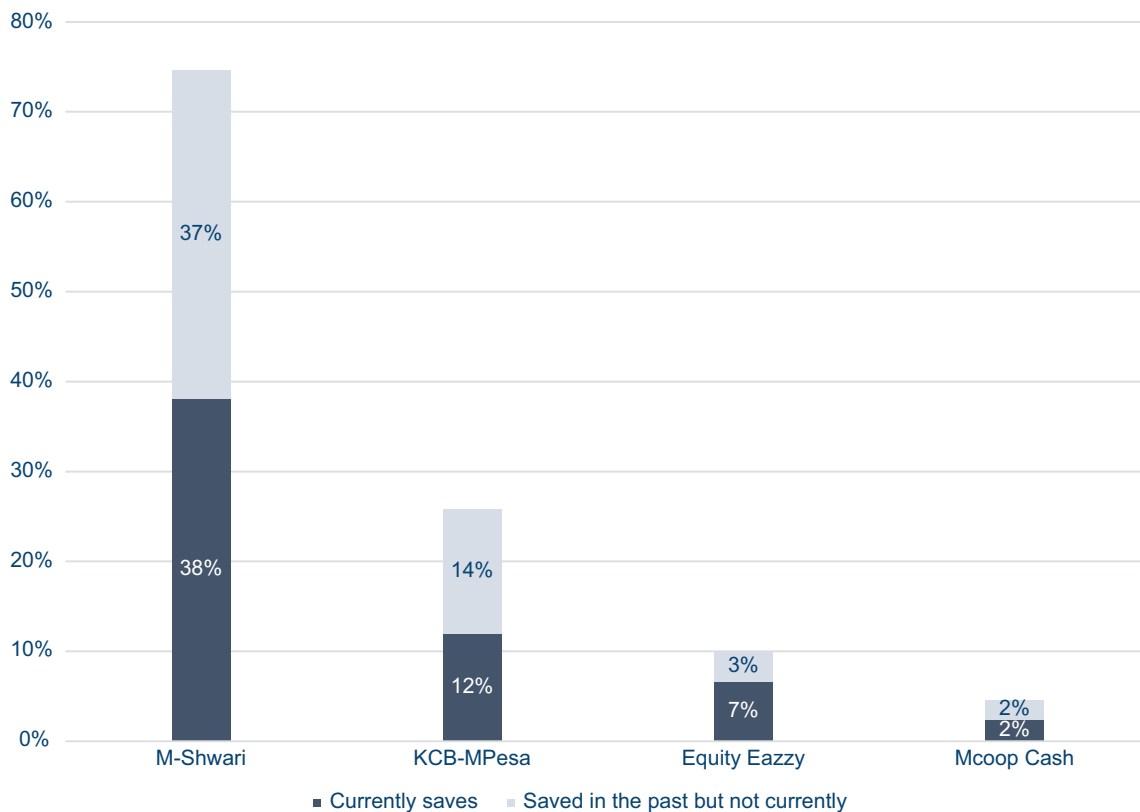
In Kenya, a slightly higher percentage of men than women had some money in

digital savings at the time of the interview (48 percent of men, 43 percent of women). A higher percentage of women had saved digitally in the past (39 percent), but not at the time of the survey (33 percent).

Respondents report using digital savings for a diverse set of purposes (see Figure 24). A third of borrowers in Tanzania, and less than a fifth in Kenya, were using digital savings for business purposes. Basic consumption needs, including for household and personal goods, were common reasons in both markets.

Saving to access digital loans is an important underlying motivator in both markets. Saving to “increase the loan amount” and to “access a loan” are both among the

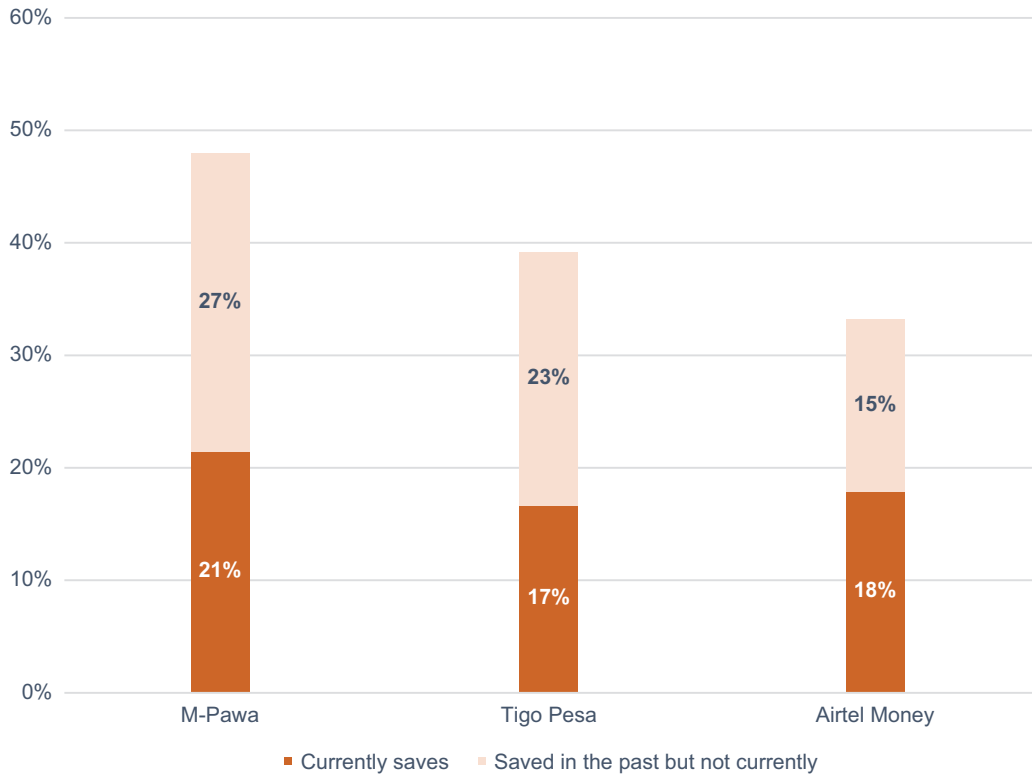
FIGURE 22. Use of digital savings among digital borrowers, by provider, in Kenya



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, conducted June-August 2017 and weighted to be representative of phone owners. Multiple responses were allowed.

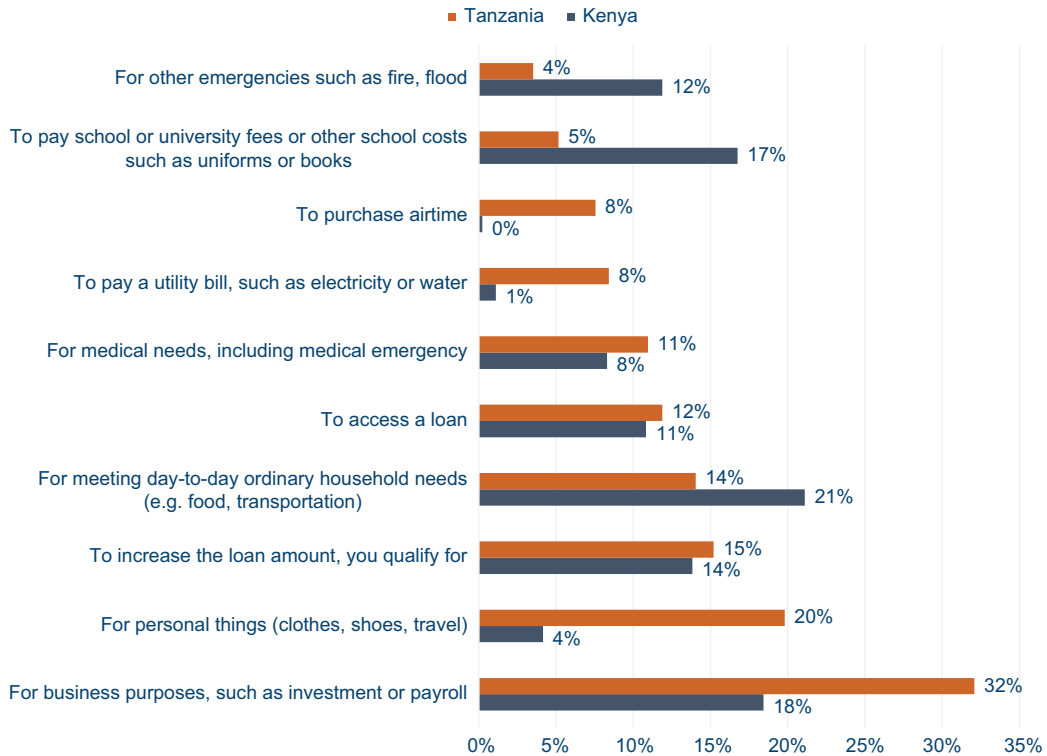
¹³ Some products, including M-Shwari, require an initial deposit into the savings account to access a loan, but many borrowers may not consider this to be “savings” if they deposited only to access a loan. See Kaffenberger (2014).

FIGURE 23. Use of digital savings among digital borrowers, by provider, Tanzania



Source: National phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit, conducted June-August 2017 and weighted to be representative of phone owners. Multiple responses were allowed.

FIGURE 24. Self-reported reasons for saving among digital borrowers



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June-August 2017 and were weighted to be representative of phone owners. Multiple responses were allowed.

top five reasons for digital savings in both markets. This behavior was also identified soon after M-Shwari's launch, when it was reported that potential borrowers would make a deposit and soon after withdraw money from digital savings accounts in hopes of increasing their loan limits (McCaffrey, Obiero, and Mugweru 2013). While credit scoring algorithms can use savings behavior as an input in

determining loan qualifications, the algorithms use many other data points and this is far from a guaranteed way to increase loan sizes (Kaffenberger 2014).

Saving for education and emergencies of various types (medical, fire, theft, etc.) play important roles in Kenya. In Tanzania, saving for bill payments is much more common than in Kenya.

IMPLICATIONS

Millions of Kenyans and Tanzanians who had been excluded from formal credit markets now have access to technology that can deliver microloans within seconds and build a credit history that can, in theory, enable access to larger and cheaper loans. This represents a tremendous step toward formal financial inclusion, but it is critical to understand the economic and social outcomes associated with the use of digital credit and balance the benefits of these new credit sources with potential risks. The survey findings presented in this report suggest several key messages for providers, policy makers, investors, and donors on how to enable responsible credit access as digital credit continues to grow and expand into new markets.

Adapt services

Despite growing market competition, digital credit remains mostly out of reach or unused by the most vulnerable groups, such as those relying on farming and casual work as their primary income sources, that are characterized by irregular cash flows. If digital credit is to serve these populations, services would need to be appropriately and adequately adapted, for example, through more nuanced algorithms, flexible repayment structures, timeframes suited to managing the uncertainty and the seasonality of rural livelihoods, and pricing that considers borrowers' ability to repay. This requires deeper understanding of these segments' financial lives, the key risks they face, and their day-to-day liquidity needs.¹⁴ Further, digital credit may prove not to be an appropriate solution for these segments. In such cases, the focus should turn to other solutions for building resilience and meeting liquidity needs.

Identify graduation pathways

Another opportunity in the digital credit market is to identify clearer and more direct graduation pathways for borrowers who build positive credit histories. Survey data and interviews with providers suggest that high volumes of digital credit are driven by a segment of active users, usually small traders and entrepreneurs, who borrow multiple times every month, or even every week. There is little evidence that these borrowers have opportunities to graduate to more affordable loans with longer repayment periods. Many borrowers, therefore, remain stuck with low-value, short-term, expensive credit, and they could potentially benefit from loans with terms better designed for productive uses.

Improve transparency and consumer protection

A third important area is to improve the monitoring mechanisms for transparency and consumer protection in the digital credit marketplace. Regulators and supervisors need better tools to track potential risks, including poor transparency, over-indebtedness, and multiple borrowing. Use of phone surveys such as those cited in this paper are relatively low-cost and can help regulators spot concerns. Auditing lenders' loan disclosures can also enable regulators to identify problematic disclosure and transparency practices.

Credit reporting requirements and credit bureau functioning may also need to be updated. Credit bureaus are ill-equipped to manage the speed of digital credit. Many customers borrow and repay within a short time, but digital

¹⁴ Some of which could be gained through analyzing existing data sources such as CGAP's Smallholder Financial Diaries (<http://www.cgap.org/data/data-financial-diaries-smallholder-families>).

lenders submit data to CRBs monthly, so lenders accessing CRB data cannot assess borrower risk in real time. This can lead to lending more than a borrower can repay given other existing loan commitments. As the market develops, regulators need to ensure an appropriate infrastructure for data submission and continuous monitoring of debt stress among borrowers.

Moreover, between 2015 and 2018 many unregulated lenders who operate beyond the purview of any regulatory authority entered the markets in both Kenya and Tanzania. Regulations should be extended to cover all lenders, including currently unregulated ones, so that all borrowers have the same protections. In May 2018, Kenya's Finance Ministry proposed a draft bill that would establish a Financial Sector Ombudsman, a Financial Sector Tribunal, and a Financial Markets Conduct Authority, the latter of which would, among other duties, license and oversee digital lenders (Omondi 2018; Government of Kenya 2018). These changes could significantly

improve consumer protection and financial stability in Kenya.

Improve the role of development partners

Development partners can play a greater role in mitigating risks and ensuring that digital credit markets grow responsibly. Investors can leverage their influence over the industry by supporting responsible actors through their investment decisions and guiding investees through active engagement. In June 2018, the Responsible Finance Forum launched Investing in Responsible Digital Financial Inclusion Guidelines, which provide guidance to development finance institutions and other investors (RFF 2018). Donors and other development actors can work with market facilitators and country regulators to support development of regulatory and supervisory frameworks that adequately address existing and emerging risks. Donors and investors should work to ensure their funding is minimizing negative consumer outcomes.

APPENDIX 1. SURVEY METHODOLOGY

Surveys in both countries were conducted by phone and followed the methodologies described in this annex.

Tanzania

In Tanzania, the sample was drawn using a random digital dial (RDD) technique—a common approach for large-scale phone surveys. The approach begins by randomly generating a list of possible mobile phone numbers from the combination of numbers available. The raw list of possible numbers is then “pulse-checked” using an autodialer to produce a list of active mobile phone numbers. Finally, the list of active numbers is stratified based on mobile service provider distribution to obtain a representative sample. Enumerators call the phone numbers on the final list and administer the survey. This is done until the desired sample size is reached. Each number is redialed up to three times if the respondent is not available or does not answer the initial calls.

A total of 4,574 respondents completed the survey; 1,132 of them had used digital credit. The final sample of 4,574 respondents was weighted on demographic characteristics to be representative of adult mobile phone owners in the country. Innovations for Poverty Action conducted the fieldwork in June-August 2017.

To compare digital credit users with all Tanzanian adults, select data points from the 2017 FinScope dataset were also analyzed.¹⁵ The FinScope data were collected through a nationally representative, in-person household survey. The survey collects data on demographics such as gender breakdown and education attainment of Tanzanian adults as well as mobile money use, bank account

use, and more. These data were used to draw comparisons, such as identifying how the gender or education breakdown for digital credit users differs from the Tanzanian adult population overall.

Kenya

In Kenya, FSD Kenya partnered with the Central Bank of Kenya (CBK) and the Kenya National Bureau of Statistics (KNBS) for the survey and sampling approach. The phone survey used the 2016 FinAccess Household Survey respondents as a sampling frame. The FinAccess survey is a nationally representative, in-person, household survey that includes 8,665 respondents. Of those interviewed for the FinAccess survey, 85 percent consented to be contacted for follow-up surveys or questions. The sample for the phone survey was selected randomly from a pool of these respondents. As in Tanzania, the sample of respondents to the phone survey was weighted to be representative of adult phone owners.

The phone survey included 3,150 respondents; 1,037 of them had used digital credit. IPSOS conducted the fieldwork in Kenya in mid-2017. Moreover, to gain a deeper understanding of the market, FSD Kenya partnered with some of the largest digital credit providers in Kenya to interview and analyze an additional sample of approximately 5,000 recent digital credit borrowers from the lenders’ customer lists. These data are covered by a nondisclosure agreement and are not shown in this report. However, insights from this additional research and from the discussions with providers were used to improve the interpretation of the findings and identify relevant implications for policy makers, industry players, and researchers.

¹⁵ Because the phone survey includes adults with access to a phone only, FinScope provides a better comparison to all adults in Tanzania. For information on FinScope, see Financial Sector Deepening Trust (n.d.).

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