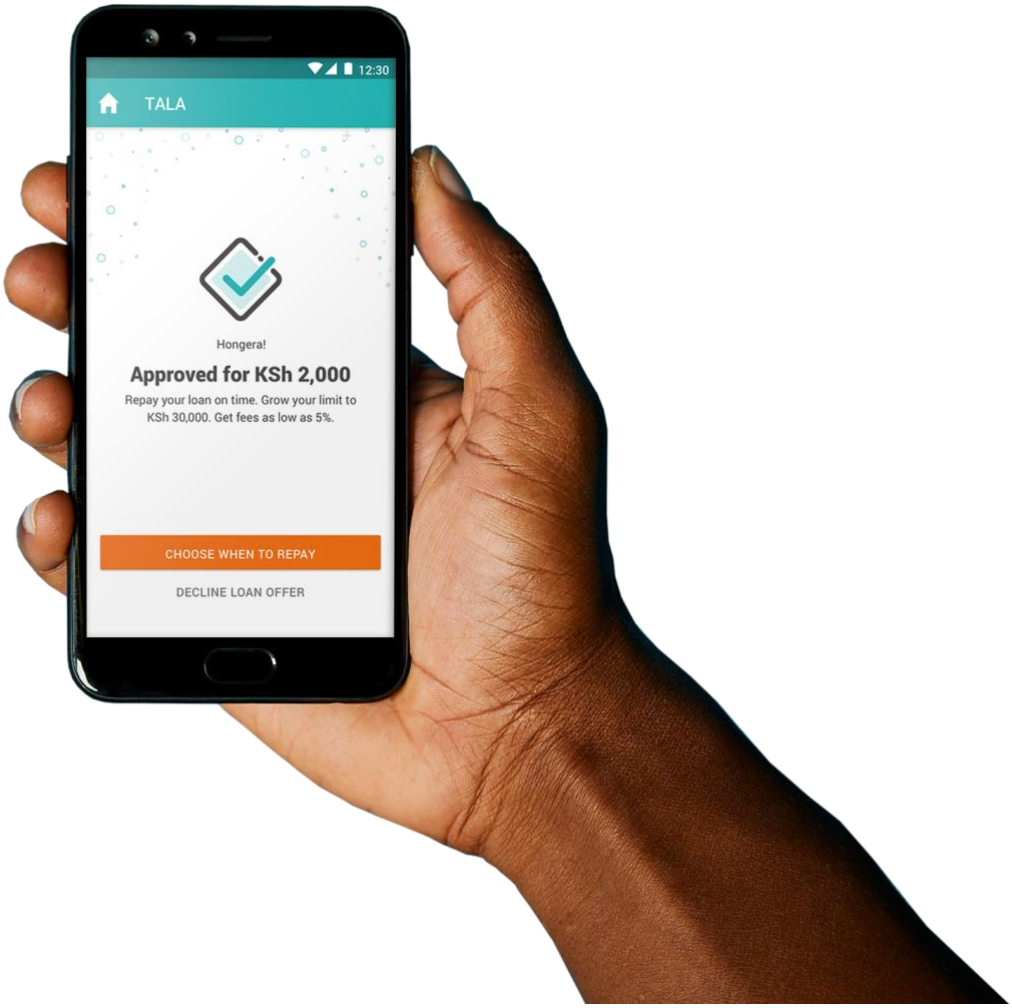
Digital Credit in Kenya

Addressing the Digital Credit Default Rate



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Disclaimer

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Acronyms

CAK	Competition Authority of Kenya
CBA	Commercial Bank of Africa
CBK	Central Bank of Kenya
CRB	Credit Reference Bureau
FSD Kenya	Financial Sector Deepening Trust Kenya
KCB	Kenya Commercial Bank
MFI	Microfinance Institution
NPL	Non-performing loan
RBP	Risk-based pricing

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Executive Summary

Kenya is leading the digital credit revolution in the developing world. Approximately 27 percent of adults have used a digital credit service (Gubbins and Totolo, 2018). Borrowers are drawn to digital credit because it is superior to many types of informal credit in terms of its accessibility, reliability, and cost (Zollman, 2015). The growth of digital credit has provided capital for microentrepreneurs, increased liquidity for consumers, and improved the ability of lower-income households to withstand financial shocks (Bharadwaj, Jack, Suri, 2019).

But the growth of digital credit has had some negative effects. In a 2016 survey, 12 percent of digital credit borrowers reported that they had defaulted on a loan (Gubbins and Totolo, 2018). Data from a recent survey suggests that approximately 25 percent of digital credit borrowers have defaulted on a loan (FSD Kenya, 2019). Borrowers reported to Kenya's credit reference bureaus for defaulting on a loan maintain the default on their credit record for a period of 5 years, during which it is unlikely that they will be able to access any form of formal credit. Borrowers can only regain access to formal credit before the end of the 5-year period by paying their owed amount to the provider and a $22 clearance certificate fee to the credit reference bureau (Gubbins and Totolo, 2018).

The number of digital credit borrowers listed as being in default should be lowered in order to ensure that vulnerable borrowers are not barred from future credit that may benefit their business or general livelihood. Unfortunately, there have been few studies that have focused on policies to address the digital default rate, so it would be premature to suggest direct action by policy makers at this time. This study evaluates alternatives that, aside from Alternative 1, are based on the implementation of pilot studies that attempt to address the two broad drivers of digital defaults: **failing to understand loan terms and costs** and **experiencing an unforeseen, adverse event.** The pilot studies would be conducted and funded by the Mastercard Center for Inclusive Growth in partnership with one of Kenya's regulatory bodies and the Commercial Bank of Africa, Kenya's largest digital credit provider. This study considers four alternatives to address the default rate:

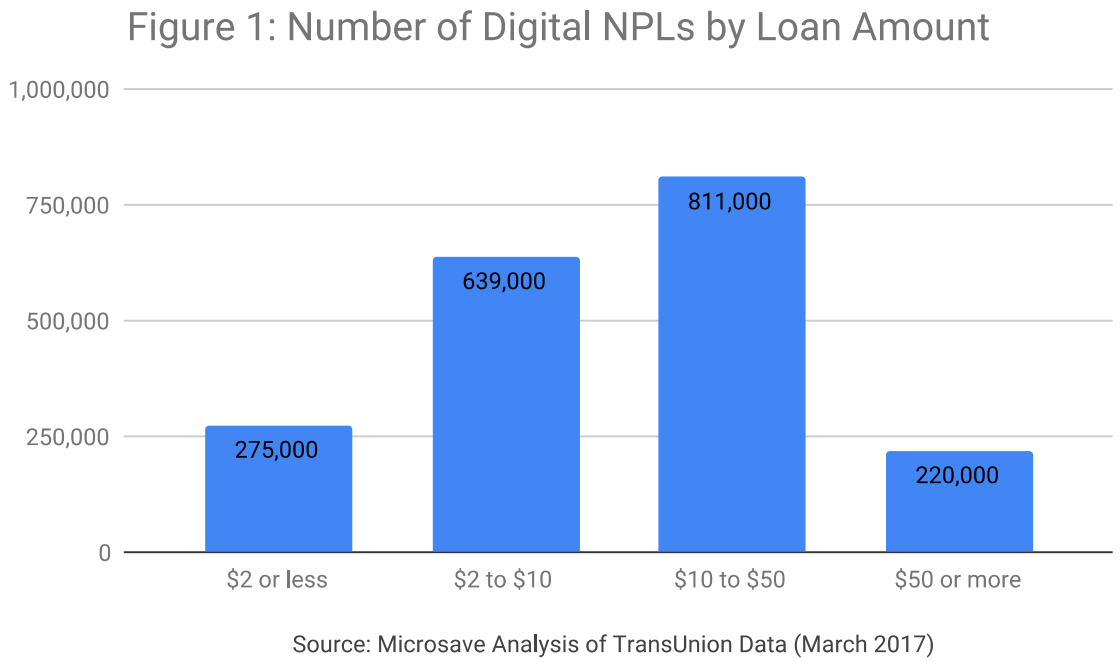
1. *Let present trends continue*
2. *Create standard messaging disclosing loan terms and costs*
3. *Remove the clearance certificate fee*
4. *Prevent first-time, low-value defaults from being reported*

These alternatives are evaluated according to their cost, effectiveness in evaluating policy, equity, political feasibility, and future implications. The level of effectiveness reflects how accurately each pilot study measures the effect of the intended future policy. The future implications of alternatives consider how the resulting policy may address the drivers of the default rate.

This study recommends that the Mastercard Center for Inclusive Growth conduct a pilot study in partnership with the Central Bank of Kenya and the Commercial Bank of Africa to determine if removing the clearance certificate fee will increase the number of borrowers who repay their owed amount and remove the default from their credit record. Borrowers' understanding of loan terms and costs may improve without any policy intervention, but borrowers will continue to default on loans due to unforeseen, adverse events. To address this issue, the pilot study attempts to mitigate the negative effects of defaults with a policy solution that incentivizes the repayment of defaulted loans and enables borrowers to regain access to the benefits provided by the formal credit market.

Problem Statement

Too many digital credit borrowers in Kenya are losing future access to credit because they are defaulting on their loans. In a 2016 survey, 12.5 percent of digital credit borrowers reported that they had defaulted on a loan (Gubbins and Totolo, 2018). Preliminary data from a 2019 survey suggests that approximately 25 percent of digital credit borrowers have defaulted on a loan (FSD Kenya, 2019). A substantial portion of digital non-performing loans (NPLs) can be attributed to relatively new borrowers and to loan values of $10 or less. An analysis of data from TransUnion, one Kenya's three Credit Reference Bureaus (CRBs), found that among those who defaulted, one third were first-time borrowers. Approximately 47 percent of digital NPLs were less than $10; approximately 14 percent of digital NPLs were less than $2 (Singh, 2018).



Source: Microsave Analysis of TransUnion Data (March 2017)

These numbers are concerning because borrowers who default on their loans are flagged, or "blacklisted", by CRBs for defaulting, preventing them from accessing formal forms of credit. Unless they can afford to pay the owed amount and a $22 clearance certificate fee, borrowers must wait five years until the default is removed from their credit record in order to access future loans (Gubbins and Totolo, 2018). The number of digital NPLs represented by low-value loans suggests that for many borrowers, the cost of the clearance certificate fee is too high to justify its payment in order to regain access to formal credit. For households in the bottom 40% of the wealth bracket earning $40/month, paying $22 for a clearance certificate may be especially difficult.

The number of digital credit borrowers on the default list should be lowered in order to ensure that vulnerable borrowers are not barred from future credit that may benefit their business or general livelihood. Action should be taken to prevent digital credit borrowers from defaulting on their loans or to mitigate the effects of borrowers defaulting on their loans. For many borrowers, digital credit is their first experience with the formal credit market. Digital credit providers and regulators should work to ensure that those who have just been brought into the formal financial sector are not immediately excluded from one of its central benefits upon their entrance.

Background

The number of adults in developing economies who have a financial account is increasing rapidly. Adults in developing economies holding accounts with a financial institution or a mobile money service rose from 54 percent in 2014 to 63 percent in 2017 (Demirguc-Kunt et al., 2018). The growth of mobile money accounts in developing economies has been fueled by the increase in mobile phone ownership. Approximately 80 percent of adults in developing economies have a mobile phone, and half of these mobile phone owners have access to the internet (Gallup, 2018). East Africa was the original epicenter of mobile money accounts, and other parts of the continent have recently experienced a large uptick in the number of mobile money account holders. Sub-Saharan Africa is now the only region in the world where more than 10 percent of adults have a mobile money account (Demirguc-Kunt et al., 2018).

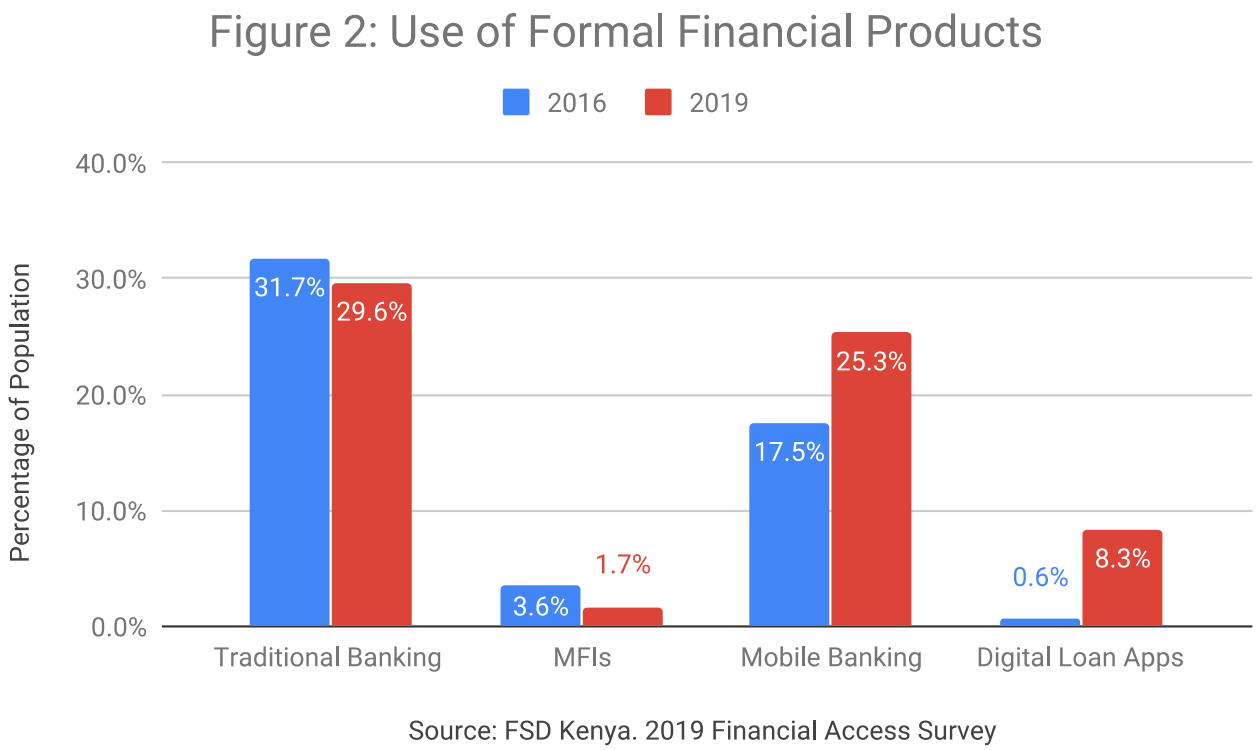
Digital Credit

The penetration of mobile phones and mobile money accounts has allowed digital credit to become a significant part of the credit market. Digital credit has several advantages that allow it to compete with traditional microfinance institutions (MFIs). It has dramatically lower transaction costs since loans can be disbursed immediately through mobile money networks, and the use of non-traditional data to develop alternative credit scores "makes it possible to extend credit to large groups of individuals without collateral or traditional scores" (Francis et al., 2017). The initial loan may not be very large, but borrowers may receive larger loans after they have paid back previous loans. This promise of larger loan amounts along with continued access to the lending platform is the only real form of collateral in the digital credit system (Cheney, 2016).

Digital Credit in Kenya

Kenya is leading the growth of digital credit in the developing world. High mobile phone ownership rates and the popularity of mobile money accounts made Kenya a natural market for digital credit providers to launch their products. Approximately 80 percent of Kenyans own mobile phones; 50 percent of the population owns a basic phone while 30 percent own a smart phone (Silver and Johnson, 2018). The mobile money system M-Pesa, launched by telecom provider Safaricom in 2007, is now used in 96 percent of the country's 5 million households (Suri and Jack, 2016). By 2018, 27 percent of adults, one third of mobile phone owners, had used a digital credit service (Gubbins and Totolo, 2018).

The massive growth of mobile money and digital credit has made Kenya one of the most financially inclusive countries in sub-Saharan Africa. In 2009, approximately 40 percent of the population had access to formal financial services. Today, approximately 83 percent of the population has access to formal financial services. Borrowers in Kenya seek multiple forms of credit, with many still utilizing credit from informal sources such as savings groups or family members. Mobile banking products and digital loan apps have been leading drivers in expanding financial inclusion and access to formal credit. The use of traditional banking has slightly decreased over the last few years, while the use of MFIs has decreased by 50 percent since 2016 (FSD Kenya, 2019). There is no causal evidence indicating that these decreases are necessarily due to the growth of digital credit products. However, the correlation suggests that some borrowers may be using mobile banking services and digital loan apps in place of traditional banking services and MFIs.



Source: FSD Kenya. 2019 Financial Access Survey

Digital Credit Providers

There are dozens of digital credit providers in Kenya. M-Shwari, the digital credit product of the Commercial Bank of Africa (CBA), was the first digital credit platform in Kenya, and it continues to lead the industry with twice the market share of its closest competitor, KCB M-Pesa, the digital credit product of the Kenya Commercial Bank (KCB). Both banks have partnerships with Safaricom to operate these digital credit products through the M-Pesa platform. Other Kenyan banks such as Equity Bank and Co-operative Bank have entered the digital credit market with products that claim a much smaller market share. Tala and Branch, American-based fintech startups, have emerged as significant players with market shares comparable to Equity Bank and Co-operative Bank (Gubbins and Totolo, 2018).

Credit-Scoring Methods in Digital Credit

Digital credit providers ascertain the creditworthiness of borrowers by using the data on the customer's mobile phone. Every company uses different methodologies and different algorithms, but access to the borrower's data is critical for each digital credit system. The majority of lenders from the telecom industry (CBA and KCB) use "the applicant's history of mobile phone usage, including phone calls, text messages, airtime purchases, data use, and mobile money transactions." Companies with app-based platforms (Branch and Tala) are able to collect that same information as well as "GPS data, information on social media use, contacts lists" and other data points (Francis et al., 2017). After running an applicant's information through their scoring system, the lender determines the maximum amount a borrower may receive for their first loan. The borrower's maximum credit limit increases as they repay their loans.

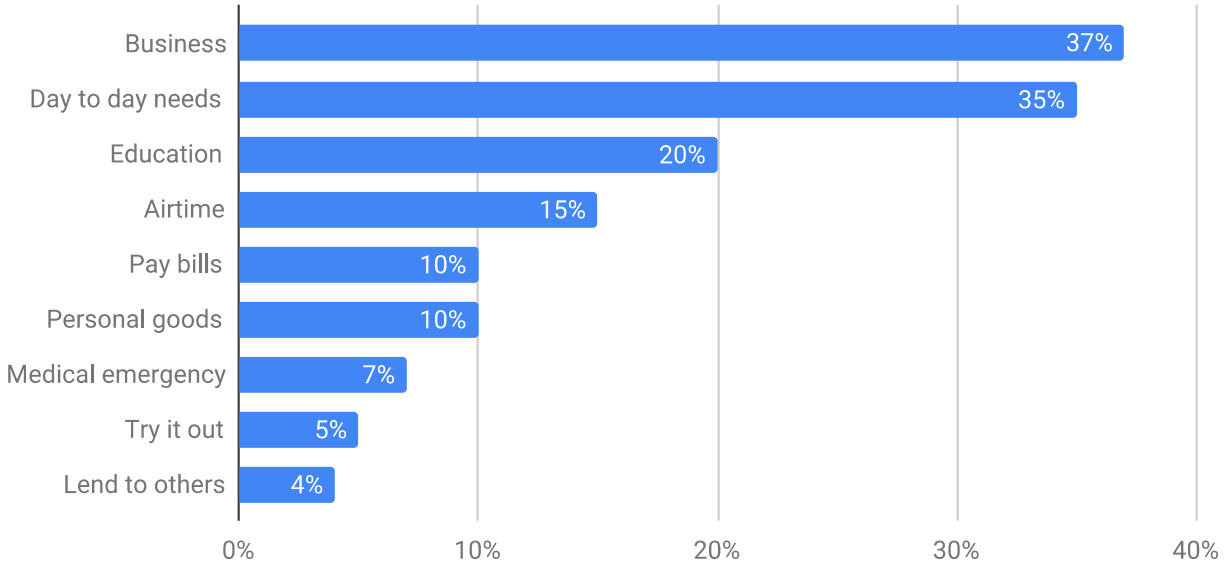
Cost of Digital Credit

While borrowers may increase their maximum loan amount, many continue to pay the same interest rates or "facilitation fees" that they paid on their first loan. The largest providers are not utilizing risk-based-pricing (RBP) to determine a borrower's loan cost; customers are given the same rates regardless of their repayment performance. A loan from M-Shwari has a one-month term with a 7.5 percent facilitation fee (CBA, 2019). A loan from KCB M-Pesa has a one-month term at a cost of 4.08 percent (KCB, 2019). Tala and Branch offer more expensive products than CBA and KCB. The higher cost reflects the market these fintech firms serve: borrowers who own a smartphone. Tala's average loan has an 11 percent interest rate for a $50 loan with a one- month term (Adams, 2016). Branch interest rates range from 1 to 14 percent monthly with loan values from $2.50 to $700 (Branch, 2019). Both companies offer longer loan terms than CBA or KCB. While Branch and Tala charge higher prices for some initial loans, they are moving towards lowering costs for borrowers who consistently repay their loans. Tala is already utilizing RBP, and Branch is in the process of implementing RBP (CIS Kenya, 2018).

Use of Digital Credit

Most digital loans range from $5 to $70, with the median loan being approximately $25 (Gubbins and Totolo, 2018). In Kenya, $1 has roughly the same buying power as $20 in the U.S., so relatively low-value loans can have a significant impact on borrowers (Loizos, 2018). Borrowers use digital credit for several reasons, the majority of which are consumption-based. Approximately 37 percent of borrowers use digital credit to expand their business, 35 percent use it to meet day to day needs, and 20 percent use it to pay for education costs. Borrowers are more likely to be young, male, relatively more educated, and living in an urban area. However, use is becoming more even across demographic groups as digital credit grows in popularity (Gubbins and Totolo, 2018).

Figure 3: Reasons for Using Digital Credit



Source: FSD Kenya. Analysis of 2016 FinAccess Survey

Regulating Digital Credit

The growing use of digital credit products has spurred discussions on how regulators should govern the digital credit market. Digital credit products offered by banks are licensed and regulated by the Central Bank of Kenya (CBK), but digital credit providers that do not accept deposits such as Branch and Tala have no direct regulatory body overseeing their businesses. This has lack of a direct regulator for non-deposit-taking entities is concerning to many industry observers, but CBK's enforcement of regulations for deposit-taking firms has not been free of challenges. Because they are subject to the country's interest rate cap, digital credit products offered by banks may not charge interest rates greater than 4 percentage points above the CBK Rate. The rate is currently 9 percent, so banks cannot legally charge an APR greater than 13 percent (Central Bank of Kenya, 2017). However, CBA and KCB have avoided these interest rate caps by charging "facilitation fees" instead of, or in addition to, interest rates. A recent court ruling stated that banks engaging in such practices were not violating the law (Guguyu, 2018).

Consumer Protection

There are legal protections for digital credit borrowers, but some are less effective than others. The Consumer Protection Act applies to the entire economy and "contains general prohibitions on false, misleading, deceptive or unconscionable representations." The law "contains provisions regulating credit agreements, regardless of whether the entity is a licensed bank." However, "there is no regulator specified in the Consumer Protection Act as responsible for enforcement." It only provides protection to consumers by enabling them to file a class action lawsuit (Blechman, 2016).

Regulation of Competition

The Competition Authority of Kenya (CAK) has been an effective regulator in the digital credit industry due to its authority over both deposit-taking and non-deposit-taking entities. CAK is an "independent regulator of competition with primary authority over competition matters in all sectors," and it has been active in the regulation of mobile financial services (Blechman, 2016). In 2016, CAK ruled that all mobile financial service providers "must disclose their costs via customers' mobile handsets," and the quality of disclosures "improved substantially in digital credit" after the rule was enforced (Mazer, 2018).

Credit Reporting

Because it does not have authority over non-deposit-taking entities, CBK can only regulate the credit reporting of banks providing digital credit services. All banks are required to report "both positive and negative credit information on consumers" to one of Kenya's three CRBs which are licensed and regulated by CBK. Digital lenders that are not banks "have no obligation to submit any credit data to the bureaus" (Blechman, 2016). However, both Branch and Tala state that they reserve the right to report credit performance to authorized credit reference bureaus, and Tala explicitly informs its customers about how they can build a positive credit identity (Branch, 2019; Tala, 2018). In the current system, lenders only submit data to CRBs once a month. This allows borrowers to take out loans from multiple lenders during a single month, leaving lenders unaware of borrowers' potential over-indebtedness.

Potential Regulator Action

Governor Njorege recently stated that CBK and industry participants are considering the "establishment of a data hub that would serve as a common credit information sharing data repository" (CIS Kenya, 2018). The data hub would attempt to address the need for real-time information in digital credit, allowing providers to have a greater awareness of a borrower's risk of over-indebtedness. The establishment of the data hub would also address the drastically different credit scores a single borrower can receive from different CRBs (Muchira, 2017). While some differentiation between CRB scores should be expected, the current situation in which one CRB gives a borrower a relatively high score while another gives the same borrower a relatively low score is "leading to low credit scores and denial of credit" (Economist Intelligence Unit, 2018).

Regulator Concerns

The lack of regulation for fintech terms is a matter of serious concern for CBK. In a recent interview with Reuters, the Governor of CBK, Dr. Patrick Njorege, stated that lending by fintech firms has "led to an increase in predatory lending practices," and he called for the regulation of the sector (Fick, 2018). Governor Njorege admitted that this would require new legislation, since the CBK can only regulate financial entities that accept deposits under current law (Mwiti, 2018). Lacking the ability to regulate the fintech firms, CBK has made efforts to inform borrowers about the cost and terms of credit services. In 2017, CBK launched the Cost of Credit portal which "allows consumers to compare the cost of credit across different products and providers." CBK also stated that it continues to prioritize consumer protection concerns such as "data privacy, agent liquidity, and unclear or limited recourse in the case of disagreements between consumers and providers" (Financial Sector Regulators Forum, 2018).

Potential Legislation

The National Assembly's Committee on Communication, Information, and Innovation recently published a report that called for the CBK and the Communication Authority to formulate and publish regulations on mobile money transaction fees for all mobile money operators. The enactment of this legislation would fundamentally alter the current digital credit market. Fintech firms such as Tala and Branch would be regulated in the same manner as digital credit products operated by commercial banks. The report does not mention whether or not fintech firms would be constrained by same interest rate caps that commercial banks must observe, but, as commercial banks have demonstrated, interest rate caps can be bypassed by charging "facilitation fees." The report was tabled in the National Assembly on March 5, 2019. If it is adopted by the parliament, the CBK and the Communication Authority would have 6 months to publish the new regulations (Capital Business, 2019).

The CBK's concern that borrowers may not be fully informed about the terms and conditions of digital credit loans is validated by survey data. Approximately 20 percent of borrowers reported being charged unexpected fees, not fully understanding the cost of a digital loan, or having the lender unexpectedly withdraw money from their mobile money account (Gubbins and Totolo, 2018). In addition to a lack of information, some industry observers are concerned about the amount of marketing for digital credit services. Some lenders have engaged in aggressive SMS-based push marketing that is currently unregulated (Singh, 2018).

Regulators are concerned about the number of digital credit borrowers defaulting on their loans. Since 2015, approximately 10 percent of adults in Kenya have been negatively listed on Kenya's CRBs for defaulting on a loan (Wright and Holtmann, 2018). Governor Njorege cited this statistic as he was discussing his concerns with unregulated fintech firms operating in Kenya (Fick, 2018).

Causes of Digital Credit Defaults

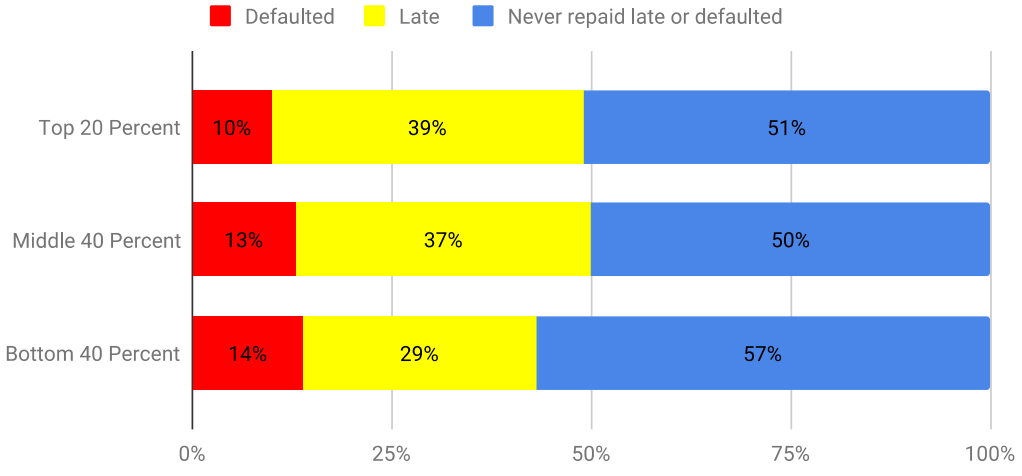
There are several causal factors behind digital credit defaults. From the supply side, digital credit providers may be failing to accurately score borrowers' risk. As the industry grows, providers are continuing to improve their credit scoring methodology, but some providers may be more accurate than others in scoring borrowers' risk. While this study does not offer alternatives to address this cause, it is an important factor to consider in observing the digital credit default rate.

From the demand side, there are numerous reasons that borrowers default on digital credit loans. Serial defaulters, borrowers who take a loan with the intent to default, posed a serious threat to the industry in its initial phases, but providers have developed mechanisms to address the tactics used to take advantage of digital credit systems (Mannepalli, 2017). Industry observers estimate that serial defaulters only represent about 1 to 3 percent of all defaulters (Getenga, 2016). There are several legitimate reasons that borrowers default, but survey data suggests that the majority of those reasons can be placed into one of two categories: **failing to understand loan terms and costs** or **experiencing an unforeseen, adverse event** (FSD Kenya, 2019).

Some borrowers reported that they defaulted because they did not understand the terms of their loan, the payment was more than they expected, or rates increased (FSD Kenya, 2019). In addition to unclear disclosures, some borrowers may not be accurately estimating the total cost of their loan. Only 43 percent of respondents correctly estimated the cost of a $10 loan with an interest rate of 10 percent. There was some disparity between men and women; 49 percent of men responded correctly while 37 percent of women responded correctly (FSD Kenya, 2019).

Other borrowers stated their default was due to unforeseen, adverse events such as job loss, poor business performance, or an emergency (FSD Kenya, 2019). These events likely have a greater impact on poorer borrowers who default. A greater proportion of borrowers in the bottom 40 percent of household wealth reported defaulting on a loan. Of those borrowers, about half were more likely to default than borrowers in other wealth groups (Gubbins and Totolo, 2018).

Figure 4: Loan Repayment Trends by Household Wealth



Source: FSD Kenya. Analysis of 2016 FinAccess Survey.

Analysis of Alternatives

Four different alternatives will be considered to address the digital credit default rate. Alternative 1: *Let present trends continue*, would require no action. Alternatives 2, 3, and 4 would require pilot studies. There have been very few studies that have focused on policies to address the digital credit default rate, so, rather than suggesting direct action, these alternatives suggest pilot studies to ascertain the effectiveness of a potential future policy. The pilot studies would be conducted through a partnership with the Mastercard Center for Inclusive Growth, either the Central Bank of Kenya (CBK) or the Competition Authority of Kenya (CAK), and the Commercial Bank of Africa (CBA).

CBA would be the optimal digital credit provider to partner with because its product, M-Shwari, is the most widely used digital credit product in Kenya. It is available to all digital credit borrowers, no matter what kind of phone they own, so its customer base will likely be the most representative of all the digital credit providers in Kenya. M-Shwari borrowers are also more likely to report that they have defaulted on a digital credit loan. According to an analysis of the 2016 Financial Access Survey, M-Shwari borrowers were "about 30 percent more likely to pay late or default than borrowers of digital loans from other providers" (Gubbins and Totolo, 2018).

The pilot study in Alternative 2 focuses on the disclosure of loan terms and costs, so CAK would be the regulatory partner on this study because it is capable of creating and enforcing disclosure rules for all digital credit providers. The pilot studies in Alternatives 3 and 4 would primarily contend with the reporting of defaults to CRBs, so CBK would be the regulatory partner on both of these studies because it is responsible for licensing and regulating CRBs.

Summary of Alternatives

Alternative 1: *Let present trends continue*	Even if the digital credit default rate decreases without any policy intervention, vulnerable borrowers will continue to default on loans. As long as borrowers have a default on their record, it is unlikely that they will be able to access formal credit products. Instead of utilizing digital credit products or other formal credit products, borrowers who are "blacklisted" will likely have to seek informal credit products such as loans from family members or cash lenders who charge relatively higher interest rates compared to digital credit providers.
Alternative 2: *Create standard messaging disclosing terms and cost of loans*	A pilot study would be conducted to determine if a standardized, SMS-based disclosure of terms and costs could reduce the digital credit default rate. This study would require a partnership between the Mastercard Center for Inclusive Growth, CBA, and CAK. The CAK would observe the process and, after analyzing the results of the study, determine if all digital credit lenders should be mandated to utilize a standardized, SMS-based disclosure of loan terms and costs.
Alternative 3: *Remove the clearance certificate fee*	A pilot study would be conducted to determine if removing the costs of the clearance certificate would increase the number of borrowers who repay their owed amount after defaulting. This study would require a partnership between the Mastercard Center for Inclusive Growth, CBA, and CBK. The CBK would observe the process and, after analyzing the results of the study, determine if they should take actions to remove the costs of the clearance certificate for defaulted loans under a certain value threshold.
Alternative 4: *Prevent first-time, low-value defaults from being reported*	A pilot study would be conducted to examine borrowers' behavior after they are informed that their default will not be reported to the CRBs. This study would require a partnership between the Mastercard Center for Inclusive Growth, CBA, and CBK. The CBK would observe the process and, after analyzing the results of the study, determine if they should propose actions to prevent a borrower's first default on a low-value loan from being reported to the CRBs.

Criteria

This APP will consider cost, effectiveness in evaluating policy, equity, political feasibility, and future implications in evaluating the four alternatives. Due to the different natures of the alternatives, criteria will not necessarily be evenly applied to Alternative 1: *Let present trends continue* and the pilot studies conducted in Alternatives 2, 3, and 4.

Cost
Only accounting costs will be determined in evaluating each alternative. Economic costs will be briefly discussed in Alternative 1: *Let present trends continue*. The pilot studies in Alternatives 2, 3, and 4 will share the same base rate of $140,000, with variance in costs arising from the different treatments employed in each pilot study. Only the variance in costs will be stated in the evaluation of costs.

Effectiveness in Evaluating Policy
Policy alternatives will be given a basic score for effectiveness: **low**, **moderate**, or **high**. The effectiveness of Alternative 1: *Let present trends continue* will be determined by its impact on digital credit borrowers in the present. The effectiveness of each pilot study will be determined by how accurately it measures the effect of the corresponding potential future policies. For example, the effectiveness of Alternative 2: *Create standard messaging disclosing costs and terms of loans* would be determined by considering how accurately it measures the effect of the corresponding future policy: CAK mandating that digital credit providers send standardized text messages disclosing loan terms and costs.

Equity
Each alternative will be evaluated by how it **addresses** or **does not address** equity between borrowers in regards to their economic vulnerability and gender. There are other areas of equity that could be considered, but these appear to be the most pertinent according to the current research. Borrowers in the bottom 40% of household wealth default at higher rates than wealthier borrowers. Women are less likely to accurately calculate the costs of a loan. Alternatives that address economic equity will not be considered superior to those that address gender equity, and vice versa.

Political Feasibility
Policy alternatives will be given a basic score for political feasibility: **low**, **moderate**, or **high**. Alternatives that would receive support from both regulators and providers will be considered to have a **high** level of political feasibility. Alternatives with support from regulators or providers will be considered to have a **moderate** level of political feasibility. Those with no support from either group will be considered to have a **low** level of political feasibility.

Future Implications
This study will consider if the policies that could result from the pilot studies address defaults due to **failing to understand loan terms and costs** or defaults due to **experiencing an unforeseen, adverse event**. The data determining which of these drivers is more prominent among borrowers is still unavailable for analysis. Borrowers' understanding of loan terms and costs may continue to improve in lieu of any policy intervention, but borrowers will continue to default on digital loans due to an unforeseen, adverse events. Therefore, alternatives that attempt to mitigate the effects of default due to unforeseen, adverse events will be considered to be superior to alternatives that attempt to prevent defaults due to borrowers failing to understand loan terms and costs.

Alternative 1: *Let present trends continue*

It is possible that the digital credit default rate will decrease without any intervention as borrowers continue to adjust to digital credit products. As digital loans become more and more prevalent, borrowers may become more aware of loan terms and costs. It is also likely that providers will improve their abilities to accurately score the risk of borrowers. The default rate for digital loans offered by banks has already decreased from 27 percent in 2016 to 11.4 percent in 2017 (Financial Sector Regulators Forum, 2018). While this decrease is a positive sign for the digital credit industry, the decline may be due in part to the fact that those who defaulted in 2016 were simply removed from the credit market, reducing the number of vulnerable borrowers contributing to the default rate in 2017.

While borrowers may become more aware of the terms and costs of loans and providers may improve their scoring of customers, borrowers will continue to default on loans due to unforeseen, adverse events. As long as borrowers are listed as being in default, it is unlikely that they will be able to access formal credit products. Instead of utilizing digital credit products or other formal credit products, borrowers who are blacklisted will likely have to seek informal credit products such as loans from family members or cash lenders who charge relatively higher interest rates compared to digital credit providers. Allowing digital credit borrowers to remain "blacklisted" will prevent them from building a positive credit identity in the formal market and cut off their access to digital credit.

Cutting borrowers off from the digital credit market may have serious consequences. Digital loans allow borrowers to grow their business, meet basic daily needs, and pay for education costs. A study comparing M-Shwari applicants around the credit approval threshold found that digital loans increased borrowers' ability to pay for education and cope with financial shocks. Households eligible for M-Shwari were "6.3 percentage points less likely to forego any expenses in response to a negative shock" (Bharadwaj, Jack, Suri, 2019).

This points to one of the most important features that digital credit offers borrowers: liquidity. In a study that followed 300 low-income households in Kenya, researchers found that "only 9 percent of household savings were held in a liquid form in which they could be immediately tapped." Most families were keeping assets in "informal savings groups or locked up as shares in savings and credit cooperative organizations." This led some families to forgo medical treatment, and over half of the households "had a child sent home for late payment of school fees." In many cases, these events occurred because families lacked immediate access to $20 or less. This need for liquidity is what drew Kenyans to M-Shwari when it launched in 2012. The credit it offered was larger than the amount of credit offered by local shops, faster (and more reliable) than friends or family, and cheaper than moneylenders (Zollman, 2015).

It is unclear if the digital credit default rate for banks will increase or decrease from the 11.4 percent cited by CBK in 2017. However, survey data suggests that the number of digital credit borrowers who report defaulting on a digital loan will continue to rise (FSD Kenya, 2019). If regulators take no additional action to study potential policy interventions, the number of borrowers listed as being in default may continue to increase.

Evaluating Alternative 1: *Let present trends continue*

Cost
This alternative presents **no direct costs** to regulators or providers. There may be some economic costs for credit providers due to potential customers remaining out of or being removed from the market. Borrowers who have defaulted or will default in the future may experience economic costs because they are not able to access loans or build a positive credit identity to obtain future loans.

Effectiveness
The effectiveness of this alternative is **low**. Taking no action to study any potential policy interventions will not alter the current trajectory of the digital credit default rate or mitigate the negative effects of digital credit borrowers defaulting on their loans.

Equity
This alternative **does not address** the equity gaps between borrowers with differing levels of economic vulnerability or the equity gaps between men and women. It does not address the higher probability of default among more economically vulnerable borrowers or female borrowers' higher probability of misinterpreting loan costs.

Political Feasibility
The political feasibility of this alternative is **moderate**. The majority of providers may be content with the current market conditions, but regulators and members of parliament who are concerned about the digital credit industry may not be satisfied with letting present trends continue.

Future Implications
Allowing present trends to continue **does not address either driver of the digital default rate**. It does not increase borrowers' ability to understand the terms and costs of their loans in order to prevent defaults that occur due to unclear disclosures; it does not allow for mechanisms to mitigate the negative effects of defaults that occur due to unforeseen, adverse events.

The M-Shwari Default Process

The default process an M-Shwari customer goes through is critical to the pilot studies in Alternatives 2, 3, and 4. To gain a better understanding of the process, consider what happens when an M-Shwari customer fails to repay a $10 loan. Initially, a payment of $10.75 is due 30 days after the borrower receives the funds. When the borrower fails to repay on day 30, their loan is renewed for one month with an additional 7.5 percent facilitation fee charged on the outstanding balance. CBA sends a text informing them that they will be reported to the CRBs if they do not repay the loan. The borrower now owes $11.55 due on day 61. When they fail to repay, CBA sweeps any funds in the M-Shwari account to cover the cost of the loan and sends another text stating that they will be reported to the CRBs if they do not repay the loan. On day 90, CBA sends a final text stating that the borrower will be reported to the CRBs. The borrower is officially reported to the CRBs on day 120, and CBA "writes off the loan" but continues "to pursue repayment" (Cooks and McKay, 2015).

Assumptions for the Pilot Studies

Cost of Phone Interviews
Alternative 4 would require the hiring of research assistants from universities in Kenya to conduct phone interviews. Research analysts in Nairobi earn $6,600/year on average, so it is assumed that the research assistants would be paid no more than $10/hour (Payscale, 2019).

Cost of Pilot Studies
The base cost of each pilot study is expected to be roughly $140,000. This estimate is derived from the cost of a study conducted by Prashant Bharadwaj, William Jack, and Tavneet Suri (Suri, 2019). The study utilized CBA's administrative data on 10,000 M-Shwari customers and survey data to determine the take up rates and impacts of M-Shwari loans (Bharadwaj, Jack, and Suri, 2019). While the pilot studies evaluated differ from the cited study in that they employ a treatment, this cost is assumed to be at least a reliable base price for conducting these studies in cooperation with CBA. Similar to the cited study, it is assumed that the pilot studies would require 1 to 3 lead researchers and 2 research analysts.

Cost of Text Messages
The cost for sending one text message is assumed to be approximately $.01 per text for CBA (TextIt, 2019).

Default Rate
The default rate for digital credit products offered by banks was 11.4 percent in 2017 (Financial Sector Regulators Forum, 2018). This study assumes that the default rate of borrowers in the study will be approximately 10 percent.

Exchange Rate
All costs are stated in USD, but the text messages in Alternative 2 state loan costs in Kenyan Shillings (KSh). The current exchange rate is approximately 100 KSh for $1 (Bloomberg, 2019).

Value of Defaulted Loans
Alternative 4 assumes that about half of defaulted loans will be valued at $10 or less. This assumption is based on Microsave's analysis of TransUnion data showing that 47 percent of digital NPLs were valued at $10 or less (Singh, 2018).

Alternative 2: *Create standard messaging disclosing loan terms and costs*

Industry observers are concerned that borrowers are taking out loans without fully understanding the terms of their loan. Approximately 20 percent of borrowers reported being charged unexpected fees, not fully understanding the cost of a digital loan, or having the lender unexpectedly withdraw money from their mobile money account (Gubbins and Totolo, 2018). The Competition Authority of Kenya (CAK) ruled in 2016 that all mobile financial services providers "must disclose their costs via customers' mobile handsets," and a survey conducted after the rule change found that it significantly improved borrowers' understanding of the costs of their loans (Mazer, 2018).

However, some borrowers still report defaulting on their loans because they do not understand the terms and costs of the loan (FSD Kenya, 2019). The 2016 Financial Access Survey suggested reporting a transparency issue may increase the chances of default; 15 percent of borrowers who reported transparency issues defaulted on their loans, while only 11 percent of borrowers who did not report transparency issues defaulted on their loans (Izaguirre, Kaffenberger, and Mazer, 2018). In tandem with the lack of transparency, some borrowers may not be accurately calculating the true costs of their loans. In the 2019 Financial Access Survey, only 43 percent of respondents correctly estimated the cost of $10 with an interest rate of 10 percent. Approximately 49 percent of males responded correctly while 37 percent of females responded correctly (FSD Kenya, 2019).

A pilot study would be conducted to determine if standardized, SMS-based disclosure of terms could reduce the digital credit default rate. This study would require a partnership between the Mastercard Center for Inclusive Growth, CBA, and CAK. The Mastercard Center for Inclusive Growth would conduct research on the customer data provided by CBA. The CAK would observe the process and, after analyzing the results of the study, determine if all digital credit lenders should be mandated to utilize a standardized, SMS-based disclosure of loan terms and costs.

The pilot study would follow approximately 10,000 M-Shwari customers applying for their first loan. The customers would be separated evenly into control and treatment groups balanced on observable characteristics such as the credit score assigned to them by M-Shwari and the loan amount they requested. The control group would continue to receive the information M-Shwari currently sends its customers regarding the loan terms and costs. The treatment group would be sent the standardized text messages delineating the loan terms and costs.

In the treatment group, borrowers would be sent 5 text messages stating the loan terms and costs. As indicated above by the findings of the 2019 Financial Access Survey, some borrowers may not accurately estimate the costs of the loan if they are given the percentage rate. To avoid any misinterpretation, the costs of interests would be stated in absolute terms. The absolute cost of interest would also be stated separately from the principal amount. Research has shown that separating out the costs of loan can reduce the default rate. In a lab setting, researchers reduced the default rate from 29 percent to 20 percent by separating out the costs of a loan (Barry, 2018).

The texts for a $10 M-Shwari loan (stated in Kenyan Shillings) would appear in the following format:

Text 1: *Your loan costs 1,000 + 75*

Text 2: *1,075 is due on (date)*

Text 3: *If you do not repay by (date), your loan will be renewed*

Text 3: *Your new loan will cost 1,075 + 80*

Text 4: *1,155 will be due on (date)*

Text 5: *If you do not repay by (date), you will be reported to the credit reference bureaus. You will not be able to receive additional loans from M-Shwari. You may be denied loans from other credit providers.*

After the borrowers received their loans, researchers would observe the treatment and control groups until CBA reported those who had defaulted to the CRBs on day 120. The default rates would be examined to determine if there was a statistically significant difference between the treatment group and the control group.

Evaluating Alternative 2: *Create standard messaging disclosing loan terms and costs*

Cost
For the treatment group, CBA would have to send 5 additional text messages. Assuming that there would be 5,000 loans in the treatment group, the cost of the additional text messages would be approximately **$250**. The cost of processing the requested loan amounts and inputting the information into the corresponding texts messages is not known.

Effectiveness in Evaluating Policy
The effectiveness of this alternative is **high**. The results of the pilot study would display the effect of sending SMS messages to disclose loan terms and costs on the default rate. This would accurately measure the effect of the policy that could arise from this study: CAK mandating that digital credit providers send standard text messages disclosing loan terms and costs.

Equity
This alternative **addresses gender equity** concerns. In the 2019 Financial Access Survey, approximately 37 percent of women correctly estimated interest costs; approximately 49 percent of men correctly estimated interest costs. This alternative attempts to decrease the gap between men and women in accurately estimating loan costs by removing the need to calculate interests rates and explicitly stating the full cost of borrowing.

Political Feasibility
The political feasibility of this alternative is **high**. In light of its previous actions to increase the transparency of costs for consumers, it is likely that the CAK will support this study. This alternative should also be supported by CBA. If the treatment group showed an increase in repayment, the resulting policy could decrease the number of CBA borrowers who default on their digital loans.

Future Implications
If the pilot study produced statistically significant results displaying a decrease in the default rate for the treatment group, this alternative could result in a new policy that would mandate a standardized, SMS-based disclosure of loan terms. This policy addresses borrowers **failing to understand loan terms and costs** by preventing borrowers from defaulting on a loan due to unclear disclosures.

Alternative 3: *Remove the clearance certificate fee*

Research suggests that a large portion of individuals who are "blacklisted" defaulted on small loan amounts. An analysis of data from TransUnion, one Kenya's three CRBs, found that approximately 47 percent of NPLs were $10 or less and 14 percent were $2 or less (Singh, 2018). Many of these borrowers who have defaulted on these loans earn $40/month on average, so it is likely that they will not be able to afford the $22 clearance certificate fee. They will have to wait the requisite 5 years to have the default removed from their credit record (Gubbins and Totolo, 2018).

A pilot study would be conducted to determine if informing borrowers that they could remove a default from their credit record by repaying their owed amount without being required to pay a clearance certificate fee would increase the number of borrowers who repay their owed amount after defaulting. This study would require a partnership between the Mastercard Center for Inclusive Growth, CBA, and CBK. The Mastercard Center for Inclusive Growth would conduct research on the customer data provided CBA. The CBK would observe the process and, after analyzing the results of the study, determine if it should take actions to remove the costs of the clearance certificate for NPLs under a certain value threshold.

The pilot study would follow approximately 10,000 M-Shwari customers applying for their first loan. The customers would be separated evenly in control and treatment groups balanced on observable characteristics such as the credit score assigned to them by M-Shwari and the loan amount they requested. The control group would go through the default process according to current M-Shwari policy. The treatment group would go through the exact same process, but they would receive a different text message on day 120 informing them that they could remove the default from their credit record by repaying the owed amount with no requirement to pay the clearance certificate fee to access future loans. The Mastercard Center for Inclusive Growth would pay for the clearance certificate fee of every borrower in the treatment group, regardless of their loan amount. This would provide CBK with a full range of data to determine the appropriate value threshold for forgiving the clearance certificate fee.

In the treatment group, borrowers would receive the same text reminders as the control group as they failed to repay their loan on day 31, day 62, and day 90. On day 120, borrowers would receive a fourth text informing them that they had been reported to the CRBs. It would also inform them that they could remove the default from their credit record by repaying the owed amount and that they would not be charged a clearance certificate fee to access future loans.

The fourth text message for the treatment group would appear as follows:

You have been reported to the credit reference bureaus for failing to repay your loan. If you repay (owed amount), the default will be removed from your credit record and you will not be charged a clearance certificate fee to gain access to future loans.

This text would also be sent on day 150, day 180, and day 210. Researchers would observe the treatment and control groups until day 240. At the end of this period, approximately 8 months into the study, the repayment rates of defaulted loans would be examined to determine if there was a statistically significant difference between the treatment group and the control group.

Evaluating Alternative 3: *Remove the clearance certificate fee*

Cost
Assuming that there would be approximately 500 defaults in the treatment group, the cost of 4 additional text message for defaulters in the treatment group would be negligible. The costs of the clearance certificate fees would be dependent upon how many defaulters repaid their owed amount, but the total cost of the clearance certificates would be **no greater than $11,000.**

Effectiveness in Evaluating Policy
The effectiveness of this alternative is **high**. The results of the pilot study would display the effect of informing borrowers that the repayment of their defaulted loan will remove the default from their credit record and that they will not be required to pay a clearance certificate fee to access future loans. This would accurately measure the effect of the policy that could arise from this study: CBK directing the CRBs to remove the clearance certificate fee for borrowers who default on loans under a certain value. The study's accuracy may be somewhat hampered by the fact that it would only measure repayments made 120 days after defaults were reported to the CRBs. The resulting policy would likely not have a time limit on when borrowers would be forgiven from paying the clearance certificate fee, but the study would have a time limit in order to maintain a reasonable schedule. The Center for Inclusive Growth would still honor the payment of the clearance certificate fees for those who repaid their owed amount after day 240.

Equity
This alternative **addresses economic equity** concerns. Half of the borrowers in the bottom 40 percent of household wealth are more likely than borrowers in other wealth groups to default on their digital loans. By removing the clearance certificate fee, this alternative attempts to enable borrowers with relatively less wealth who have defaulted on a loan to repay their owed amount and regain access to formal credit without being required to pay the $22 clearance certificate fee.

Political Feasibility
The political feasibility of this alternative is **high**. The CBK would likely be supportive of this study. As the president of the CBK has stated in the past, he is eager to take actions that reduce the number of borrowers with defaults on their credit record. It is also likely that the CBA would support this study. If the treatment group showed an increase in repayment, the resulting policy could increase the number of defaulted loans CBA recovers.

Future Implications
If the pilot study produced statistically significant results displaying a decrease in the default rate for the treatment group, this alternative could result in a new policy that removed the clearance certificate fee for borrowers with loans under a certain value threshold. This policy addresses borrowers **experiencing an unforeseen, adverse event** by mitigating the negative effects of defaults.

Alternative 4: *Prevent first-time, low-value defaults from being reported*

This alternative would focus on the same issues discussed in Alternative 3. A substantial proportion of borrowers who default on low value loans may not be able to afford the $22 clearance certificate fee and will likely have to wait 5 years to gain access to formal loans (Gubbins and Totolo, 2018). Alternative 3 attempts to mitigate the effects of defaulting by removing one of the barriers to repayment, the clearance certificate fee. Rather than removing a barrier to repayment, this alternative attempts to mitigate the effects of defaulting by preventing a borrower's first default of a low-value loan from being reported to the CRBs.

A pilot study would be conducted to observe the behavior of borrowers after they are informed that their default has not been reported to the CRBs. This study would require a partnership between the Mastercard Center for Inclusive Growth, CBA, and CBK. The Mastercard Center for Inclusive Growth would conduct research on the customer data provided by CBA. The CBK would observe the process and, after analyzing the results of the study, determine if it should take actions to prevent a borrower's first default on a low-value loan from being placed on their credit record.

The pilot study would follow approximately 10,000 M-Shwari customers applying for their first loan. The customers would be separated evenly in control and treatment groups balanced on observable characteristics such as the credit score assigned to them by M-Shwari and the loan amount they requested. The control group would go through the default process according to current M-Shwari policy. The treatment group would go through a slightly different default process, and those with loan values of $10 or less would not be reported to the CRBs.

In the treatment group, borrowers would receive the same text reminders as the control group as they failed to repay their loan on day 31, day 62, and day 90. On day 120, borrowers with loan values of $10 or less would receive a fourth text informing them that their defaulted loan would not be reported to the CRBs. The fourth text to those with loan values under $10 in the treatment group would appear as follows:

You have defaulted on your loan. Because this is your first default, you will not be reported to the credit reference bureaus. You will not be eligible for another M-Shwari loan until you repay (owed amount).

After treated borrowers received the fourth text message, researchers would observe the treatment and control groups for another 120 days. At the end of this period, approximately 8 months into the study, the repayment rates of defaulted loans would be examined to determine if there was a statistically significant difference between the treatment group and the control group. Researchers would then conduct phone interviews with those who had defaulted on loans valued at $10 or less and evaluate their responses to determine any statistically significant differences between the treated and controlled in regards to their use of credit, their repayment behavior, and their rates of default on other loans during the 120 days after their initial default.

Evaluating Alternative 4: *Prevent first-time, low-value defaults from being reported*

Cost
The cost of 1 additional text message for defaulters in the treatment group would be negligible. Of the 1,000 defaults in both the treatment and control groups, it is assumed that approximately half would be for loan values of $10 or less, so research assistants would have to conduct phone interviews with approximately 500 borrowers. Research assistants from universities in Kenya would be recruited to conduct phone interviews. Research assistants would be paid no more than $10/hour. Assuming that 500 interviews will be conducted and that each interview will require one hour of work, the phone interviews should cost approximately **$5,000**.

Effectiveness in Evaluating Policy
Relative to the other pilot studies, the effectiveness of this alternative is **moderate**. The results of the pilot study would display the effect of informing borrowers that they would not be reported to the CRBs. This would measure the feasibility of the policy that could arise from this study: CBK proposing actions to prevent a borrower's first default on a low value loan from being reported to the CRBs. However, the effectiveness of this alternative is moderate because the data gathered in the phone surveys could be altered by several different factors. Borrowers may not be completely accurate in their responses and the population that responds to the phone survey may not be representative of all the borrowers who defaulted in the treatment group.

Equity
This alternative **addresses economic equity** concerns. Half of the borrowers in the bottom 40 percent of household wealth are more likely than borrowers in other wealth groups to default on their digital loans. By forgiving a borrowers first default of a low-value loan, this alternative attempts to allow borrowers with relatively less wealth who have defaulted to maintain their access to the formal credit market.

Political Feasibility
The political feasibility of this alternative is **moderate**. The CBK would likely be supportive of this study. The president of the CBK has made statements indicating that he is eager to reduce the number of borrowers on the default lists. It is far less certain that the CBA would support this study. Regardless of the study's findings, it is unlikely that the CBA will be willing to support research that prevents defaulters from being placed on the CRBs' default lists. The resulting policy could expose them to riskier borrowers who have already defaulted, so they would have little incentive to support this research. Exposing other providers to borrowers who defaulted in the treatment group may also decrease the political feasibility of this alternative.

Future Implications
If the pilot study produced statistically significant results displaying a decrease in the default rate for the treatment group, this alternative could result in a new policy that prevents a borrower's first default of a low-value loan from being reported to the CRBs. This policy addresses borrowers **experiencing an unforeseen, adverse event** by mitigating the negative effects of defaults.

Outcomes Matrix

	Criteria					
Alternatives	Cost	Effectiveness Evaluating Policy	Economic Equity	Gender Equity	Political Feasibility	Future Implications
Alternative 1: *Let present trends continue*	$0	Low	Does not address	Does not address	Moderate	Does not address drivers of defaults
Alternative 2: Create standard messaging disclosing loan terms and costs	$140,000 + $250	High	Does not address	Addresses	High	Addresses failure to understand loan terms and costs
Alternative 3: *Remove the clearance certificate fee*	$140,000 + $0-$11,000	High	Addresses	Does not address	High	Addresses experience of unforeseen, adverse event
Alternative 4: *Prevent first-time, low-value defaults from being reported*	$140,000+ $5,000	Moderate	Addresses	Does not address	Moderate	Addresses experience of unforeseen, adverse event

Recommendation

I recommend that the Mastercard Center for Inclusive Growth pursue the pilot study proposed in Alternative 3: *Remove the clearance certificate fee.* I recommend this alternative because of its effectiveness, its political feasibility, and its future implications.

Alternatives 2 and 3 are fairly balanced in their evaluations. Their costs are not drastically different, they are matched in equity, and they both possess high levels of effectiveness and political feasibility. Alternative 3 is recommended because of its future implications. As the digital credit market continues to grow, borrowers' awareness of loan terms and conditions may improve without any policy intervention. However, borrowers will continue to default on digital loans due to unforeseen, adverse events. Alternative 3 best addresses this issue by mitigating the negative effects of defaults with a policy solution that incentivizes the repayment of defaulted loans and enables borrowers to regain access to the benefits provided by the formal credit market.

While Alternative 4 addresses defaults due to experiencing unforeseen, adverse events it does not possess the same level of effectiveness and political feasibility as Alternative 3. The accuracy Alternative 3 offers in measuring the intended effect of the corresponding future policy is greater than the accuracy provided by Alternative 4. The data gathered in Alternative 4 may be altered by the responses or the response rate of those surveyed; the data gathered in Alternative 3 cannot be altered. Alternative 3 is also more politically feasible due to its likely support from CBA. By removing a significant barrier to repayment, Alternative 3 provides borrowers a greater incentive to repay their defaulted loans. The resulting policy may increase the number of defaulted loans CBA is able to recover. The resulting policy of Alternative 4 would expose CBA to riskier borrowers who have defaulted on a loan, so it is unlikely that they would support the corresponding research. Alternative 4 is also less politically feasible because it exposes other providers to borrowers who defaulted in the treatment group.

Note on Recommendation

The rationale for considering the future implications of Alternative 3 and 4 to be superior to future implications of Alternative 2 is based upon the idea that a policy intervention is only critical to **defaults due to experiencing an unforeseen, adverse event**. It is possible that borrowers may become more aware of loan terms and costs without any intervention by policy makers. However, it is certain that borrowers will continue to experience unforeseen, adverse events. This rationale was used to evaluate the future implications of alternatives because there was no data available to analyze which of the two broad drivers of default was more prominent among borrowers. When data from the 2019 Financial Access Survey becomes available, researchers should evaluate the percentage of borrowers who defaulted because they did not understand loan terms and costs and the percentage of borrowers who defaulted because they experienced an adverse event. If the percentage of borrowers who defaulted because they did not understand loan terms and costs is significantly higher, it is recommended that the Mastercard Center for Inclusive Growth pursue the pilot study proposed in Alternative 2: *Create standard messaging disclosing loan terms and costs.*

Implementation

The Mastercard Center for Inclusive Growth should build a relationship with FSD Kenya in order to facilitate their work in this area of research and their partnerships with CBK and CBA. FSD Kenya is one of the premier organizations promoting financial inclusion in Kenya with extensive experience in supporting research and policy analysis in the country's digital credit market. As an independent trust with the mission of "making financial markets work better for the poor," the organization has developed strong relationships with Kenya's regulatory bodies (FSD, n.d.). The researchers FSD Kenya supports have worked extensively with digital credit providers such as CBA. A relationship with FSD Kenya would help facilitate partnerships with CBK and CBA, while also connecting the Center with the leading researchers studying digital credit in Kenya.

After developing partnerships with CBK and CBA and selecting the lead researchers, the Center would implement the pilot study as described in Alternative 3. The project researchers would work with CBA to select 10,000 M-Shwari customers applying for their first loan. Researchers would separate borrowers into control and treatment groups balanced on observable characteristics such as age, sex, M-Pesa transaction value, credit score assigned by CBA, and the requested loan amount. Researchers would not change any aspect of the control group's default process. On day 90, CBA would send borrowers in the control group the final text message informing them that they will be reported to the CRBs for defaulting on their loan. CBA would send the same text message to borrowers in the treatment group. On day 120, CBA would send borrowers in treatment group an additional message stating the following:

You have been reported to the credit reference bureaus for failing to repay your loan. If you repay (owed amount), the default will be removed from your credit record and you will not be charged a clearance certificate fee to gain access to future loans.

CBA would send this text message on day 150, day 180, and day 210. Researchers would observe the treatment and control groups until day 240; however, if the lead researchers determined that a longer period of time was necessary, the timeline could be extended at minimal additional cost. They would then examine the repayment rates of defaulted loans to determine if there was a statistically significant difference between the treatment group and the control group.

The Mastercard Center for Inclusive Growth would pay for the full cost of the study, including the clearance certificate fees of defaulters who repaid their owed amount. CBK would coordinate with the CRBs to facilitate the payments of the clearance certificates fees for those who repaid their owed amount in the treatment group.

After the completion of the study, CBK would determine if the effect of the treatment warranted the removal of the clearance certificate fee for borrowers with NPLs under a certain value threshold. According to Section 31 of the Credit Reference Bureau Regulations of 2013, a CRB "may charge fees for the services it provides" with "the approval of the Central Bank" (Kenya Gazette, 2014). This language indicates that CBK could issue a directive that would prevent CRBs from charging a clearance certificate fee for borrowers with NPLs under a certain value threshold. This ruling would apply to all NPLs reported to CRBs, but most of the NPLs affected by the ruling would likely be digital NPLs due the relatively low value threshold.

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