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Review of Digital Credit Products in India, Kenya, Nigeria, Tanzania, and Uganda

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Abstract

A "new wave" of digital credit products has entered the Digital Financial Services (DFS) market in recent years. These products differ from traditional credit by offering loans to borrowers that can be applied for, approved, and disbursed remotely (often without any brick-and-mortar infrastructure), automatically (generally minimizing or eliminating person-to-person interaction), and instantly (often in less than 72 hours). Digital credit also increasingly considers creditworthiness by using nontraditional data—ranging from mobile phone activity to utility payments and social media data—potentially allowing for loans to populations previously unable to access bank credit.

We conducted a review of digital credit products in India, Kenya, Nigeria, Tanzania, and Uganda, focusing on products established within the last 10 years that offer loans to individuals or small businesses (rather than groups or large businesses). This report summarizes findings from a review of 68 digital credit products in these five countries, identifying common technology platforms, business models, and loan terms used. In addition, we outline major trends in partnerships and major customer segments for digital credit products, and summarize the types of alternative creditworthiness data used to score potential borrowers. We then present early information about digital credit default rates and potential risks to the consumer as the market develops.

Some features of digital credit products, such as interest rates and repayments lengths, differ by geography: Indian products, on average, typically offer longer repayment terms and lower interest rates than African products. Due to limited loan volumes and performance data it is currently unclear how these digital credit products might impact borrowers and markets, but we find that the digital credit products reviewed often have relatively high interest rates and charge multiple fees, which may adversely affect borrowers – at least relative to less costly products they might access. Most products require borrowers to provide social media and other personal information to receive loans, potentially supporting individuals without a formal credit history to access formal loans but raising privacy concerns. In addition, we find that 15 of the products we identified specifically target underserved populations such as low-income populations and women, and many target small business owners. Many of the products are very recent (16 products are less than a year old or in the planning stage) so their uptake and impact among target populations remains to be seen, though some provider claims on client numbers suggest widespread use.

Introduction

Consumers in developing countries have recently gained access to a "new wave" of financial products that can be broadly categorized as digital credit—loans that rely on technology to register, score, approve, and distribute funding to borrowers. The Groupe Spéciale Mobile Association (GSMA) defines digital credit as "a credit service which is available on basic mobile devices, and allows customers to borrow an unsecured loan and repay within a specific timeframe via mobile money" (GSMA, 2015a). According to a 2016 report by the Consultative Group to Assist the Poor (CGAP), digital credit differs from traditional credit in three key ways:

- Digital credit is **instant**: the time taken from loan application to approval to disbursement is minimal, often less than 24 hours;
- It is **automated**: creditworthiness and loan decisions are determined by automated processes rather than by people; and
- It is **remote**: interactions between lenders and borrowers take place over digital channels, rather than in person (Chen & Mazer 2016).

Like mobile money products in general, digital credit products may reach customers that banks traditionally do not, including rural consumers who live far from brick-and-mortar bank branches or from remote banking agents, marginalized populations lacking documentation to access formal financial services, and poor populations without the resources or time to meet formal banking requirements. Digital credit products may also provide unbanked populations with an alternative to informal moneylenders and local savings groups as sources of credit (Parada & Bull, 2014; Manyika et al., 2016; Mujeri, 2015).

This "new wave" of credit products includes the heavy use of non-traditional data such as mobile phone activity, social media data, and mobile money account transactions in algorithms that estimate creditworthiness. As a result, digital credit has the potential to provide a new form of access to credit for populations who do not have traditional credit scores or who may be deemed too risky by traditional lenders (Parada & Bull, 2014; Costa et al., 2016).

One of the first reported examples of this "new wave" of credit products was M-Shwari, a Kenyan product that began offering small, unsecured loans using Safaricom's M-PESA platform in 2012 (Cook & McKay 2015). M-Shwari offers personal loans via the user's M-PESA mobile money account; users can *instantly* apply for a loan on their current phone, are *automatically* scored based on the data they provide, and if approved, funds are *remotely* dispersed electronically no matter where the user is physically. While other "new wave" digital credit products, including Biz2Credit (targets small businesses only) and World of Lending (Peer-to-Peer model) in India and M-Pepea (only available to full-time employees) in Kenya, were developed earlier, M-Shwari has minimal restrictions and barriers to access (i.e. it only requires individuals to have a feature phone and a registered account with M-Pesa) (Chen & Mazer 2016). No estimate is available for the total number of digital credit products worldwide.

This report presents an overview of digital credit products in India, Kenya, Nigeria, Tanzania, and Uganda. It focuses on products established within the last 10 years and that offer loans to individuals and small businesses, rather than groups or large businesses.

The remainder of this report is structured as follows. We first describe the review methods and sample of programs by country. We then summarize findings from a review of 68 digital credit products identified in India, Kenya, Nigeria, Tanzania, and Uganda, aggregating information on the technology platforms, business models, loan terms, customer segments, and credit scoring data used by these products, and comparing these

characteristics across countries. We conclude by presenting a summary of findings on digital credit products, including early information about digital credit default rates and potential risks to consumers.

Methods

The categorization of digital credit products used in this report is derived from CGAP's definition of digital credit as instant, automated, and remote (Chen & Mazer 2016). We define "instant" as products that take no more than 72 hours to approve and disburse loans. "Automated" includes the use of automatic processes to determine credit-worthiness but may also include live professionals who make the final decision to approve or deny loans. "Remote" includes products with remote services, but we did not eliminate products that require an initial in-person registration. As additional criteria, we only considered products that are new, or were released within the past 10 years, and we limited searches to products that are focused on individual customers, eliminating group lending platforms or large business loans.

We conducted a series of Google searches for recent literature on digital credit products in India, Kenya, Nigeria, Tanzania, and Uganda. We used the following search strings to identify relevant websites and products:

1. *General* — "[Country Name]" AND ("mobile money" OR "mobile financial service" OR "digital financial service" OR "digital credit" OR "instant loan")
2. *Products* — "[Country Name]" AND ("loan products" OR "loan fees" OR "default procedure" OR "loan limits" OR "loan term" OR "mobile loans" OR "P2P lending" OR "P2P digital lending" OR "instant lending" OR "P2P mobile lending")
3. *Specific Firm* — "[Firm Name]" AND ("terms & conditions" OR "partners" OR "bank partners" OR "non-financial partners" OR "mobile technology platform")

Following these searches, we cross-checked the resulting list of digital credit products with the database of global mobile money operators made available by the Global Systems Mobile Communications Association (GSMA) through their Mobile Money Deployment Tracker (http://www.gsma.com/mobilefordevelopment/tracker). We reviewed each mobile money product in this report to see if the company offered digital credit, as mobile money providers can encompass a range of digital financial services (savings, bill pay, etc.).

The final sample included 68 products that met our definition of digital credit (Table 1). Two products are offered in multiple countries, L-Pesa (Kenya, Tanzania, and Uganda) and Mkopo Rahisi (Tala) (Kenya and Tanzania), but all of the remaining products are country-specific. This geographic concentration of products may be due to partnerships or identity verification requirements. Products generally use some sort of government-issued ID to verify a borrower's identity, and mobile money providers (a common partner for digital credit providers) typically operate within one country. While we searched for any digital credit products introduced in the five focus countries within the past ten years, the oldest product we identified is from 2007. Most products were established from 2012-2015 (36 products), and 16 products are either less than a year old or in the planning stage of development.

Table 1. Summary of Sample of Digital Credit Products Identified

Country	Product Name	Provider	Year	Primary Source
India	**Bajaj Finserv**	Bajaj Finserv		Bajaj Finserv Website
	Bitbond	Bitbond		Bitbond Website
	Biz2Credit	Biz2Credit	2007	Biz2Credit Website
	Capital First	Capital First		Capital First Website
	Capital Float	Capital Float	2013	Capital Float Website
	CashCare	CashCare	2015	Cash Care Website
	Cashe	Cashe	2016	Web India October 2016

	EarlySalary	Social Worth Tech.	2015	EarlySalary Website
	Fair Cent	Fair Cent		Fair Cent Website
	Finomena	Finomena		Finomena Website
	Flexiloans	Flexiloans Technology		Flexiloans Technology Website
	Gyandhan	Gyandhan	2016	Gyandhan Website
	i-Lend	i-lend.in	2012	i-Lend Website
	i2ifunding	i2ifunding	2015	i2ifunding Website
	India Lends	India Lends	2015	India Lends Website
	India Money Mart (IMM)	India Money Mart	2015	India Money Mart Website
	Indifi	Indifi	2015	Indifi Website
	Instakash	Instakash	2015	Instakash Website
	InstaPaisa	InstaPaisa	2015	InstaPaisa Website
	Kissht	Kissht	2015	Kissht Website
	KrazyBee	KrazyBee	2016	KrazyBee Website
	Lazypay	PayU		Lazypay Website
	Lendbox	Lendbox	2016	Lendbox Website
	LendDenClub	LendDenClub	2016	LenDenClub Website
	Lendingkart	Lendingkart Tech. Pvt. Ltd.	2014	Lendingkart Website
	LoanMeet	LoanMeet	2015	LoanMeet Website
	Money in Minutes	Capital Infussion Private Ltd.	2016	Money in Minutes Website
	NeoGrowth	NeoGrowth Credit Pvt. Ltd.	2013	NeoGrowth Website
	Qbera Personal Loan	Qbera		Qbera Website
	Quick Credit	Quick Credit	2016	Quick Credit Website
	Quiklo	Accel	2016	Quiklo Website
	Rupaiya Exchange	Rupaiya Exchange		Rupaiya Exchange Website
	Rupeelend	Ruppeelend	2015	Rupeelend Website
	SlicePay	SlicePay	2016	SlicePay Website
	Vote For Cash	Vote for Cash	2015	Vote For Cash Website
	World of Lending	World of Lending	2010	World of Lending Website
	ZestMoney	ZestMoney	2016	ZestMoney Website
Kenya	Branch Loan	Branch	2015	Branch Website
	Eazzy Loan	Equitel	2015	Equitel Website
	Eazzy Loan Plus	Equitel	2015	Soft Kenya February 2016
	Grow	Kopo Kopo	2012	Tech Cabal December 2015
	KCB M-Pesa	KCB Bank Kenya	2015	KCB M-Pesa Website
	Kopa Cash	Jumo	2015	Kopa Cash Website
	M-Pawa Sacco	Stima Sacco	2015	IT News Africa May 2015
	M-Pepea	Raven Ltd.	2011	SlideShare November 2011
	M-Shwari	Safaricom	2012	M-Shwari Website
	Mjiajiri	Mjiajiri	2016	Mjiajiri Website
	Mobiloans	Micromobile	2013	Micromobile Website
	Okoa Stima	Safaricom	2015	Okoa Stime Website
	Pesa na Pesa	AVLC Group	2015	Pesa na Pesa Website
	Pesa Pata	Paddy Micro Invest.	2013	Pesa Pata Website
	PesaZetu	PesaZetu	2015	PesaZetu Website
	Saida	Greenshoe Capital	2015	Saida Website
	Get Bucks	Get Bucks		Get Bucks Website
	Solvesting	Solvesting	2014	Solvesting Website
Nigeria	Aella Credit	Aella Credit	2015	Aella Credit Website
	Diamond Y'ello Account	Diamond	Planned	Diamond Y'ello Website
	KiaKia	KiaKia Bits Ltd	2015	KiaKia Website
	Lidya	Lidya	Planned	Connect Nigeria November 2016
	Paylater	One Finance		Paylater Website
	Social Lender	BitCom		Social Lender Website
Tanzania	M-Pawa	Vodacom	2014	M-Pawa Website
	Nivushe	Tigo	2016	Tigo Nivushe Website
	Timiza Cash	Airtel	2014	Timiza Cash Website
	Timiza Wakala	Airtel	2015	All Africa August 2016

Uganda	MoKash	MTN	2016	MoKash Website
Multiple	Mkopo Rahisi (Tala)	Mkopo Rahisi (Tala)	2016	Tala Website
	L-Pesa	L-Pesa		L-Pesa Website

After identifying relevant products, we developed a coding framework to guide a review of publicly available information about their characteristics. We used this framework to systematically record data on digital credit products' repayment period, loan size, annualized interest rate (APR), technology channel used (mobile app or website), transaction fees, partnerships, and customer segments. The coding framework is included in Appendix A. We coded each product's attributes drawing first on the company's website and then moving on to non-primary sources including articles on business models and technology profiles, product and company blogs, and client reviews. As findings for credit products may draw from multiple sources, we do not typically refer to specific sources in the text of the report, though these sources are recorded in the accompanying spreadsheet.

The following sections report on trends in the digital credit products in Table 1, and compare trends in the five focus countries.

Technology Platforms

The "new wave" of digital credit is reaching consumers through digital channels rather than requiring customers to visit a bank branch or a banking agent. Indeed, all 68 products we identified used some form of digital technology as a platform. The most common technology platform for the products is **internet websites**, used by 37 of 68 products. Of these 37 products, 32 are from India.

Eighteen of the 68 products are accessed via **feature phones**—or non-smart phones—that do not have access to mobile internet service, such as 3G. Feature phone platforms can operate via SMS, SIM card toolkit, or unstructured supplementary service data (USSD). SMS, SIM toolkits, and USSD services are also available on smart phones. Six of the 18 products accessed through feature phones specifically target low-income populations. USSD is considered the best option for reaching low-income customers because of ease of deployment for the provider, low cost to both providers and customers, broad compatibility with a large number of handsets, increased security, and ease of user experience (Hanouch & Chen 2015). SMS and SIM toolkits are also more accessible for low-income users than products that require the use of a smart phone, though SMS has decreased usability and security for customers and SIM toolkits are costly for providers to develop and supply (*Ibid.*). All 18 of the digital credit products we identified that use a feature phone platform are partnered with mobile money services.

Twenty-seven of the 68 products operate from **mobile phone apps**. To download one of these apps, customers need a smart phone. These apps are accessed through one of the major smart phone app shops (for example, iTunes or Google Play). Requiring a smart phone may limit the product's customer base, as smart phones cost more than feature phones and penetration is still low world-wide and particularly in Sub-Saharan Africa (Almazan & Sitbon, 2014). Of the 27 products using mobile apps, however, three also use feature phone platforms and 11 also have an internet platform.

There were noteworthy differences in platform use across country and region (Figure 1). Most Indian products use an internet platform (32 of 37), while 18 of 31 Sub-Saharan African (SSA) products use a feature phone platform. Within SSA, Kenyan and Tanzanian products were most likely to use the feature phone platform (with 12 and 5 products in each country), while Nigeria had an equal number of app-based products (3 out of 6). Of products that used more than one technology platform in India, all (9) had both internet and mobile app platforms. In SSA, two products used internet and mobile app platforms (Get Bucks in Kenya and Social Lender

in Nigeria) and three products used feature phone and mobile app platforms (Pesa Pata in Kenya, Diamond Y'ello Account in Nigeria, and L-Pesa in multiple countries).

Figure 1. Technology Platforms used by Digital Credit Products

Source: Authors' calculations
Note: 14 products use multiple technology platforms. 11 use an app combined with an internet platform, and 3 use an app combined with a feature phone platform.

Partnerships and Bundled Products

We found mention of digital credit providers for 55 out of 68 products relying on some type of partnership, ranging from private individuals or business lenders for P2P products to formal agreements with mobile money companies, banks, or non-bank financial institutions. We did not find any information on partnerships for the other 13 products. Partnerships with banks, non-bank financial institutions, private individuals, and business lenders support the digital credit providers by providing initial or ongoing funding, and in some cases these partnerships also involve bundling digital credit with other services.

Twenty-nine of the digital credit providers we reviewed partner with a bank to offer their loans. Most of these digital credit providers list one specific bank or financial partner on their website, but a few have multiple partners. For example, India Lends lists 12 financial partners on their website (six banks and six non-bank financial companies). Additional partnerships include products that follow a retail loan business model, through which products partner with online vendors or marketplaces in their respective countries.

Four of the 13 (of 68) products that partner with bank products indicate that the banks carry the risk of default[1] while six state that the risk falls on the digital credit provider and three provide no information on which organization bears the risk of default.

Twenty-five of the 68 digital credit product providers operate in partnership with or are provided by mobile money companies run by Mobile Network Operators. Mobile money platforms facilitate the transfer of payments in digital banking, and digital credit products can use this existing infrastructure to approve and distribute loans and to scale and reach customers quickly. By December 2015, Sub-Saharan Africa had the highest mobile money penetration compared to other global regions: one in every three mobile phone connections was linked to a mobile money account though less than 20% of mobile phone connections in this region were through smart phones (GSMA, 2015b). By using existing telecommunications infrastructure, mobile

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[1] India Lends partnering with 6 different banks in India; MoKash in Uganda and M-Pawa in Tanzania partnering with the Central Bank of Africa; and Social Lender partnering with Sterling Bank in Nigeria

money potentially enables anyone with a mobile phone to engage in transactions typically available to those with access to traditional banking services. Mobile money platforms can reduce the costs and potentially the risks involved with cash transactions; the transport costs of transactions are extremely low once the infrastructure is in place, and individuals can send money to others without worrying about loss along the way (Morawczynski, 2009; McKay & Pickens, 2010).

Mobile money platforms also provide access to lower-income feature phone users: all 18 of the feature phone products that we reviewed partner with Mobile Network Operators (MNOs) to provide mobile money services, while only 6 of the products that offer apps (not including those products that offer apps in addition to feature phone platforms) partner with MNOs. These MNOs, which include Safaricom in Kenya, Vodacom in Tanzania, and Airtel, Tigo, and MTN in multiple African countries, are considered to play the leading role in delivering mobile money worldwide, as 69% of all mobile money services launched in 2015 are operationally run by MNOs (GSMA, 2015b). MNOs consider mobile money services as opportunities to increase revenues, and more than 70% of MNO-led companies reported that at least 1% of their total revenues in 2015 resulted from mobile money services (*Ibid.*).

Most of the products we identified are only offered in one country (66 out of 68). Many product providers in SSA (15 out of 31 products) partner with one country-specific MNO (Safaricom and Tigo), while eight work with MNOs that operate in multiple countries (Airtel, MTN, and Vodacom); additionally, two work both with country-specific and multi-national partners (Saida in Kenya partners with Safaricom and Airtel, and L-Pesa in multiple countries partners with Airtel, Safaricom, and Vodacom). We did not identify any products in India that are partnered with country-specific MNOs. Many of the country-specific products that we reviewed (34 out of 66) require some form of national identification in order to verify the borrower's identity, including national identification numbers in Kenya, PAN cards and Aadhaar numbers in India, Bank Verification Numbers (a biometric program used in Nigeria to confirm banking customers' identity) in Nigeria, and passports. However, one of the products that operates in multiple countries (L-Pesa) also requires national identification.

Beyond partnerships, we identified 31 products (out of 68) that offer digital loans bundled with an additional product, such as other digital financial products like savings accounts or alternative services such as scholarship searches or business loans. Twenty-seven products that we reviewed explicitly offer another DFS product with their digital loans—twelve of these are with a mobile money partner. Products that are provided through partnerships with banks tend to offer other financial products with their digital credit loans—including savings accounts, money transfers and remittance services, and bill pay services. A few providers, such as Tigo in Tanzania and Gyandhan in India, provide insurance plans or information on education scholarships along with loan products. Other bank-backed products such as India Lends, Capital First, and FairCent bundle or plan to bundle instant loans with more traditional auto, business, or home loans, albeit sometimes through a different application process.

Product Business Models

We identified four distinct categories of digital credit product business models: standard models (unsecured general loans), peer-to-peer (P2P) lending models (matching registered individual borrowers and lenders for loans), retail models (loans reserved for retail purchases), and other models (Figure 2). We found examples of three models in India, while outside of Kenya, SSA products generally use the standard model.

Figure 2. Digital Credit Product Models by Country
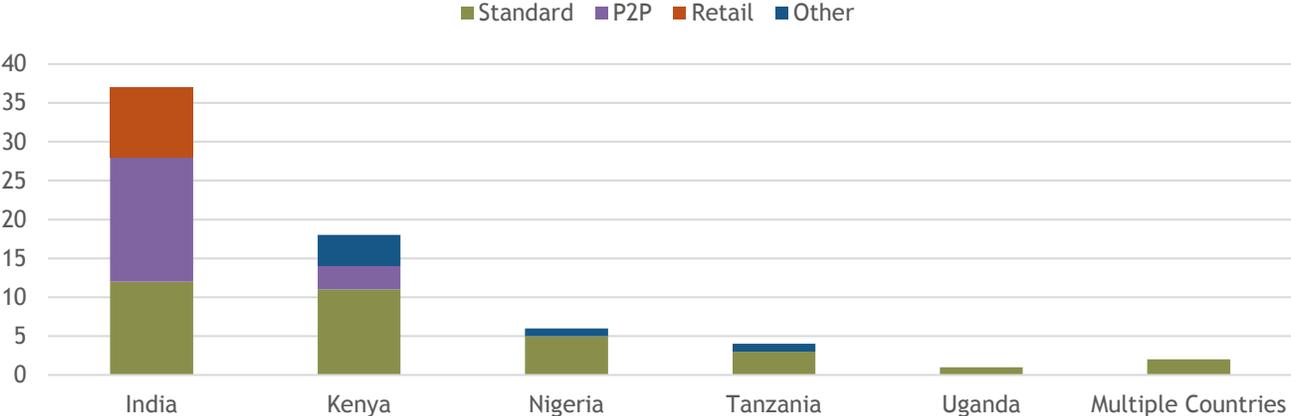
Source: Authors' Calculations
Note: L-Pesa is offered in Kenya, Tanzania, and Uganda; Mkopo Rahisi (Tala) is offered in Kenya and Tanzania.

Standard Model

We identified a "standard" model for a digital credit product that is used by 34 out of the 68 products reviewed, and is present in all five countries. Products following the standard model share three key features:

- Loans are disbursed to borrowers as electronic cash (e-cash)—to the customer's mobile money wallet or directly into the customer's bank account
- Loans are unsecured
- Loans are provided by banks, MNOs, or other big lenders, not individuals

Products using the standard model may still vary by technology platform, loan terms, and targeted customer segment, but they all have the above three features in common.

P2P Lending Model

The Peer-to-Peer (P2P) lending model connects borrowers with individual private lenders, where lenders provide the funds and the P2P products provide the platform for borrowers and lenders to meet and exchange funds. The majority of the products we reviewed place the risk of default on the individual lender rather than a registered bank or company (15 of the 19 P2P products). We identified 19 P2P digital credit products, most of which were in India (16) and the remainder in Kenya (3).

The P2P model differs from standard digital credit business models in that it depends on individual decision-making by registered lenders. While decisions about creditworthiness can be made in time intervals ranging from minutes (e.g., PesaZetu in Kenya) to 72 hours (e.g., Faircent in India), the time until distribution of loan funds varies based on the interactions between lenders and borrowers. Both the lender and borrower must mutually agree on the loan's terms, including the interest rate and the length of the repayment period. Some products, such as Faircent in India, require that an individual's loans be funded by multiple lenders, reducing the concentration of risk for a single lender.

Overall, the P2P digital credit model hinges on matching the pool of registered lenders to the pool of registered borrowers. The digital credit providers act as matchmakers between borrowers and lenders, verifying identities and using traditional and/or alternative data and scoring algorithms to rate borrowers and help lenders choose to whom they want to lend. The provider of the product profits from registration, facilitation, and delinquency fees, while income from interest rates accrue to the lender.

Nine of the P2P credit products provide additional security verification beyond identity checks, and physically verify the location of the borrower. Providers of P2P digital credit products also often pursue defaulters on behalf of the lenders (10 out of 19 providers). While many commit to pursuing defaulters through a country's collection agencies, one—LenDenClub in India—provides lenders with additional insurance for lending to "high-risk" borrowers. LenDenClub has created a "Lender Protection Fund" that protects the lender's principal in case of borrower default.

Retail Loan Model

Rather than offering cash loans, nine digital credit products—all located in India—offer retail-specific loans. These loans allow consumers to apply for a loan in order to purchase products such as cell phones, computers, and other high-cost personal items. Six of these products (Bajaj Finserv, Kissht, KrazyBee, Lazypay, Quiklo, and Slicepay) allow consumers to purchase these high-cost items directly through their website. These online platforms appear similar to a typical retail platform, where the products offer their retail partners' products for consumers to buy. Consumers apply for the loan as they browse products and can be approved instantly. Once consumers confirm the purchase and provide a down payment, the digital credit provider coordinates delivery of the item and manages the loan repayment.

CashCare, Finomena, and ZestMoney do not operate as retail websites on their own, but allow customers to apply for a loan and then use the loan to purchase products on their partners' websites. CashCare partners with retail companies like FabFurnish, ShopMonk, and Amazon; Finomena partners with FlipKart, Amazon, Snapdeal, Pepperfry, and Urban Ladder; and ZestMoney partners with Overcart, Valuecart, and Ahaaworld. The partner websites provide the retail shopping experience while the digital credit providers approve, disburse, and manage the loans. For ZestMoney for example, users can apply for the loan on the partner website, be approved by ZestMoney in 6-8 hours, complete the purchase on the partner website, and then pay back the loan to ZestMoney through ZestMoney's website. Customers of these digital credit products are also required to provide down payments on the items they purchase, though the amounts of these down payments are not specified on the provider websites.

All nine products following the retail loan business model have generally similar loan terms. The maximum repayment term is one to two years for all but Lazypay, which invoices borrowers twice a month for all loans provided for retail purchases, and requires borrowers to pay the full amount within three days of receiving the invoice, and Slicepay, which does not disclose exact repayment lengths. The minimum loan amount is 10,000 Rs. or above for 4 of the 9 retail loan products—Bajaj Finserv, CashCare, Quiklo, and ZestMoney. Many of these products target specific Indian market demographics. Kissht, Krazybee, Quiklo, and Slicepay all target students by requiring that borrowers be enrolled in approved universities. CashCare, Lazypay, and ZestMoney target people that have salary jobs or bank accounts—each of these products require salary slips from potential borrowers and proof of employment.

Other Models

We classified six digital credit products as "other" models because they did not fit clearly into standard, P2P or retail categories. Okoa Stima (Kenya), a product offered by Safaricom, is unique in that it has a partnership with Kenya Power that allows borrowers to pay their electricity bills using credit. The pre-determined credit limit is based on the borrower's historical relationship with Kenya Power. Users of this service pay a 10 percent facilitation fee and the amount credited is due within seven days.

Two of the products identified are exclusive to customers whose employers have signed up for the service. Loans are then repaid directly from the borrower's next paycheck, effectively secured by the customer's

employment. Customers of Aella Credit in Nigeria receive instant credit decisions through the product's algorithm, which has access to data provided by their employer. Once approved customers receive their loan and set up a repayment plan in the form of a payroll deduction over several months. M-Pepea, a Kenyan product offered by Raven Ltd., provides small emergency loans to customers who need cash before their next payday. Loan amounts are small (maximum $147) and are repaid in full with a deduction from the following pay check.

One product from Kenya, Pesa na Pesa, requires collateral for loans. Pesa na Pesa customers can choose to secure their loans with employer guarantees on salary, chama (group lending collectives) guarantees on group savings, or securities guarantees on shares of stocks or bonds. Another Kenyan product, Mjiajiri, requires customers to pay an upfront fee but allows them to earn small sums for each new customer they refer, in a structure CGAP has described as resembling a pyramid scheme (Kaffenberger & Chege, 2016).

Customer Segments

Many digital credit providers target particular customers segments.[2] Of the 68 products surveyed, 26 state that they target small business owners while 15—mostly in India (14 out of 15)—state that they specifically target urban borrowers. 14 products state that they target low-income borrowers, and five products specifically target students. Many of the products have overlapping target groups. For example, of the 14 products that target low-income borrowers, three also target urban populations, six also target small business owners, and two also target students. Although many of the products serve rural customers, we did not find any evidence that rural customers are specifically targeted by any of the products we reviewed.

We identified 26 products specifically targeting small business owners across the countries surveyed. Of these, thirteen are in India, nine in Kenya, one in Tanzania, one in Nigeria, and two products operate in multiple countries. The majority (14 out of 26) of these products follow the standard business model,[3] and nine follow the P2P business model, which allows small entrepreneurs direct access to investors (Bitbond, Biz2Credit, Faircent, Indifi, Rupaiya Exchange, and World of Lending in India, and Pesa Pata, PesaZetu, and Solvesting in Kenya). Of the remaining products that target small businesses, Timiza Wakala in Tanzania and Mjiajiri and Pesa na Pesa in Kenya all operate under "other" business models.

Fourteen of the products we reviewed specifically target low-income borrowers, including six products in Kenya, five in India, one in Tanzania, one in Nigeria, and one that operates in multiple countries. Of these products, we found seven that offer other digital financial services, including bill pay (Aella Credit in Nigeria), money transfer options (L-Pesa in multiple countries), education scholarships (Gyandhan in India), savings accounts (M-Shwari in Kenya), and access to other traditional mobile money products (Nivushe in Tanzania, and M-Pepea and Mjiajiri in Kenya).

Although these 14 products state that they target low-income borrowers, eight also target other populations and it is not clear whether specific measures are used to reach low-income populations. Six of the products targeting low-income borrowers use a feature phone platform, which may make credit more accessible to these users. We did not observe any clear differences between products that do and do not target low-income borrowers in terms of the types of alternative credit scoring data used. While the removal of some barriers related to credit scoring may make digital credit more accessible for low-income borrowers, the higher risk of lending to this population may lead digital credit providers to charge higher interest rates. We did not observe

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[2] We coded a product as targeting a particular customer segment if that segment was specifically mentioned on the product's website or in articles about the product.
[3] Branch Loan, Grow, Saida, and Get Bucks in Kenya; Capital Float, Cashe, Flexiloans, India Lends, Instakash, LendingKart, and NeoGrowth in India; Lidya in Nigeria; and Mkopo Rahisi (Tala) and L-Pesa in multiple countries

clear differences when comparing the median and mode interest rates charged between products that do and do not target low-income users. We did find that the mean interest rate and repayment period for products that target low-income users is below the average for all of the products we reviewed.

Many of India's products (14 out of 37) specifically target urban borrowers, while only one product outside of India targets urban borrowers—Pesa na Pesa in Kenya. For these products the security checks typically require more criteria than just having a paystub. For example, products that target urban borrowers may additionally require employer and salary verification, minimum salary amounts, minimum length of employment, background calls and reference checks, and collateral. Of the product offerings in India, five that target urban borrowers follow the P2P business model (Biz2Credit, Gyandhan, InstaPaisa, LenDenClub, and World of Lending). Three of the products in India follow the standard model (Cashe, EarlySalary, and Capital Float), and six (CashCare, Finomena, Kissht, KrazyBee, Lazypay, and Quiklo) target urban borrowers through the retail loan model. Pesa na Pesa in Kenya uses a business model that we classified as "other" because of the requirement for collateral when a user takes out a loan.

In addition, five products offer loans targeting students. These digital credit products are only available to students with a college ID. Four offer student loans for online retail purchases (Kissht, KrazyBee, Quiklo, and Slicepay), and one offers higher education funding (Gyandhan).

We found little evidence regarding the number of customers served by each digital credit product, or the number of unbanked individuals using digital credit in each of the five countries. The digital credit products we reviewed were all introduced relatively recently, making it difficult to assess their uptake. In addition, whether or not funds accessed through digital credit products can be used directly for other digital transactions (e.g., bill payments, insurance, savings) may affect the types of customer segments more likely to take up the digital product. Of the four products that had available information, Kenya products KCB M-Pesa reported more than seven million clients, Branch reported 10,000 clients, and M-Shwari listed 4.5 million users. InstaPaisa in India reports that over 6,000 borrowers use their peer-to-peer product.

Digital Credit Product Terms

The digital credit products we identified differentiate themselves through variations in the length, size, and details for interest rates, repayment lengths, loan sizes, default terms and fees, and credit bureau reporting. Some patterns appear by country: India, for example, has lower annual percentage interest rates (APR) and longer repayment terms than the products we reviewed in the four African countries. These interest rate and repayment lengths may relate to the large proportion of Indian products that target urban populations with higher verification requirements. Additionally, some of the products we reviewed offer unique rewards to users that incentivize their continued use, including rewards such as longer repayment lengths and higher borrowing limits.

The following sub-sections summarize the various terms of the 68 digital credit products that we reviewed, as well as examples of the differentiated terms across products, countries, and business models.

Length of Loan Term

Most of the products we reviewed (57 out of 68) provide information on terms and conditions regarding loan repayment length. Most outline definitive, quantitative ranges, though four of the products only indicate that terms vary by investor or borrower profiles. One product has a minimum repayment period of zero days and requires a weekly payment plan to be determined at the time of the transaction. We did not find any information on repayment length for the remaining 11 products. While the average loan term length is skewed by a few long-term loans (with maximum repayment rates for six products of 36 months, one product of five

years, one of six years, and one of ten years), the median and mode show that 23 of the products (over half of those with information on loan term length) have maximum repayment terms around two months or less.

Table 2. Comparison of Minimum and Maximum Number of days for Loan Repayment, from Product Terms and Conditions

	Average Minimum Length (days)	Average Maximum Length (days)	India Min (days)	India Max (days)	Kenya Min (days)	Kenya Max (days)
Median	30	180	90	365	0	30
Mode	0	30	183	365	0	30
Mean	63	428	107	690	13	112
Number of Products	**47**	**51**	**25**	**29**	**13**	**14**

	Nigeria Min (days)	Nigeria Max (days)	Tanzania Min (days)	Tanzania Max (days)	Uganda Min (days)	Uganda Max (days)
Median	15	30	7	28	30	30
Mode	n/a	30	7	28	n/a	n/a
Mean	17	30	5	27	30	30
Number of Products	**3**	**3**	**4**	**4**	**1**	**1**

Source: Authors' Calculations, Product Websites
Note: 2 products offered in multiple countries are not included in this table due to a lack of data.

As illustrated in Table 2, the African products largely offer one-month loans. In Kenya the average maximum repayment term is 112 days, but the mode and median is one month. India offers longer minimum (guaranteeing investors a minimal level of interest accrual) and maximum repayment periods, with the general range of loan repayment terms falling between approximately three months and two years. These trends correspond with the products' annual percentage rates (APR), where India typically has longer repayment terms and lower APR while African countries more commonly have lower repayment terms and higher APR (Figure 3).

Annual Percentage Rate

In keeping with other reports on digital credit, we report standardized interest rates for products using an annualized interest rate (Cook & McKay, 2015; Hwang & Tellez, 2016).[4] Almost two thirds of the digital credit products we reviewed (44 out of 68) report their annual percentage rates (APR). The APR minimum and maximums vary widely and may be based on other factors such as repayment schedules or internal organizational structure and goals.

Some of the products have fixed interest rates (for example at 0.1%-1% per day or 4% per month), which can amount to maximum APRs as high as 365%. Aella Credit in Nigeria (48% maximum APR), Mkopo Rahisa (Tala) in

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[4] Three products listed the interest rate per day so we multiplied the listed rate by 365 (Money in Minutes, Rupeeland, and Vote for Cash in India). Five products listed the interest rate per month so we multiplied the listed rate by 12 (EarlySalary and ZestMoney in India, Aella Credit in Nigeria, KCB M-Pesa in Kenya, and Mkopo Rahisa (Tala) in multiple countries). One product listed the interest rate by week so we multiplied the listed rate by 52 (Pesa na Pesa in Kenya). And one product listed the interest rate for a six-month period so we multiplied the listed rate by two (Quiklo in India). All other rates were either listed as per annum or not specified, so we did not perform any additional calculations.

multiple countries (180% maximum APR), and ZestMoney in India (30% maximum APR) have fixed monthly rates. Vote for Cash (109.5% maximum APR) and Rupeeland (365% maximum APR) in India both have fixed daily interest rates. Pesa na Pesa in Kenya (520% maximum APR) has a fixed weekly interest rate, which also was the highest APR we found. Some products provide inconsistent information on their APR amounts, like Paylater in Nigeria (lists both a daily rate of 1% and a maximum APR of 380%) and Money in Minutes in India (lists a 1% interest rate or a maximum APR of 360%) on their websites. Of the products that we found with maximum APRs over 50%, none of these products have maximum loan repayment terms that exceed 3 months. Therefore, consumers are most likely not paying the full amount of interest reported in an APR, as the loans are designed to be repaid in a much shorter period of time.

In India, there is no obvious relationship between either maximum or minimum APR and maximum loan size or repayment period—although the three highest APRs are all for loans with low maximum loan sizes and short repayment periods. Products with minimum or maximum APRs at or below 30% have widely varying standards for maximum loan amounts and repayment. In Africa, we observe lower variability in the repayment period and maximum loan sizes than in India, with no products with a repayment period of longer than 1 year or above US$30,000. We do find however, like in India, that the products with higher minimum APRs in Africa also tend to offer smaller and shorter-term loans.

Figure 3. APR per Product, Maximum Days for Repayment, and Maximum Loan Size
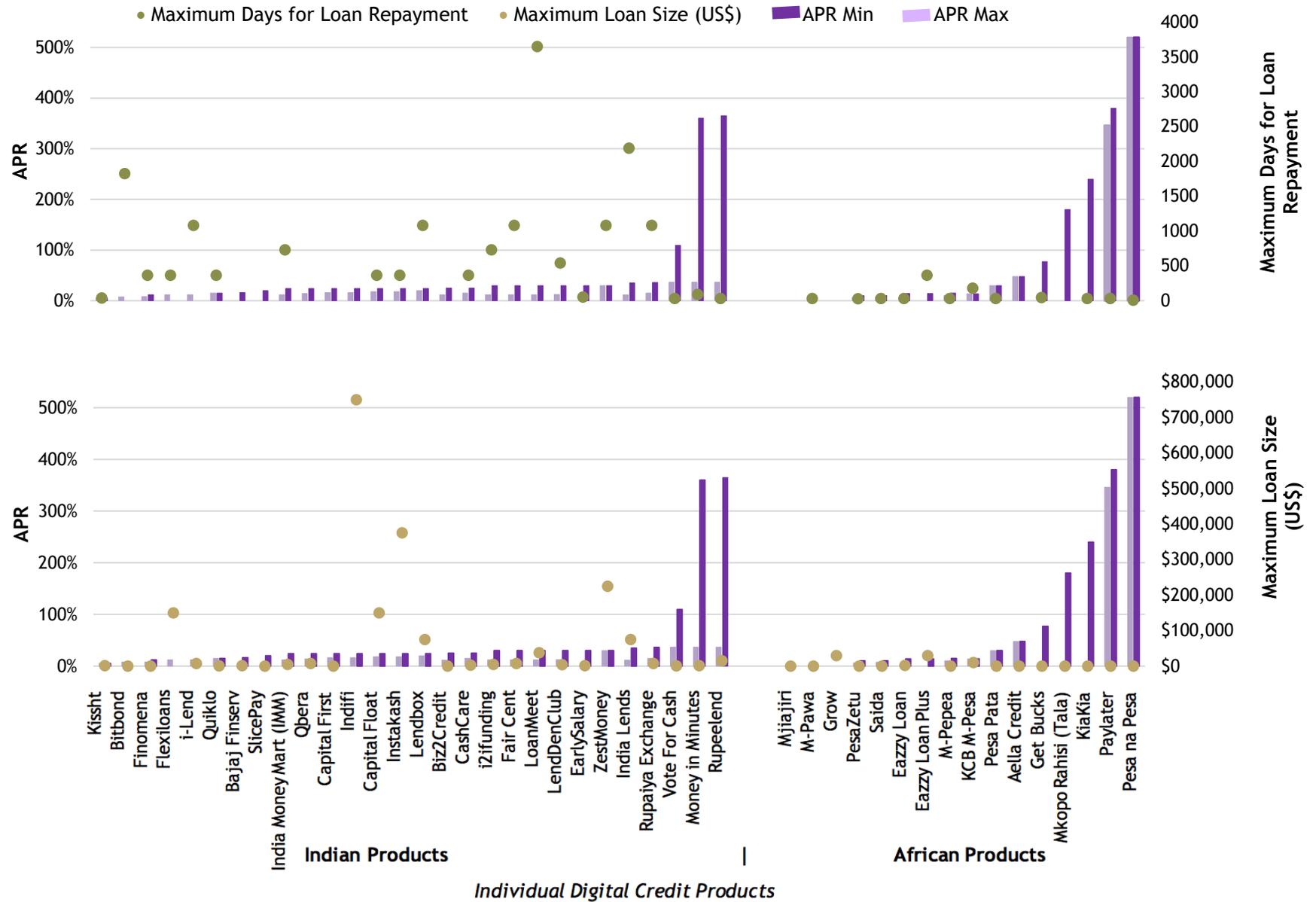
Products in India and Kenya report APRs more consistently than the products we found in other countries. The one product identified in Uganda (MoKash) does not report the minimum or maximum APR charged. Of the four products that we identified in Tanzania, only M-Pawa mentions their interest rate, stating that they do not charge an APR and instead charge a nine percent facilitation fee for each loan. Three of the six products in Nigeria report APR. Table 3 provides an overview of how India, Kenya, and Nigeria's APR compare to the average APR for all products. The products we reviewed in India have a mean APR range that is either the same or lower than the average range.

Table 3. Minimum and Maximum APR Measures Comparison

	Overall Minimum APR	Overall Maximum APR	India Min APR	India Max APR	Kenya Min APR	Kenya Max APR	Nigeria Min APR	Nigeria Max APR
Median	13%	24%	13%	25%	9%	14%	197%	240%
Mode	12%	24%	12%	24%	0%	10%	n/a	n/a
Mean	38%	71%	16%	55%	73%	64%	197%	223%
Number of products	37	41	26	25	8	11	2	3

Source: Authors' Calculations, Product Websites
Note: Tanzanian products are not represented in an individual column because we only found minimum APRs for two products, and no maximum APRs were provided. We found no APR information for the products in Uganda and across multiple countries.

We also found that the amount and types of information that products provide on APR ranges vary. P2P products like Gyandhan, World of Lending, and InstaPaisa in India do not provide APR ranges but instead note that lenders and borrowers will come to an agreement on interest rates on their own. The remaining P2P products also note that APRs are agreed upon between borrowers and lenders, but they provide approximate APR ranges. All but one retail business model, KrazyBee, provides information on their APR charges, which range from 0-30%. Two of the "other" business model products—Pesa na Pesa of Kenya and Aella Credit of Nigeria—have fixed APR amounts. Mjiajiri of Kenya has a 0% APR, M-Pepea of Kenya has a 10% minimum and 15% maximum, and Timiza Wakala of Tanzania and Okoa Stima of Kenya do not list APR information. Nineteen of the thirty-four products with standard business models share information regarding their APR charges online, and the types of APR ranges vary widely across this group. For the standard business model products, the median of minimum and maximum APR ranges is 24-174, the mode is 0-24%, and the mean is 41-101%, with the median and mean being slightly larger than the ranges in Table 3.

Comparing digital credit APRs to non-digital and informal lending rates is difficult, as interest rates are sensitive to the terms of the loan and the specific policy structure within each country. The IMF reports data on lending rates for various countries, and lists 2015 formal lending rates ranging from 10.0-22.6% for Kenya, India, Nigeria, Tanzania, and Uganda (2016). The average rates for the products we reviewed exceed these rates, and only fourteen of the products that we reviewed have maximum APRs that fall below 22.6%. While several factors may contribute to the higher APR charges, Hwang and Tellez (2016) state that the ratio of costs per loan may be higher for smaller loans, which may be the main driver behind these high interest rates. If we were to remove the seven products that have extremely high APRs (greater than 100%), the average minimum APR for all products would decrease to 15% and the average maximum would decrease to 23%.

Fees

Fifty-one out of the sixty-eight products charge fees in place of or in addition to APR. Three products charge 0% APR and instead collect fees. In Kenya, Grow charges a fee of 1% on the principal loan amount and Mjiajira

charges a 200KSH registration fee. M-Pawa of Tanzania charges 0% APR and a nine percent facilitation fee for each loan. Other products that charge fees in addition to their APR have varying fee structures. Table 4 presents a summary of the types of fees by region. Appendix B includes a more detailed table with the types of fees identified for all 68 products reviewed.

Table 4. Types of Fees by Country and Program

Program	Type of Fee					
	Percentage of principal loan amount (may be charged one-time or incrementally until loan is paid in full)	Registration fee (charged when borrower opens an account)	Processing fee (charged a fee per transaction, including the dispersal of loan and the submission of payments)	Listing fee (charged when borrower requests a loan)	Fixed fee for taking out a loan (may be step-fixed by size of loan)	Product indicates that a fee is charged, but does not state any further information on the fee structure
India	9	5	7	2	4	6
Sub-Saharan Africa (Kenya, Tanzania, and Uganda)	13	2	-	-	2	7
TOTAL	22	9	7	2	6	13

Fee information for loans through digital credit products was generally listed in the products' terms and conditions on web sites. For 11 products the websites mentioned fees as a part of the loan process but did not provide any information on their magnitude. For 15 products, we were unable to find any concrete information on fee structures or magnitudes.

Fees based on a percentage of the principal loan amount were specified for 22 out of the 51 products for which we found information on fees. This type of fee is particularly common in Kenya, where 13 of 18 products charge users a percentage of their loan amount. The steepest found was a 30% fee on the principal loan amount, charged both by Get Bucks and Pesa Pata in Kenya. Both products charge the 30% fee on top of their APR charges, which are a maximum of 77% and 30% respectively.

As seen in Table 4, some products charge multiple fees while others charge just one. Other products like LendDenClub in India charge either a percentage fee or a registration fee, depending on whichever fee is higher. In addition to the fees listed for borrowers, some of the P2P products (i-Lend, India Money Mart, and Gyandhan) charge lenders a listing fee, while Lazypay charges retail merchants a fee.

Loan Sizes

While in most instances data on actual loan numbers or volumes for the digital credit products we reviewed was unavailable, we found that the reported minimum and maximum loan sizes offered by digital credit providers varies by country. While we were unable to verify restrictions on loan amounts for some products, we found information on the range of loan sizes for the majority of the digital credit products reviewed (50 out of 68). Table 5 summarizes the minimum and maximum loans sizes reported by digital credit providers in each country, as well as the average minimum and maximum loan size in each country. These figures are not based on actual loan volumes or numbers, but on information provided by the digital credit providers on loan size restrictions. Products that targeted small business owners tended to have higher maximum loan sizes, while personal loans were more restricted. We did not observe a direct or indirect relationship between loan size restrictions and APR (Figure 3).

Table 5. Loan Sizes for Digital Credit Products

Country (No. of Products with data)	Conversion Rate to USD	Min (USD)	Avg Min (USD)	Max (USD)	Avg Max (USD)
Uganda (1)	0.00028	$0.84	$0.84	$280.00	$280.00
Tanzania (2)*	0.00046	$0.46	$0.46	$230.00	$119.60
Kenya (15)	0.00980	$0.49	$8.70	$29,400.00	$4,896.08
Nigeria (4)	0.00320	$1.60	$12.27	$192.00	$76.00
India (32)	0.01500	$0.02	$475.09	$750,000.00	$69,343.36

Source: Authors' Calculations, Product Websites

*Minimum loan amount data are limited in Tanzania. Only one product consistently provides this information (M-Pawa). We used this amount as the minimum loan average for the 3 Tanzanian products with data.

Rewards for Use

Over half of the digital financial products identified (32 out of 68) advertise reward programs that incentivize certain behaviors from customers. Products like KCB M-Pesa in Kenya reward customers as they continue to use product services and allow them to accrue loyalty points over time that increase borrowers' future loan limits. Other products reward costumers for repaying their loans faster than the repayment terms (M-Pawa in Tanzania, Kopa Cash, M-Shwari, and Pesa na Pesa in Kenya, and Cashe, KrazyBee, and Quick Credit in India); referring new clients (Mjiajiri and Pesa Pata in Kenya); and paying back the entire loan without submitting any late payments (Kia Kia and Aella Credit in Nigeria, Vote for Cash and Rupeeland in India). Reward programs do not appear to be unique to any business models or countries. Table 6 outlines the different product rewards offered by digital credit products we reviewed in the five countries.

Table 6. Types of Product Rewards by Country

Type of Reward	Number of Products in India	Number of Products in Kenya	Number of Products in Nigeria	Number of Products in Tanzania	Number of Products in Uganda	Total
Accumulate loyalty points	1	1	2			4
Receive gift cards	1					1
Offered discounts through partner organizations	2					2
Zero charges when purchasing through partner organizations		1				1
Reduce interest rates	4	1	4			8
Increase loan amount/credit limit	4	11	4	4	1	25
Increase repayment length			1	2		3
Lower fees				3		3
Increase in flexibility of terms		2				2
Increase chance of approval for future loans	1			1		1
Earn commission for referring new clients	1	2				3

Source: Authors' Calculations, Product Websites

<u>Default Warnings, Procedures, and Fees</u>

Of the 21 products with clear information, 16 products had a warning system in place to remind borrowers about repaying their loans or about imminent default. Most of the time these reminders were sent via SMS, email, or app notification, either on the payment due date or up to seven days prior. While some products auto-debited repayment from the borrower's mobile money or bank account, others required payment sent via online or check. Forty-seven products had no clear indication that any warnings were sent to the borrower, and five products did not send out notifications at all.

Digital credit products differ in their default procedures, but two alternatives emerged. For six products, the borrower's repayment period was automatically extended to give the borrower another chance to make an on-time payment. Pesa na Pesa and Cashe each restricted this loan extension to 7 days, while mobile money-based products Mokash, M-Shwari, M-Pawa, and Social Lender extend the repayment period by 30 days. One outlier, Branch, committed to a 90-day default period before pursuing harsher penalties. Even with a loan extension, however, some sort of flat fee (usually a percentage of the loan amount) is tacked onto the remaining balance when a payment is missed. 20 out of the 68 products reviewed reported charging fees and/or extra interest on the unpaid loan amount in the terms and conditions for the loans.

Other products immediately begin pursuing legal action against borrowers, whether through collections agencies or through listed third-party contacts. For three products, alternative data used by digital credit providers to approve borrowers for loans resulted in unique methods of pursuit; this included contacting a borrower's personal and professional connections (Quick Credit) or publically posting the names of defaulters on the provider's website (i-Lend, Rupaiya Exchange). One product, Vote for Cash in India, offered an extreme example; the site required access to the user's Facebook account and reserved the right to publically announce to the borrower's contacts that he or she has defaulted on a loan.

Twenty-eight out of 68 products also indicate that they would report defaulters to one or more of the country's credit bureaus. L-Pesa, a digital credit product available in Tanzania, Uganda, and Kenya, threatens to reduce a borrower's credit score to zero in case of default. While it is unclear how many providers report good credit behavior, as many as 400,000 Kenyans are reputed to be registered with their country's credit bureau due to outstanding mobile loans of less than $2.00 (Ngigi, 2016).

Alternative Data and Credit Scoring

Credit scoring algorithms vary widely among digital credit products. The majority of the digital credit products we reviewed (52 out of 68) used their own scoring algorithm to determine creditworthiness, and the rest mentioned specific or vague partnerships with third-party credit score start-ups. The proprietary algorithms for these products were advertised by providers on the products' websites, though specific information on the information used was often missing requiring some conservative inferences as to the data used.

Common data used for credit scoring include an individual's previous digital credit loans, mobile money transactions and balance information, social media data, and mobile phone activity. While financial data from non-bank sources is similar to traditional financial information, social media data and phone activity adds another dimension to credit scoring. Digital credit provider Branch from Kenya argues that even subtle behavior like deciding to add last names into one's phone contact list indicates increased likelihood of loan repayment (Dwoskin, 2015). Other third-party scoring companies like JUMO score with information ranging from the number of calls a person makes, to whom they call, and whether they text (McClelland, 2015). Another product, EarlySalary, relies on social media accounts to provide data about where a person works, their education, and their social circles (*Times of India*, 2016). Figure 4 shows the number of digital credit products

using various categories of alternative data to score borrowers. A complete list of alternative data sources by product is provided in Table 7.

Figure 4. Types of Data Used by Digital Credit Products
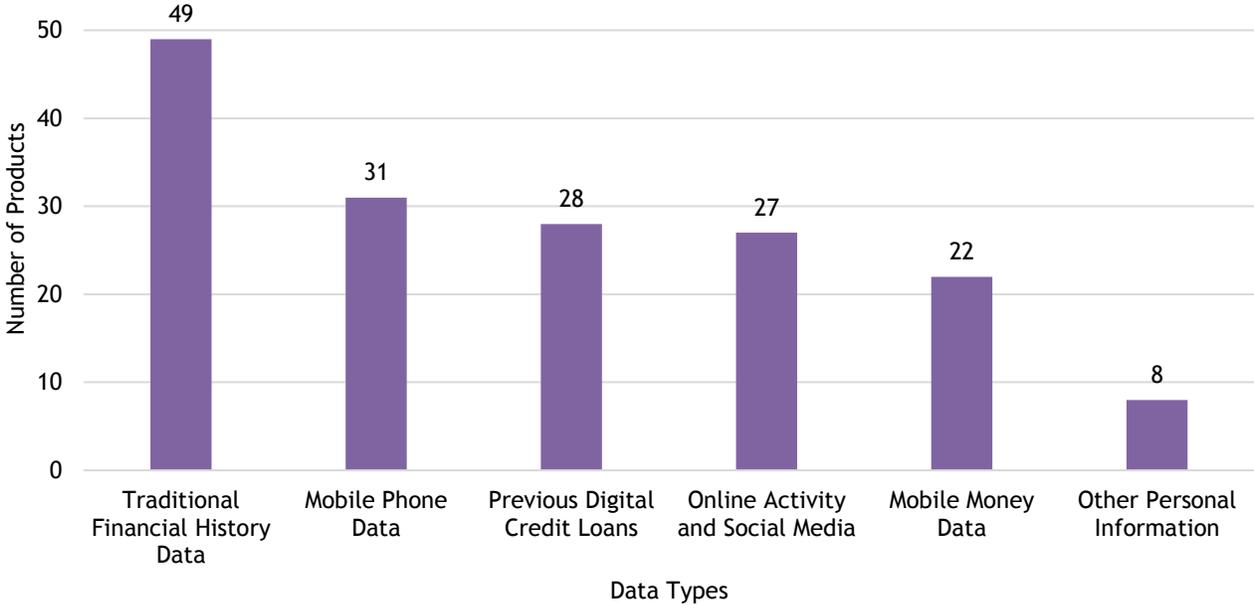
Source: Authors' calculations, Product Websites

Table 7. Number of Products using various types of Alternative Data

Alternative Data Source	Number of Reviewed Products Using Data Source
Mobile Money Data	**22**
Mobile Airtime/Top-ups	19
Mobile Money Transactions/Balance Data	20
Mobile Phone Data	**31**
Call Logs	24
SMS Logs	20
Contact Lists	21
GPS Data	12
Handset Details	12
Traditional Financial History/Data	**49**
Age	39
Bank Statements/Financial Documents	21
Occupation Details	20
Income Statements	14
Online Activity and Social Media	**27**
Social Media Data	26
Online Transactions Data	5
Previous Digital Credit Loans	**28**
Other Personal Data	**8**
Utility Payments	5
Travel History	1
"Living Habits" Data	1
"Social/Demographic Details"	1

Source: Authors' Calculations

The most widely used types of alternative data are mobile phone information and previous digital credit loans. Most Sub-Saharan African products incorporate mobile money data into credit scoring (18 out of 31), while 28 out of 37 products in India reviewed traditional financial loan data. However, 49 of the 68 products reviewed also require at least one piece of data used in a traditional loan scoring method (most often the age of the individual).

We also found evidence of formal financial institutions and banks using alternative data (including social media activity, mobile phone usage, and GPS data) to score borrowers, though their loans did not fit under our definition of digital credit. Third party scoring company Credit Vidya in India mentions at least three partnerships with formal banks and financial institutions on its website. This may represent a broader trend of using alternative data for all types of loans, rather than only for digital products.

Summary

Digital credit products may expand credit offerings to borrowers who would not otherwise be served by the formal financial system by reducing the travel and time required to apply for a loan and by broadening the loan-eligible population through the use of alternative data sources to make credit decisions. Digital credit products may also expand credit offerings by providing alternative technology platforms (USSD and SIM card for feature phones, internet for smart phones and computers, and Apps for smart phones) that broaden accessibility to different consumer groups. For individuals for whom having a formal bank account is a barrier to credit access, we find that fewer digital credit products in Sub-Saharan Africa require a formal bank account (only six out of the 31 products require bank information) than in India, where products rely much more heavily on bank account data and income verification. This review did not consider how the terms and conditions of digital credit products compare to those of formal financial services and to informal services, such as

moneylenders, but such an analysis would help to evaluate the extent to which digital credit might be promoting financial inclusion.

We also find of the 68 products surveyed, over a third (26) specifically focus on small business owners. Some examples include direct digital loans for small businesses (e.g., Eazzy Loan Plus in Kenya), products that specifically lend money for cash flow for business operations (e.g., Grow offered by Kopo Kopo in Kenya), and P2P business loans (e.g., World of Lending in India). Fifteen products also state that they specifically target low-income customers, though it is not clear whether these products differ from other digital credit products in an attempt to reach this population. We did not find similar targeting of other customer segments, such as farmers, who are less inclined to take on debt with a short-term repayment requirement (ISF, 2016).

Digital credit loans often have relatively high interest rates, multiple fees, and require the borrower to provide social media and personal information to receive funding (Kaffenberger & Chege, 2016). Of the products we reviewed, most of the loan terms are short-term (30 days or less), encouraging shorter and more frequent cycles of borrowing. Some products offer rewards on future loans for early repayment. This may add an extra incentive to borrow (and re-borrow), which can either improve the credit scores of borrowers if the provider reports that information, or damage the credit scores of borrowers who later default (Ngigi, 2016). We also find that trends in product terms, specifically APR and loan sizes, differ between African and Indian products. While products in India have longer repayment periods and lower APR charges, the opposite trend was found with African products. This may relate to the finding that digital credit loans more commonly rely on income verification and connections to a bank account in India than in SSA. A separate EPAR review considers the current or planned regulatory environment that may apply to digital credit products, including differences in credit score reporting requirements.

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Appendix A: Review Framework Categories

Source Information

- Country
- Bank-Based/MNO Source
- Non-Bank/MNO Source

Provider/Company Information

- Provider Name
- Product Name
- Business Model
- Year Product Established
- Bank or MNO Partnership Information
- Non-Bank or Other Partnership Information
- Market Share Estimate

Product Details

- Technology Platform
- Equipment Required for Use
- Repayment Period
- APR Information
- Number of Loans Allowed
- Fee Information
- Loan Minimum
- Loan Maximum
- Time Until Loan Approval
- Time Until Loan Distribution
- Interoperability
- Identity Confirmation Requirements
- Presence of Delinquency Warnings
- Delinquency Fee Information
- Holder of Default Risk
- Non-Performing or Default Loan Interest Rate
- Presence and Type of Extra Security Checks
- Credit Bureau Reporting status

Product Segments

- Products Combined With Other DFS products
- Products Combined With Other non-DFS products

Customer Segments

- Targeting: Urban, Rural, Low-Income, Men, Women, Small Business, Agricultural Populations
- Presence and Type Of Rewards Offered For Digital Credit Product Use

Credit Scoring

- Original or Third-Party Scoring Algorithm
- Types of Alternative Data Used

Appendix B: Types of Fees by Country and Program

Program	Type of Fee					
	Percentage of principal loan amount (may be charged one-time or incrementally until loan is paid in full)	Registration fee (charged when borrower opens an account)	Processing fee (charged a fee per transaction, including the dispersal of loan and the submission of payments)	Listing fee (charged when borrower requests a loan)	Fixed fee for taking out a loan (may be step-fixed by size of loan)	Product indicates that a fee is charged, but does not state any further information on the fee structure
India	**9**	**5**	**7**	**2**	**4**	**6**
Bajaj Finserv			1			
Bitbond	1					
Biz2Credit						
Capital First						
Capital Float						X
CashCare						X
Cashe						X
EarlySalary		X			X	
Fair Cent						
Finomena		X				
Flexiloans					X	
Gyandhan	X					
i2ifunding				X		
i-Lend		X	X			
India Lends						X
India Money Mart (IMM)	X				X	
Indifi						
Instakash						
InstaPaisa						
Kissht	X					
KrazyBee						
Lazypay						
Lendbox						X
LendDenClub	X	X			X	
Lendingkart			X			
LoanMeet						
Money in Minutes			X			
NeoGrowth						
Qbera	X					
Quick Credit						X
Quiklo	X		X			
Rupaiya Exchange	X		X			
Rupeelend						
SlicePay						
Vote For **Cash**		X				
World of Lending				X		
ZestMoney	X		X			
Kenya	**13**	**2**			**1**	**1**
Branch Loan						
Eazzy Loan	X					

Eazzy Loan Plus	X					
Get Bucks	X					
Grow	X					
KCB M-Pesa	X					
Kopa Cash	X					
Mjiajiri		X				
Mobiloans						X
M-Pawa Sacco						
M-Pepea					X	
M-Shwari	X					
Okoa Stima	X					
Pesa na Pesa	X					
Pesa Pata	X	X				
PesaZetu	X					
Saida	X					
Solvesting	X					
Multiple						
L-Pesa						
Mkopo Rahisi (Tala)						
Nigeria					1	1
Aella Credit						
Diamond Y'ello Account						
KiaKia		X				X
Lidya						
Paylater		X				
Social Lender					X	
Tanzania						4
M-Pawa						X
Nivushe						X
Timiza Cash						X
Timiza Wakala						X
Uganda						1
MoKash						X
TOTAL	22	9	7	2	6	13