

Feasibility Report

Credit Information Sharing in Kenya

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Prepared for Credit Information Sharing (CIS) Kenya in conjunction with Kenya Financial Sector
Deepening (FSD)

By



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LIST OF ABBREVIATIONS

| | |
|-------------|-------------------------------|
| CIS | Credit Information Sharing |
| CBK | Central Bank of Kenya |
| CRB | Credit Reference Bureau |
| DPFB | Deposit Protection Fund Board |
| TOR | Terms of Reference |

DEFINITIONS

Agent An entity contracted by a CRB and approved by the CBK to provide services on behalf of the CRB, in such manner as prescribed by the CBK - The Credit Reference Bureau Regulations of 2013 Section 2

Institution A bank or financial institution or a mortgage finance company – The Banking Act of Kenya Section 2(1)

Subscriber An institution licensed under the Banking Act or the Microfinance Act which has subscribed to receive customer information from a CRB – The Credit Reference Bureau Regulations of 2013 Section 2

Customer Information Credit information, or any other positive or negative information provided by a customer or obtained from an institution, a third party or public record information, which may be exchanged pursuant to CRB Regulations – The Credit Reference Bureau Regulations of 2013 Section 2

Credit information Any positive or negative information bearing on an individual's or entity's credit worthiness, credit standing, credit capacity, to the history or profile of an individual or entity with regard to credit, assets, and any financial obligations – The Credit Reference Bureau Regulations of 2013 Section 2

1 INTRODUCTION

Credit Information Sharing (CIS) refers to the process where lenders share information on their borrowers and loan books to licensed credit bureaus so that it can be shared with other lenders. This centralized source of credit information gives lenders insight into how borrowers typically repay their loans. CIS has benefits for both lenders and borrowers. Lenders are able to address the information asymmetries that exist between themselves and prospective borrowers thereby improving credit risk management, while borrowers have an opportunity to build a credit history which can be used as an alternative form of collateral and as a bargaining tool to negotiate better terms. As such, CIS has the potential to improve access to credit for borrowers with good credit histories and to support the development of a sustainable consumer credit industry.

The establishment of Credit Reference Bureaus (CRBs) and the establishment of the Credit Information Sharing Association of Kenya (CIS Kenya), underpinned by the Credit Reference Bureau Regulations of 2013 formalized credit information sharing procedures in Kenya and set into motion the collection of data from lending institutions and subsequent dissemination by CRBs. Aside from supporting improved credit risk management by lenders, this data potentially enables the development of insights on market trends and developments in specific credit verticals or market segments.

Eighty20 was approached to assist CIS Kenya in demonstrating the potential of credit bureau data to inform banking supervision and economic policy as well as to recommend a framework for undertaking analytical work using credit bureau data.

1.1 Objectives of the research

This scope of the research, as set out in the project terms of reference (TOR), includes the following specific activities:

- Consider the legal provisions covering credit information sharing and data analytics using credit bureau data
- Examine the existing Data Specification Template and Data Transmission Rules to ascertain the scope of the data available
- Consider the feasibility of carrying out analytical work using credit bureau data in Kenya.

1.2 Process

As a first step, Eighty20 reviewed relevant regulations and legislation in order to gain an understanding as to how the current CIS framework fits into the broader legislative framework in Kenya and the specific regulations in that regard. The following documentation was considered as part of that process;

- The Constitution of Kenya, 2010

- Credit Reference Bureau Regulations of 2013, hereafter CRB Regulations
- The Banking Act of Kenya
- The Microfinance Act

In addition, other documentation relating to credit information sharing processes was reviewed. This includes;

- The Constitution of Credit Information Sharing Association of Kenya (CIS – Kenya) formerly known as Association of Kenya Credit Providers (AKCP) as amended at the Annual General Meeting held on 4th December 2014
- Code of Conduct for Members of CIS Kenya
- CIS Kenya Data Specification Template

Aside from a review of documentation, the project team conducted a number of telephonic and face to face interviews with key stakeholders. During the week of the 23rd February, Illana Melzer, the lead consultant on the project, interviewed regulators (CBK and SASRA), the three CRBs, industry associations, lenders and donor agencies. The primary purpose of these discussions was to explore perspectives on the use of credit bureau data to support industry level analysis and to assess the feasibility of doing so. The findings from these discussions, together with the review of documentation listed above are the primary inputs into this feasibility report.

1.3 Document outline

Sections Two and Three of this document summarise the findings of a desktop review of CIS in Kenya. Section Two considers the legal provisions covering credit information sharing and data analytics using credit bureau data. Section Three determines the scope of the credit bureau data currently available using the current Data Specification Template and the Data Transmission Rules. Section Four considers the scope and quality of the existing credit bureau data. The barriers to data analysis are discussed in Section Five while Section Six proposes a way forward.

2 LEGAL PROVISIONS COVERING CREDIT INFORMATION SHARING AND DATA ANALYTICS USING CREDIT BUREAU DATA

There is no specific mention of analysis undertaken by CIS Kenya, or any other industry body, using raw or masked CRB data in existing regulations. Provisions relating to the use of credit bureau data focus principally on CRBs. In line with section 15.1 of the CRB Regulations, CRBs are mandated to: obtain and receive customer information; store, manage, evaluate, update and disseminate credit information to subscribers; and compile and maintain a database and generate reports from this database. Section 15.2 of the CRB Regulations furthermore allows CRBS to develop credit scoring models and assign scores to each customer and sell specialized literature and other information related to its activities to institutions.

In addition, according to the regulations, CRBs can “Carry out market and statistical research relating to matters set out under the Credit Reference Bureau Regulations of 2013”. They can also conduct further analysis or activity “as may be approved by the CBK”.

It would appear therefore that CRBs are legally allowed to carry out broader market and statistical research using CRB data. The bureaus interviewed as part of this research indicated that they already undertake such analysis, or plan to do so in the near future, as part of their suite of services that enable their clients to identify credit market trends. Areas of analysis identified by bureaus or lenders are likely to respond to their direct commercial interests. They may be less inclined to focus on broader credit market trends, or topics of interest to CIS Kenya or other institutions concerned with credit market development more generally.

Nevertheless, given that CRBs are allowed by the regulations to conduct analysis on bureau data, CIS Kenya could approach one or more bureaus to undertake the required analysis for a mutually acceptable professional fee. While CRBs may well be willing to partner with CIS Kenya to undertake this research at CIS Kenya’s suggestion, there is no mechanism to compel them to do so; such an agreement between CIS Kenya and CRBs for the purposes of conducting industry analysis were not envisaged at the time the CRB regulations were drafted. CIS Kenya would therefore be reliant on active cooperation of CRBs – which may, or may not be forthcoming. CIS Kenya may therefore appeal for an amendment to be made to the CRB Regulations if the current mechanism to enable analysis is deemed insufficient.

Required analysis could be prepared in-house by the bureau, or it could be outsourced to a third party agent of the bureau, subject to the requirements of Section 16 the regulations¹.

¹ According to this section, a CRB may contract an agent subject to approval by the CBK. Prior to an application being made to the CBK, a CRB must carry out a suitability assessment with regards to the capability of the agent to perform the required services and the ability of the agent to keep customer information confidential. CRBs must ensure that no agent has unlimited access to the credit information contained in the CRB database.

An alternative approach would be for CIS Kenya to work with the CBK. As per section 47 of the Credit Reference Bureau Regulations of 2013 the CBK is recognised as the owner of CRB data. As such, it may authorize data analysis using bureau data under its ownership, if this analysis contributes to the supervisory and regulatory responsibilities of the CBK. It would appear reasonable that monitoring industry level trends and exploring developments in specific market segments or within credit verticals or product lines would fall under this mandate as would the dissemination of findings to key audiences including policymakers, donors and industry players. This view was supported by representatives of the CBK interviewed during this research.

In this regard, CIS Kenya's legal expert advises two approaches. Firstly, CIS Kenya undertakes research as an agent of the CBK after which the report becomes property of the CBK. Alternatively, CIS Kenya and the CBK collaborate to undertake analytical work and share ownership of the final report. In both cases the analysis would however be limited to matters of interest to the CBK.

3 THE SCOPE OF DATA AVAILABLE BASED ON EXISTING DATA SPECIFICATION TEMPLATES AND DATA TRANSMISSION RULES

3.1 What data is shared?

As per section 18.1 and 18.2 of the Credit Reference Bureau Regulations of 2013, customer information shared by subscribers who are licensed under the Banking Act of Kenya must contain both positive and negative information. Subscribers other than banks, including microfinance banks, while mandated under section 18.1 of the Credit Reference Bureau Regulations of 2013 to share negative information on their customers, may, as per section 18.3 of the Credit Reference Bureau Regulations of 2013 share positive information to the CRB only with prior written consent of the customer in question. However, under the Microfinance Act, microfinance banks are required to share positive data as well. Given that the Microfinance Act is superior, microfinance banks are thus also required to submit positive and negative information.

The nature and format of the information to be supplied by subscribers who submit full data to CRBs must comply with section 18.4 of the Credit Reference Bureau Regulations of 2013 and must comply with the requirements set out in the most recent *Data Specification Template*.

Section 3.3 of the Data Specification Template stipulates eight mandatory and non-mandatory files that need to be submitted by subscribers. The template provides a detailed description of the content and format of required data, and associated business rules to enable lenders to submit data. CRBs will reject data submitted by lenders that does not comply with template specifications. Lenders must submit data for all credit active customers (defined as those who have credit information on file) every month.

These files are summarized in the Table 1 below. Fields of interest for our analysis are highlighted in red.

Table 1: Files submitted to CRB

| Fields | Description | Purpose | Mandatory |
|--|--|---|--|
| Non-individual consumer and account information | Registered institutions where the facility or loan agreement is given in the business name | | Yes, for credit providers who have lent to non-individual accounts |
| Individual consumer, employment and account information | Central source of data for identity for all loans made to individuals | | Yes, credit providers who provide loans to individual consumers |
| Stakeholder information | Individuals who <ul style="list-style-type: none"> Hold at least 10% | <ul style="list-style-type: none"> Can assist risk assessment for non- | Yes, if non-individual accounts exist |

| | | | |
|--|--|--|---|
| | <p>shareholding in a company</p> <ul style="list-style-type: none"> • Are key stakeholders of the company (minimum of two) <ul style="list-style-type: none"> • Directors • Partners • Trustees/Officials | <p>individual borrowers</p> <ul style="list-style-type: none"> • Can help establish identity • Can assist in due diligence check for corporate borrowers | |
| Guarantor Information | <p>A person or entity that agrees to be responsible for another's debt or performance, if the borrower fails to pay or perform</p> | <ul style="list-style-type: none"> • Assists in providing information of the extent to which a borrower is exposed in their guarantees on the loans of others • Assists in assessing the risk of loans of an individual as guarantors mitigate the risk of default | <p>Yes, if it exists for a loan – includes group guarantors</p> |
| Bounced cheque information | <p>The data here refers to cheques bounced due to insufficient funds or linked to fraud and submitted by the payee bank that bounced the cheque. Cheques to be submitted are only those meant for settlement of credits in favour of institutions</p> | <ul style="list-style-type: none"> • Valuable indicator of credit risk • Could also be useful as part of a customer assessment | <p>Yes, mandatory if the lender has the information available</p> |
| Collateral register | <p>Items, funds and/or property pledged to secure a loan/debt. Only items pledged as collateral on signed loan agreements are considered collateral</p> | <p>Knowing whether a loan is secured by collateral, and the nature of these collaterals may be valuable information during the course of a loan assessment</p> | <p>Yes, if the individual and/or non-individual file has the filed "Type of Security" selected as "Fully Secured"</p> |
| Fraudulent activities information | <p>Submitted when fraud occurs and has been proven in a court of law</p> | <p>Very useful in the issuance of credit, as fraud is a special category of risk</p> | <p>Yes, if fraud has occurred</p> |
| Credit Application Information | <p>New loan applications</p> | <p>Important as an indicator as to whether a borrower is suddenly or excessively</p> | <p>No, but into the future, this information will become mandatory and</p> |

| | | | |
|--|--|---|-------------------------------|
| | | shopping for credit – indicator of risk and impeding exposure | will be required in real time |
|--|--|---|-------------------------------|

The files of greatest interest are the Individual Consumer, Employment and Account Information File and the Credit Application File. Tables 2 and 3 below summarise the fields submitted as part of these files.

Mandatory fields in the Individual Consumer, Employment and Account Information File include a unique customer identifier (primary identification document number), account number, sector of employment, lender, loan type, opening date, opening balance, term, amount, location of the lender, instalment and arrears indicators. These fields provide a sufficiently rich basis to prepare an analysis of disbursement and performance across the base by lender type and credit product. In addition, because each borrower is identified by a unique identifier the data can support an analysis of usage patterns and performance at a borrower level.

There are a number of fields that are listed as non-compulsory. It is likely that these fields are not well populated and are unlikely to support further analysis. Of these, perhaps the most significant variable is the *Customer Salary Band*. This data would be helpful in assessing levels of indebtedness, although ideally it should be captured as a specific amount rather than in bands. However, these fields are typically listed as optional given that some subscribers indicate that they do not capture this data. Even in cases where it is captured, it is often not accurate. In cases where income is not documented or verifiable, lenders may be unable to warrant the accuracy of this data. Nevertheless, for those employed by the state or formally registered companies, this data may well be available. A scheduled review of these Specifications will take place in the first half of this year. It is recommended that the feasibility of submission of income data for those in formal employment be debated and assessed during that process.

Table 2: Individual Customer, Employer and Account File

| Field | Bank Mandatory | Additional clarification |
|--------------------------------------|----------------|--|
| Customer personal information | | |
| Surname | Yes | |
| Forenames (1,2,3) | No | |
| Salutation | No | |
| Date of Birth | Yes | |
| Client Number | No | <ul style="list-style-type: none"> • Client reference Number in Core Lenders system • Client Number if Lender is Client Centric • Account Number if Lender is not Client Centric. |
| Account Number | Yes | <ul style="list-style-type: none"> • Account Number Linking Customer to Core Lenders system |

| | | |
|---|-------------|--|
| | | <ul style="list-style-type: none"> Same as Client Number For Account-Centric System |
| Gender | Yes | |
| Nationality | Yes | |
| Marital Status | No | |
| Primary Identification Document Type | Yes | |
| Primary Identification Document Number | Yes | |
| Secondary Identification Document Type | No | |
| Secondary Identification Document Number | Conditional | |
| Other Identification Document Type | No | |
| Other Identification Document Number | Conditional | |
| PIN Number | No | Income Tax PIN No. |
| Mobile Number | No | |
| Home Telephone Number | No | |
| Work Telephone Number | No | |

| Field | Bank Mandatory | Additional clarification |
|-------------------------------|-----------------------|--|
| Employment information | | |
| Work E-Mail | No | |
| Employer Name | Conditional | |
| Employer Industry Type | Yes | |
| Employment Date | No | |
| Employment type | No | |
| Salary Band | No | <ul style="list-style-type: none"> The band within which the Customer's Gross Monthly Salary falls. Options given are : <ul style="list-style-type: none"> A - 0 To 50,000 KES B - 50,001 To 100,000 KES C - 100,001 To 200,000 KES D - 200,001 To 500,000 KES E - Over 500,000 KES |

| Field | Bank Mandatory | Additional clarification |
|---------------------------------|-----------------------|---------------------------------|
| Lender information | | |
| Lender's Registered Name | Yes | |
| Lender's Trading Name | Yes | |
| Lender's Branch Name | Yes | |
| Lender's Branch Code | Yes | |

| Field | Bank Mandatory | Additional clarification |
|--|-----------------------|---------------------------------|
| Customer account and loan information | | |
| Account Joint/Single Indicator | Yes | |

| | | |
|--------------------------------------|-------------|--|
| Account Product Type | Yes | <ul style="list-style-type: none"> • The Account Product Type : <ul style="list-style-type: none"> ○ A –Overdraft ○ B – Credit Cards ○ C – Business Working Capital Loans ○ D – Business Expansion Loans ○ E – Mortgage Loans ○ F – Asset Finance Loans ○ G – Trade Finance Facilities ○ H – Personal Loans ○ I – Mobile Banking Loan ○ N – Other |
| Date Account Opened | Yes | |
| Installment Due Date | Yes | |
| Original Amount | Yes | |
| Currency of Facility | Yes | |
| Amount in Kenya shillings | Yes | |
| Current Balance | Yes | |
| Overdue Balance | Conditional | <ul style="list-style-type: none"> • Arrears amount in a facility. • Mandatory if Overdue date is not null, Nr of Days in Arrears & Nr of Instalments in Arrears > 0 |
| Overdue Date | Conditional | |
| Nr of Days In Arrears | Yes | |
| Nr of Installments In Arrears | Conditional | |
| Performing/ NPL Indicator | Yes | |
| Account Status | Yes | <ul style="list-style-type: none"> • The Account status as at the time of reporting. Options Available: • A - Closed – <i>No more admin processes running such as installment demands or interest charges to account, and no further facilities can be offered on this account.</i> • B - Dormant - <i>no activity for 2 years</i> • C - Write-Off – <i>For facilities that do not form part of the outstanding portfolio in the Balance Sheet, but are still outstanding in the books of accounts.</i> • D - Legal - <i>with legal officer in court</i> • E – Collection - <i>with collection bureau</i> • F – Active - <i>For facilities that form part of the outstanding portfolio, and are reported in the Balance Sheet.</i> • G – Terms Extended – <i>For Rescheduled/Restructured Facilities</i> • H – Early Settlement – <i>The facility has been cleared before the contractual period has elapsed</i> • I – Fully Settled – <i>The facility has been cleared as per the contract</i> • J – Revoked – <i>For Overdraft Facilities: The facility has been called up</i> • K – Suspended – <i>The facility has been put on hold for an indefinite period of time</i> • L– <i>Disability, Deceased or Insurance Claim</i> • M – Deferred – <i>This refers to facilities whose payments have been put on hold for a definite period or in moratorium (grace period)</i> • N – Not Updated – <i>This status is</i> |

| | | |
|--------------------------------|-------------|---|
| | | <i>reserved for CRBs (when update not received and previous record account status is not closed)</i> |
| Account Status Date | Yes | |
| Account Closure Reason | No | |
| Repayment Period | Yes | <ul style="list-style-type: none"> The repayment Period, in months for the Facility. 999 for Credit Cards |
| Deferred Payment Date | Conditional | |
| Deferred Payment Amount | Conditional | |
| Payment Frequency | Conditional | |
| Disbursement Date | Yes | |
| Installment Amount | Conditional | |
| Date of Latest Payment | Conditional | |
| Last Payment Amount | Conditional | |
| Type of Security | Yes | |

As per Table 1 above, the Credit Application Information file is also of interest. This data would provide visibility on credit applications and the status of those applications. This file is not yet mandatory and lender submission is thus unlikely to be consistent. A major issue with the Credit Application Information file involves the systems required to facilitate the real-time sharing of this information. Many institutions currently only enter data into a system once the loan has been approved and disbursed to the customer, with preceding processes done on paper. Many institutions therefore do not have the systems to record the customer application information, and implementing these systems would require major capital investments by the subscriber. Nevertheless, there are plans to make this file mandatory in the near future. Its content is therefore summarised in Table 3 below.

Table 3: Credit Application Information file

| Field | Bank Mandatory | Additional clarification |
|---|-----------------------|--|
| Customer personal information | | |
| Client Number | No | <ul style="list-style-type: none"> Client reference Number in Core Lenders system Client Number if Lender is Client Centric Account Number if Lender is not Client Centric. |
| Account Number | Yes | <ul style="list-style-type: none"> Account Number Linking Customer to Core Lenders system Same as Client Number For Account-Centric System |
| Primary Identification Document | Yes | |
| Primary Identification Document Number | Yes | |
| Secondary Identification Document | No | |
| Secondary Identification Document Number | Conditional | |
| Other Identification Document | No | |
| Other Identification Document | Conditional | |

| | | |
|-------------------|----|--------------------|
| Number | | |
| PIN Number | No | Income Tax PIN No. |

| Field | Bank Mandatory | Additional clarification |
|---------------------------------|-----------------------|---------------------------------|
| Lender information | | |
| Lender's Registered Name | Yes | |
| Lender's Trading Name | Yes | |
| Lender's Branch Name | Yes | |
| Lender's Branch Code | Yes | |

| Field | Bank Mandatory | Additional clarification |
|--|-----------------------|--|
| Customer account and loan information | | |
| Product Type | Yes | <ul style="list-style-type: none"> • The Account Product Type : <ul style="list-style-type: none"> ○ A – <i>Overdraft</i> ○ B – <i>Credit Cards</i> ○ C – <i>Business Working Capital Loans</i> ○ D – <i>Business Expansion Loans</i> ○ E – <i>Mortgage Loans</i> ○ F – <i>Asset Finance Loans</i> ○ G – <i>Trade Finance Facilities</i> ○ H – <i>Personal Loans</i> ○ N – <i>Other</i> |
| Application Date | Yes | |
| Application Type | No | Individual Consumer or Non Individual Consumer |
| Application Number | Yes | |
| Facility Application Type | Yes | <ul style="list-style-type: none"> • Unsecured • Secured |
| Application Amount | Yes | |
| Application Currency | Yes | |
| Term of Loan | Conditional | |
| Application Status | Yes | |
| Application Decline Reason codes | No | <ul style="list-style-type: none"> • A – <i>Over-indebted</i> • B – <i>Failed credit criteria</i> • C – <i>Failed verification</i> |
| Application Status Date | Yes | |
| Application Status Update Reason | No | <ul style="list-style-type: none"> • A – <i>Additional Income provided</i> • B – <i>Credit Profile Updated</i> • C – <i>Additional deposit provided by client</i> |

This data can enable an analysis of credit application patterns. Because the same unique borrower ID is used it is possible to link this data to the Individual Customer, Employer and Account File to identify possible examples of distressed borrowing. It is also possible to use this data to identify lenders who might appear to be too strict or too lenient in their credit granting practises (where for instance borrowers rejected by one lender are systematically accepted by another).

3.2 Quality of the data available

Once data is received, CRBs are mandated, as per section 5.2 of the CIS Kenya Code of Conduct to validate the data received according to the minimum threshold requirements stipulated in the Data

Specifications Template. Any submissions that do not meet the minimum threshold requirements will not be accepted by the CRBs. Furthermore, CRBs are mandated to maintain and implement quality control and audit processes to ensure the accuracy of their information. Lastly, as per section 5.2 of the CIS Kenya Code of Conduct, CRBs have up to seven days to upload the data after it has been received.

The data acceptance and validation process is designed to ensure that the information submitted to CRBs is in the correct, standardized format. The quality of the data submitted has improved in recent years with the typical rejection rate currently at around 15-20 per cent of all data submitted. It is important to recognise that rejection rates differ across bureaus reflecting differences within validation processes across bureaus. In addition, while institutions have the tools to validate the information they share, many of these institutions do not check the validity of their submissions, often due to time constraints.

In summary, while validation processes do exist, they are not necessarily sufficient, and the quality of data can improve significantly. Nevertheless, it appears that validation processes conducted by lenders and CRBs ensure that fields submitted by lenders are of sufficiently high quality and consistency across bureaus to facilitate industry level analysis.

3.3 Data retention period

As per section 33.1 of the Credit Reference Bureau Regulations of 2013, a CRB must retain customer information on non-performing loans until five years after the settlement of the account in default, or if applicable, until seven years from the date of the person's discharge from bankruptcy. Any other information not covered under section 33.1 of the Credit Reference Bureau Regulations of 2013 can be kept up to five years from the submission to CRB, or five years from the receipt of the information by the CRB, as per section 33.2 of the Credit Reference Bureau Regulations of 2013. CRBs may however hold the information for longer period, but the data provided in a credit report is limited to five or seven years. These data retention protocols are reinforced under section 5.4 of the CIS Kenya Code of Conduct. As such, data will be available for a sufficient period to facilitate aggregate and cohort-based analysis.

4 THE LENDER UNIVERSE

While the data submitted by lenders who are mandated to share data is sufficiently rich to facilitate a useful analysis, coverage is not complete. Not all lenders are required to submit both positive and negative data, and some lenders do not submit any data at all. This section of the report explores which lenders are required to submit data, what data they submit and how this landscape is likely to change in the future.

4.1 Which lenders submit data?

There are three categories of lenders who can submit data to CRBs. As per section 18.1 and 18.2 of the Credit Reference Bureau Regulations of 2013, subscribers licensed under the Banking Act of Kenya, must submit both positive and negative information. These institutions include commercial banks, the Deposit Protection Fund Board (DPFB) and microfinance banks. All other participants in the credit market – bar regulated SACCOs who are mandated to submit negative information - are not under any legal obligation to share information. These institutions may however request permission from the CBK to submit positive information to CRBs subject to written consent from the customer, which can be solicited as a condition of granting credit. This category currently also includes mobile loans underwritten by CBA which submits full data for its other credit products². A third category of data provider includes those who do not currently fall under any financial supervisory dispensation. These lenders include retail credit providers and non-bank vehicle finance companies who typically do not provide any data at all to CRBs. These data providers must obtain permission from customers to submit any data, positive or negative³.

Third-party credit information providers, who are not listed as subscribers under the CRB regulations may apply to a CRB in order to share information. The CRB then makes an application to the CBK in order for permission to obtain this third-party information. If granted, the permission they obtain from the CBK pertains to that bureau alone. Should the lender wish to submit data to another bureau it must re-apply to the CBK. This is a formality; the request is typically reviewed relatively rapidly.

As at February 2016 Metropol, one of the three operating bureaus in Kenya received data from 130 lenders. It had data for six million credit accounts owned by 3.6 million borrowers. Going forward this

² Currently, all other banks that extend mobile loans share full-file information

³ As per section 23.2 of the Credit Reference Bureau Regulations of 2013, a CRB may enter into agreements with other institutions that are non-subscribers, such as government agencies, public entities and other credit information providers for the provision of information. The agreement must specify:

- The conditions regarding the provision of information;
- The obligation to furnish accurate and updated information;
- The obligation to promptly correct any information submitted which is inaccurate, overtaken by events, false, misleading or erroneous;
- Details of the data to be provided
- The manner and acceptable form through which the information may be submitted to the CRB

Unlike subscribers, third parties, under section 23.3 of the Credit Reference Bureau Regulations of 2013, are not allowed to submit any credit information (positive and/or negative) to a CRB without the prior written consent of the customer in question.

landscape is likely to change significantly. A number of Saccos are actively exploring the feasibility of submitting full data. According to SASRA, there are 180 regulated Saccos with in excess of 3.2 million members. These Saccos could begin submitting positive data to bureaus into the future pending an amendment to the current regulations being pursued by The Sacco Societies Regulatory Authority (SASRA) which would mandate Saccos to submit this information. In addition, the CBK is in negotiation with M-Shwari about submitting positive data. Estimates published in April 2015 indicate that there were approximately 4.5 million active M-Shwari users at that time, the majority of whom were unlikely to be accessing credit from other formal sources. In addition, many mobile lenders who are not banks and are not currently sharing data have expressed an interest to share with the CRBs. Together these interventions could materially change the credit information sharing landscape in Kenya, and would enable a far richer analysis of credit activity.

5 BARRIERS TO DATA ANALYSIS

5.1 Data availability

At this stage, it appears as there is scope to conduct data analysis using existing, albeit incomplete, bureau data. There are some factors that limit the richness of this analysis. These are discussed below.

5.1.1 History of data available

The first tranche of credit information was submitted in 2010. This was submitted by banks and contained only negative information. Only since 2014 have subscribers begun submitting positive information. As such, the history of existing data that can facilitate a detailed industry and borrower level analysis is short. Of course this will improve with time, and given that it is likely to take some months to finalise the basis on which any analysis of the data is to be undertaken, this barrier in itself does not preclude useful analysis.

5.1.2 Stability of the lender base

While mandated subscribers have been submitting data since 2014, other lenders have only recently been granted permission to submit positive data. As noted, many more will join in the future. The base of lenders submitting data is therefore not stable. Any trend analysis will therefore be skewed by this instability. It may therefore be useful to concentrate on a lender-based cohort approach for the initial phases of data analysis. The analysis should ideally hold constant the set of lenders under analysis, and analyse additional lender cohorts separately.

5.1.3 Completeness of the lender universe

Because full data is only submitted by some lenders the picture provided by the data is an incomplete one. As noted, Saccos and M-Shwari lenders do not submit positive data, while some consumer credit providers do not submit any data. While CRBs actively recruit new lenders on an on-going basis, the set of lenders who submit full data is a partial one. This clearly limits the analysis of borrowing patterns across lenders and credit verticals. The analysis of performance would be somewhat useful as many more lenders submit negative data. This analysis could indicate borrowers that are in arrears on some, but not all, loans and can start to explore patterns in this regard.

5.1.4 Consistency of the lender base across bureaus

As noted, not all lenders submit data to all bureaus; CRBs must obtain permission from the CBK to obtain information from third party lenders. While the CBK has information on which lenders submit data to each bureau, and could identify the bureau with the largest base of lenders, it is possible (or even probable) that some lenders will be absent from the analysis if only one bureau provides data. It is technically possible to overcome this limitation by obtaining data from all three bureaus. However,

this is likely to add some complexity to the analysis as bureaus are likely to store data in different formats and the process of deduplication may be time-consuming.

Going forward this limitation will be eliminated if proposals to create a centralised data hub are implemented. In the meantime, we would suggest that CIS Kenya work with the CBK to identify the bureau with the highest lender penetration. It should also work with the CBK to streamline the process of granting permission to lenders to submit data to all three bureaus.

5.1.5 Non-mandatory fields: Borrower income

As noted, there are some fields that are not mandatory. These fields are typically not submitted by lenders. Of these, the borrower income field is of greatest interest. If available this data could provide some indication of instalment to income ratios, as a proxy for levels of indebtedness. Even if it was a mandatory field, it suffers from two limitations. Firstly the data is requested in income bands. Ideally, the actual income level should be provided as the bands are too wide to facilitate an analysis of indebtedness. Secondly, this data is not updated by borrowers on an on-going basis. It is only gathered by lenders during the credit application process. However, because the data is not specified as part of the Credit Application File, it would not be submitted by lenders even if that file is to be made mandatory. Thus at best, up to date data on incomes would be submitted sporadically, as borrowers successfully obtain additional credit. In addition, under section 18(4) of the CRB Regulations, income information is currently not considered credit information. As such, the legality of sharing such information is still under question. Ideally, CIS Kenya should obtain a legal opinion on this matter, and if required, motivate for amendments to regulations to facilitate sharing of this and other demographic data (for instance age, gender and location).

Bureaus could, of course, develop models of borrower income, based on other indicators in the bureau data if sufficiently rich data is provided as a starting point. However, given that data is currently collected in wide bands (as noted above), this approach is not likely to be feasible.

An alternative approach would be to work with tax authorities to link borrower ID numbers to social security data (as is the practise in Mexico) for borrowers who are formally employed and who are registered to pay tax. While this is technically feasible – and can be implemented using a masking algorithm to protect borrower identities, it will require sign off at a high level which may take some time to negotiate. It might be useful to commence exploratory conversations in this regard with the relevant authorities.

Going forward CIS Kenya may wish to motivate for a change in the template to require lenders to submit actual gross personal income data on loan approval, or at application for borrowers who are formally employed. In the meantime, an analysis of instalment to income ratios will have to rely on

basic rules of thumb to predict income based on instalments and type of credit product. As noted, there is a revision to the template underway, expected to be completed around June/July.

5.1.6 Non-mandatory fields: Employer

Data on employers is also not provided reliably by lenders. This data could be helpful in understanding trends within specific segments of the population that are prone to over-indebtedness, such as public sector workers. As with personal income, it may be possible to overcome this limitation by collaborating with other data owners – such as employers, or institutions that manage payrolls on behalf of large employers. Hashing algorithms could be used to mask the data in order to protect the privacy of borrowers. However, as with data on incomes, the process of getting sign off for this approach is likely to be time consuming. Sectorial information is however provided by institutions which could assist in this regard.

5.2 Regulatory barriers

As highlighted in Section 2, the major regulatory barrier to industry analysis being performed by CIS Kenya would be obtaining approval from the CBK to undertake such analysis. As noted, the CBK indicated that if the data analysis is conducted on their behalf in support of their regulatory and supervisory mandate, then access to all the available CRB data is possible. However, the CBK would like to obtain a formal legal opinion in this regard before proceeding.

Linked to this would be requirements in terms of de-identifying the data. This would provide protection to consumers⁴ and ensure that the analysis of the data does not violate any protocols or regulations regarding privacy. For masking to be effective it should be impossible to re-identify the borrower. Clearly ID numbers and names would need to be masked. In addition, any contact and address details should also be masked. However, it should be possible to retain demographic data such as the borrower's age at the very least in age bands, gender and, if available, income and employer type. Masking of borrower identity should be done using standard hashing algorithms to enable unique borrowers to be linked over time and across data sets (for instance, tax data if it were to be made available). Naturally, data should be masked by bureaus prior to its release to any third parties for analysis.

⁴ The right to privacy is entrenched in the Constitution of Kenya. Section 31 of the Constitution of Kenya states that every person has the right to privacy, which includes the right not to have –

- Their person, home, or property searched;
- Their possessions seized;
- Information relating to their family or private affairs unnecessarily required or revealed; or
- The privacy of their communications infringed

As such, protection the information of borrowers is a constitutional requirement for CRBs. This is reflected in the Credit Reference Bureau Regulations of 2013. A CRB is mandated under section 26.1 of the Credit Reference Bureau Regulations of 2013 to protect the confidentiality of customer information and may only report this information to: customers; the CRB; a requesting subscriber; a third party authorized by the consumer in question and; as required by law.

In South Africa, lender identities are also masked. This is at the request of lenders. While this is also the case in Kenya, it represents more of a *gentleman's agreement* rather than a formal requirement. Ultimately, this is a matter to be determined by the CBK. If lender identities are to be masked, lenders could still be categorised (e.g. bank, mortgage finance company, MFI, Sacco, and so on).

6 SUMMARY: A RECOMMENDED PROCESS GOING FORWARD

The key points established by the desktop review and interviews with stakeholders are listed below:

- The establishment of the CRBs and the rollout of the CIS Kenya, underpinned by the Credit Reference Bureau Regulations of 2013 formalized the credit information sharing procedures and set into motion the collection of data from institutions and subsequent dissemination
- Aside from improving credit risk management by reducing the information asymmetries between lenders and borrowers this data could be analysed to provide insights on market trends and lending practises which would be useful to the CBK, other regulators, policymakers, donors and industry participants
- However, no direct provision exists for an agent other than the CBK or a CRB to undertake data analysis using CRB data
- The CBK may authorize data analysis using bureau data for supervisory and regulatory purposes, and has indicated that it believes it has the mandate to facilitate the envisaged analysis
- If the analysis can go ahead, any agent appointed to conduct the analysis must be approved by the CBK and must warrant that the confidentiality of client data be maintained
- There is no mention of requirements regarding de-identification of client data in existing regulations, and no process outlined in this regard. CIS Kenya should explore global best practise in this regard and suggest a set of standards that would apply to any data that is accessed by a third party for analysis⁵. This standard should explore additional data sets that might be usefully linked to CRB data (such as tax data or property registry data) and ensure that processes to link data sets do not significantly increase the risk of re-identification. In addition, the lender identity may also be masked if required
- From the Data Specification Template and discussions with stakeholders it appears that an analysis of existing data – subject as it is to a number of limitations – would still be useful
- CIS Kenya should approach the CBK directly with a number of concrete suggestions regarding analysis that could be usefully undertaken
- CIS Kenya should highlight to the CBK that the process of undertaking the analysis will be exploratory initially, and that this process is likely to bring to light key issues with regard to the completeness and quality of data submitted. This, in and of itself, will offer material benefits to the CBK with reference to its on-going monitoring of data quality and the development of protocols to improve data quality in the future. In addition, it would enable CIS Kenya to assist the CBK with the process of monitoring the completeness and quality of data submissions going forward

⁵ This issue is currently under review in a number of countries. For example, the Office of the Australian Information Commissioner has recently released its Guide to Big Data and the Australian Privacy Principles which explores some issues relating to de-identifying client data (see <https://www.oaic.gov.au/engage-with-us/consultations/guide-to-big-data-and-the-australian-privacy-principles/consultation-draft-guide-to-big-data-and-the-australian-privacy-principles>)

- In addition, CIS Kenya should suggest specific areas of analysis that might assist the CBK in its core role of monitoring credit market development. Specific areas of interest are highlighted below with regard to reporting of product utilisation and borrower level credit usage and performance:
 - The number of credit active borrowers (defined as borrowers that are listed on the bureau)
 - The credit usage profile of credit active borrowers: Number of unique borrowers with specific credit products (open accounts), number of open accounts per active borrower
 - Borrower performance (a): Number of borrowers in arrears by credit product, number of borrowers in arrears on any credit product, number of borrowers in arrears on some, but not all credit products
 - Borrower performance (b): Number of borrowers who have had loans written off, had legal proceedings instigated by lenders for recovery within a the most recent reporting period, and the total number of borrowers who have these adverse indicators
 - Lending practises: Number of borrowers who are in arrears on one or more credit products who have accessed additional credit in the most recent reporting period
 - Profile of borrowers: Demographic profile of borrowers as a whole, demographic profile of borrowers in various loan category and performance segments, demographic profile of borrowers in arrears on one or more credit products, demographic profile of borrowers with adverse indicators
 - Thin file clients: Number of borrowers who appear in the bureau data for the first time, first credit product they access
 - A particular area of interest is clients who access mobile credit. As data on these borrowers becomes visible, a specific report on this segment of borrowers should be developed to identify usage patterns, particularly with respect to repeat borrowing. For instance, the report could segment borrowers by the frequency with which they obtain new loans within a specified period (such as a month or a quarter), borrower performance and the extension of more traditional credit products to this base of borrowers
- In addition, on-going reports could track the total number and value of accounts as reported by bank lenders to bureaus to enable the CBK to compare this with other statutory data submitted by banks to the CBK. It is noted that there may well be a discrepancy between these statistics as lenders may continue to submit data to bureaus for loans that have been written off from a financial perspective. The analysis of the data would therefore provide a platform for the CBK to explore reasons for discrepancies with lenders
- There may be a number of specific issues that the CBK would like to explore in more detail. In the interview with the CBK as part of this project, the CBK indicated it was particularly interested in n exploration of the usefulness of CRB data to support an analysis of loan pricing, in particular

an investigation of evidence of risk-based pricing (is there variance in pricing in line with assessed risk?). While this and other areas of analysis may be of interest, we would not suggest that this analysis be undertaken as the initial exploration of the data. Rather, this analysis should follow an assessment of the data emerging from the preparation of the analysis described above.

- While a key objective is for CIS Kenya to make useful industry-wide data available publicly over time, we suggest that the initial analysis be conducted on an exploratory basis with no commitment to publish any reports. As noted, this process will enable CIS Kenya to assess the quality of the data directly, and to identify areas for improvement
- This process will enable CIS Kenya to identify additional, more specific analysis that can be undertaken
- A suggested work plan outlining the key steps in the process is summarised below. The work plan identifies key tasks to be undertaken by CIS Kenya, the partner bureau, the analytics service provider and a project steering committee comprising key stakeholders from as identified by CIS Kenya. Note that timelines associated with key tasks are indicative
- The work plan suggests four phases, commencing with a formal proposal from CIS Kenya to the CBK to undertake the suggested analysis. Once the CBK has agreed that the process of analysing the data is a useful one, CIS Kenya would select the optimal bureau partner, and negotiate a commercial arrangement with the bureau in question. During Phase II the analytics service provider will submit a detailed data request to the bureau and assess the data that is provided. At the end of this phase the analytics team will advise CIS Kenya and the project steering committee on whether or not to proceed with analysis. Assuming the analysis proceeds to Phase III, the analytics partner will prepare the output and share this with the project steering committee. If the analysis does not proceed, the project will move to Phase V, described below.
- Assuming the analysis is undertaken, the project steering committee will assess the output and compare it with other, reliable data sources including statutory data submitted to the CBK. If the output is sufficiently aligned with other data and appears to be reasonable, the analytics service provider will prepare a draft static report for discussion containing key tables, definitions, limitations and commentary during Phase IV. CIS Kenya and the CBK will review the report and compare the output with other statutory data submitted by lenders to the CBK. If the output does not align with other data, and appears to present an inaccurate picture of the state of borrowers, the project will proceed to Phase V. During Phase V the analytics service provider will prepare a set of recommendations regarding data improvements and potential areas for further analysis

- The process described above will provide a foundation to build further analytical tools and processes to analyse the data going forward. In addition, through the establishment of a Project Steering Committee it will also establish the organisational infrastructure to manage data requests going forward and to determine protocols with regard to access to bureau data by entities other than those directly involved in this project. These entities might include academics or university departments, NGOs, industry bodies or specific lenders. They would make a formal request to the Steering Committee to undertake specific research. The committee would assess the merits of the proposal with particular reference to whether the research facilitates the development of inclusive credit markets or is in the public interest. Assuming that the research is deemed to be of value, the Steering Committee would determine data access protocols and conditions across a number of key areas:
 1. Facilitate and sign off that the researcher has the necessary permission from either the CBK to act on its behalf, or a bureau to act on its behalf in line with the regulations
 2. Determine de-identification rules pertaining to customers and lenders
 3. Outline any required feedback to the Steerco by the researcher
 4. Stipulate data protection requirements (what kind of environment the data may be hosted in) and restrictions on the use of data (what analysis may be undertaken on the data)
 5. Stipulate data retention limitations (how long the data may be retained for)
 6. Describe, where applicable, any limitations on the publication of research findings or review requirements in this regard
- Of course, this process would not preclude entities from approaching bureaus or the CBK directly. However, it would streamline the process for those entities that do not have established relationships with bureaus or the CBK, and actively facilitate access to bureau data for research that is demonstrably in the public interest.