Trade credit and business development in Kenya
The product design

Overview of the product

The proposal is to develop a trade credit scheme for SME Coca-Cola retailers in Nairobi, Kenya. The primary objective is to expand the access to finance for small and medium sized enterprises (SMEs). A research study to evaluate the effectiveness of the trade credit on retailers' business will be conducted by three Professors: William Jack from Georgetown University, Tavneet Suri from the MIT Sloan School of Management and Chris Woodruff from the University of Warwick. They will also have staff based on the ground that will help design and implement the surveys that will be collected as part of the study. Sreelakshmi Papineni (Sree) and Suleiman Wesonga Asman (Asman) are Nairobi-based and will be working full-time on the research study.

The study focus will be improving financial access for small-scale retailers of Coca-Cola products. The retailers are currently classified by Coca-Cola into three groups: Gold (sell more than 20 cases a week), Silver (sell 10-19 cases a week) and Bronze (less than 10 cases a week). For the purposes of this study, it is the intention to focus this study on the bronze and silver categories.

We will be trying to establish whether improved communication, tracking of orders, sales, and use of modern mobile phone banking technology for payments can facilitate the provision of trade credit and help expand small businesses. We propose to address this question in collaboration with the Coca-Cola Distributors in Nairobi, their small-scale retailers and Equity Bank.

The end goal focus is to understand how to improve financial access for a group of Coca Cola's SME retailers. We expect that financial access, and in particular access to credit, can help SME retailers in the following ways:

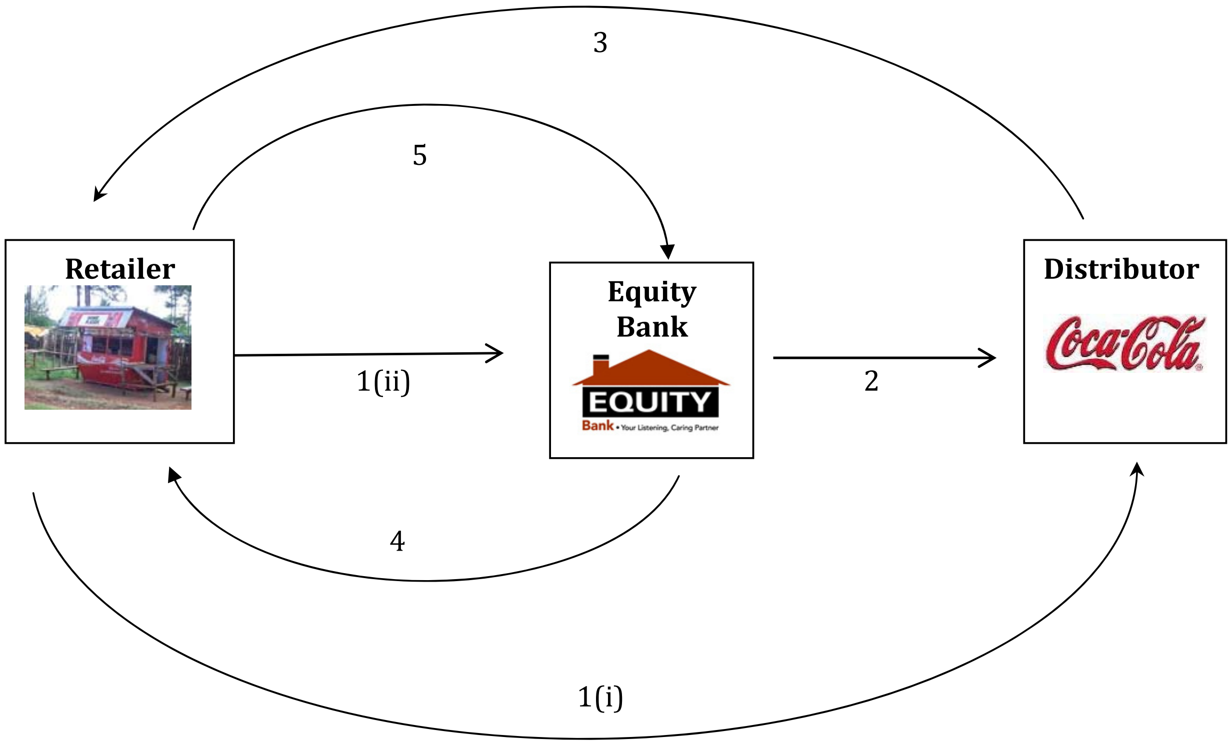
- Expand their stocks (inventories) of products
- Expand the variety of products they are able to stock and sell
- Avoid the "zero sale" problem (stocks outs as a form of lost business may be particularly relevant for this sector of SME retail businesses)
- Enable increased profit and growth of the business

We have designed a trade credit system that would accomplish these goals for the retailers. In general, a trade credit system should enable credit to be advanced to businesses for the purpose of working capital, using the supply chain as a secure and predictable payment mechanism for the credit provided. A financial product building on this idea of trade credit would therefore have benefits for the retailers at the end of the supply chain, but it would also have strong benefits for Coca-Cola by improving the efficiency of their supply chain and lowering their costs of distribution significantly, as well as giving viable returns to the bank involved in the credit provision.

The following document attempts to outline the proposed trade credit product design.

The Product Design

The structure of the credit product we have is as follows:



The flow chart describes both the credit provision as well as the repayment structure. Note that credit is offered to the individual retailers and they are individually responsible for all the repayments. The distributor is not responsible for any of the loan capital provided.

Coca-Cola Distributors and the Retailers must both have accounts at Equity Bank and the Retailers have approved loan limits in place.

Transactions for the credit process will be operated on the Equity Bank's Eazzy 24/7 mobile phone banking platform.

Process steps

Actor	#	Action Step	Risk Point	Schedule	Cost Item
Retailer 	1(i)	**Orders** case(s) of Coca-Cola from the Distributor – using phone		Day 1 (Every 4 days or other times as needed)	Charge for phone SMS = Kes 3/= (charge is dependent on the telecom provider of the retailer minimum 1/- and max 5/-)
Retailer	1(ii)	**Requests loan** from Equity Bank for the amount of the Retailer's order minus any cash payment – using Phone and Eazzy 24/7		Day 1	Free SMS Eazzy 24/7
Equity Bank	2(i)	Validates that all payments have been made on previous orders. Retailer may have more than one loan so long as it is within the limit established by Equity Bank.			
Equity Bank	2(ii)	**Processes the loan** transaction in Equity Loan accounting system. Loan request starts trigger at Equity Bank- sends funds to distributor directly, quoting a transaction ID which also notifies distributor and retailer - informing distributor of funds receipt and retailer of loan creation and details of order to be sent to retailer (all on Eazzy 24/7 phone menu).			Charges are (i) Loan Processing @ 3% as a one-off annual fee applied on the marked limit and (ii) Interest Rate @ 18% per annum on the amount only used by the retailer (the product is an overdraft facility with a marked limit) Eazzy 24/7 charge of Kes. 45/=, (fee is calculated as a top-end estimate of processing loan transactions) made by Equity to retailer for phone etransfer of funds to distributor. This charge will depend on the number of requests made by the retailer and the telecom provider of the retailer for the SMS charge. 45/- is a

					very top-end estimate and is likely to be reduced and could be as low as 5/-.
Equity Bank	2(iii)	Loan is logged on the books of Equity Bank		Day 1	Processing cost for Equity Bank
Equity Bank	2(iv)	**Confirm transactions** to Distributor and Retailer by SMS and email			
Distributor 	3(i)	Ships case(s) of product ordered to Retailer		Day 1 or Day2 Just in time inventory for Distributor	
Retailer	3(ii)	Stocks cases which sell in 5-7 days			
Equity Bank	4	Sends Retailer an instant message that payment is due on loan on the day before the due date		Day 3	Free – SMS from Equity to Retailer
Retailer 	5	Deposits payment in his Loan account via Eazzy 24/7 on phone on due date =Loan (Principle +Interest)	Retailer must have sufficient cash to pay into his loan account	Day 3 or 4	Free Eazzy 24/7 transaction transfer. No charge.

<u>SMS fees</u>

The estimate of Kes45/- per week for SMS charges is a very top-end estimate and is based on the assumption that the retailer makes numerous requests from their overdraft facility per week. Since it is predicted that the retailers' orders of Coca-Cola products will be reduced to just one order per week - a more likely scenario is the retailer would make one withdrawal per week and the SMS charges reduce to just 5/-. Equity will charge the retailer at the loan request point so will only charge for data transmission to confirm a loan request. The SMS charge actually depends on the retailers' telecom provider.

<u>Distributors as Equity Bank Agents</u>

It is optional for retailers to pay off their loans in cash at an Equity Bank branch. Another cost effective way for this to be done is for the retailer to have easy access to an Equity Bank Agent. The bank has been aggressively recruiting distributors as bank agents. (Under the new banking law in Kenya that allows banks to appoint corporate entities as agents, hence widening financial access). Several Coca-Cola distributors are now agents and cash transactions can now be done easily between the distributor, retailer and the bank, since funds deposited to the distributor by the retailer can now be credited directly to the retailers account by the distributor acting as an agent of the bank. This eliminates the transport (and opportunity cost) that the retailer would have to incur if he had to travel looking for an Equity Bank branch to deposit funds in. Application forms should be pre-printed in order to streamline the process of account opening.

Moreover, automating records at the distributor level could allow for more efficient tracking of repayments. Coca-Cola is currently in the process of automating their inventory and order systems and they propose that by December there will be a roll out. In the interim manual collection of order data will be carried out – researchers will provide a specific template that Coca Cola agrees to disseminate to its distributors involved in the study. Automation of orders will eventually be phased in at the distributor level without regard to random assignment to treatment and control groups. This automation will be completed for the distributors in the project by December 2011.

Manual Collection of data

Researchers with the aid of Coca Cola will design a preprinted sales/product order tracking form. Coca Cola will ensure distributors adhere to filling the form out for the period where automation is not in place. Categorization of the order is also to be outlined in the form i.e. whether the Retailer purchased empty bottles, liquid or crates? Plus specific type of Coca-Cola product ordered i.e. Coke, Sprite, Stoney, Fanta, Dasani identified by SKU number. The "pre-sellers" at the distributors will be enlisted to ensure the form is filled out – data will then be collected on a weekly basis. To validate that the information on this form is correct – Coca-Cola proposes that random spot-checks will be carried out by Coca-Cola to match the data on the order form against the receipts of the retailers.

Data from Equity Bank and the distributor order form will then be matched because all retailers will be assigned a ***unique ID number*** which will be pre-printed on the manual order form. This allows the researchers to determine if part cash was paid by the retailers to purchase the product.

Classification of Eligibility/Screening Process (criteria for retailer eligibility)

For the purposes of this study, it is the intention to focus this study on the bronze and silver categories. The terms of the loan are to be the same for both bronze and silver retailers. Equity Bank will set a standard for eligibility based on the following criteria:

(i) retailer must have sold Coke products continuously for at least 6 months based on their history of orders from Coca-Cola.

(ii) no default on a loan from Equity Bank within the last 2years (as verified by Equity)

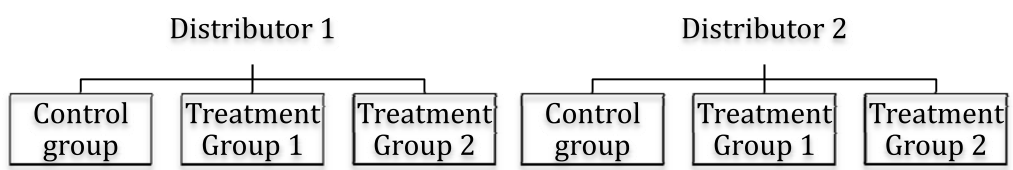
(iii) self report no other loan defaults within the last 2 years. Loans include those received from a bank, SACCO, MFI, merry-go-round, or other formal or informal financial institution. (CRB check)

Interference with the research study

The study will last for one year and Coca-Cola and Equity Bank have agreed not to offer the trade credit to any bronze and silver retailers who may not actually be part of the study but are contained in the area of study – defined as Nairobi City and the peri-urban areas: Kiambu, Githurai, Kasarani, Kahawa. The structure of the three groups chosen for the study should be maintained for the full period of study. The period over which the retailers can take-up a loan should also be available for the full period of the study i.e. no expiry of access to a loan over the year.

Each Coca-Cola distributor will have a number of retailers who are assigned into one of 3 groups: control, treatment and treatment with incentives to distributor.

Classification of treatment



The distributor will be told which of their retailers are in the study initially, and which are assigned to the control group. However, they will not be told which treatment group (either 1 or 2) the remaining retailers in the study have been assigned to until the loan is taken out.

Product specifications: Equity Bank will liaise with FSD and the Researchers to design two versions of the trade credit product. Under each version, credit will be extended by Equity Bank to a Retailer, who will be responsible for repayments. Equity Bank will offer two versions of the credit product. Under Version 1 of the credit product, Distributors will play no role in, and will receive no compensation related to, repayments by Retailers. Under the Version 2 of the credit product, while the terms of the credit faced by the Retailer will be identical, in the event that a Retailer makes full and timely repayment of a credit facility, the corresponding Distributor’s credit worthiness shall be considered as having improved by Equity Bank. If full and timely repayment is not received, the Distributor will receive no credit score improvement. According to normal prudential practices, distributors will be eligible to access their own loans from Equity Bank for the purposes of financing stock purchases from Nairobi Bottlers. Under Version 2 of the credit product as described above, those distributors with an improved credit worthiness score, determined by timely repayment of 90% of the value of specified retailers loans, will be offered more generous terms on their own distributor loan from Equity Bank. The more generous terms translate into a preferential interest rate to be confirmed by Equity Bank. The 90% loan repayment rate of their retailers assigned to version 2 of the credit product will be measured every 3months, which covers the loan cycle, and the stated preferential interest rate will be reimbursed to the distributor if the 90% target has been achieved.

Piloting of the surveys

For the purposes of piloting the surveys prior to the trade credit offering, Coca-Cola will offer a letter to the researchers confirming their backing and authorization of the study and encouraging retailers to take part in the surveys conducted.

Description of the loans

Retailers will be offered an overdraft facility with an explicit marked limit that will be communicated to the retailer ahead of take-up of the loan. The retailer will be charged a 3% "loan-processing fee" which will be a one-off annual payment that is charged when the retailer takes out the loan i.e. a participation fee. This 3% will be imposed on the "marked limit" amount set for the retailer. In order for this fee not to be punitive for the retailer - this payment can be paid off in installments over a period of 12months. A 3 % one-off on the full credit line will be more manageable, especially if this can be paid in increments. An explicit marked limit would be set for both the group of silver retailers and for the group of bronze retailers and will be different for the two groups. The researchers will advise Equity Bank what the most appropriate marked limit for the set of silver retailers and bronze retailers should be after the baseline survey is carried out and sales data has been analyzed. The marked limit refers to the maximum amount of Kes that the retailer can withdraw at any point in time. The retailer will be charged interest set at 18% per annum on the amount of money that they choose to withdraw up to their assigned limit. The interest rate of 18% p.a. is the current lending rate charged for unsecured loans.

Definition of Default

The overdraft facility will include repercussions for failure to pay off the credit. Equity Bank will use their standard definition of default outlined for a marked limit overdraft facility. Since the retailers are business customers the overdraft facility will have a cycle of one month - within that month you would need to swing into credit. Default on the repayment would mean that you have not repaid in one month. At the stage of default there will be a 6% per annum penalty on the amount that is still left unpaid in the account. The 6% penalty rate is calculated on the number of days it takes you to pay back and will be cancelled once the money is repaid in the account. Periodic retailer visits may be organized by Equity Bank to do stock checks of Coca-Cola products and the customer's ability to repay.

Repercussions is left to the discretion of both Equity Bank and Coca-Cola which may include cutting off the retailer from future credit and perhaps even from the supply chain from Coca Cola with the support of the distributor until repayment is made.

Decisions should be based according to whatever standard operating practices are currently in place.

Product list

The following is a comprehensive list of all the Coca-Cola products that can be purchased by this loan:

SKU	Wholesale Price Per Case
200ml Returnable Glass Bottle	
Coca-Cola 200ml X 24 RGB	305
Schweppes Soda Water 200ml X 24 RGB	618
Schweppes Tonic Water 200ml X 24 RGB	618

300ml Returnable Glass Bottle	
Coca-Cola 300ml X 24 RGB	477
Coca-Cola Light 300ml X 24 RGB	618
Sprite 300ml X 24 RGB	477
Fanta Orange 300ml X 24 RGB	477
Fanta B/Currant 300ml X 24 RGB	477
Krest G/Ale 300ml X 24 RGB	477
Krest Bitter Lemon 300ml X 24 RGB	477
Fanta P/apple 300ml X 24RGB	477
Stoney G/Beer 300ml X 24RGB	477
Novida 300ml Returnable Glass Bottle	
Schweppes Novida Apple 300ml X 24 RGB	618
Schweppes Novida Pineapple 300ml X 24 RGB	618
Schweppes Novida Tropical 300ml X 24 RGB	618
Schweppes Novida Orange 300ml X 24 RGB	618
500ml Returnable Glass Bottle	
Coca-Cola 500ml X 24 RGB	690
Sprite 500ml X 24 RGB	690
Fanta Orange 500ml X 24 RGB	690
Fanta B/Currant 500ml X 24 RGB	690
Krest Bitter Lemon 500ml X 24 RGB	690
Fanta P/apple 500ml X 24 RGB	690
Stoney G/Beer 500ml X 24 RGB	690
1000ml Returnable Glass Bottle	
Coca-Cola 1L X 12 RGB	629.4
Sprite 1L X 12 RGB	629.4
Fanta Orange 1L X 12 RGB	629.4
500ml PET	
Coca-Cola 500ml X 24 PET	959
Coca-Cola Light 500ml X 24 PET	1150
Sprite 500ml X 24 PET	959
Fanta Orange 500ml X 24 PET	959
Fanta B/Currant 500ml X 24 PET	959
Fanta P/Apple 500ML X 24 PET	959
2000ml PET	
Coca-Cola 2L X 6 PET	686
C/Light 2L X 6 PET	715
Sprite 2L X 6 PET	686
Fanta Orange 2L X 6 PET	686
Fanta Blackcurrant 2L X 6 PET	686
FANTA PINEAPPLE 2L X 6 PET	686
Dasani Water PET	
Dasani Water Still 1.5L X 6 PET	389
Dasani Water Still 500ml X 24 PET	778
DASANI STILL 300ML X 24 PET	410
Dasani Water Still 1L 12 PET	649
1000ml PET	

Coca-Cola 1L X 12 PET	740
SPRITE 1L X 12 PET	740
FANTA ORANGE 1L X 12 PET	740

This list also includes empty bottle and crate purchases.

Sample calculation for Retailer Breakeven – Cost Benefit Analysis

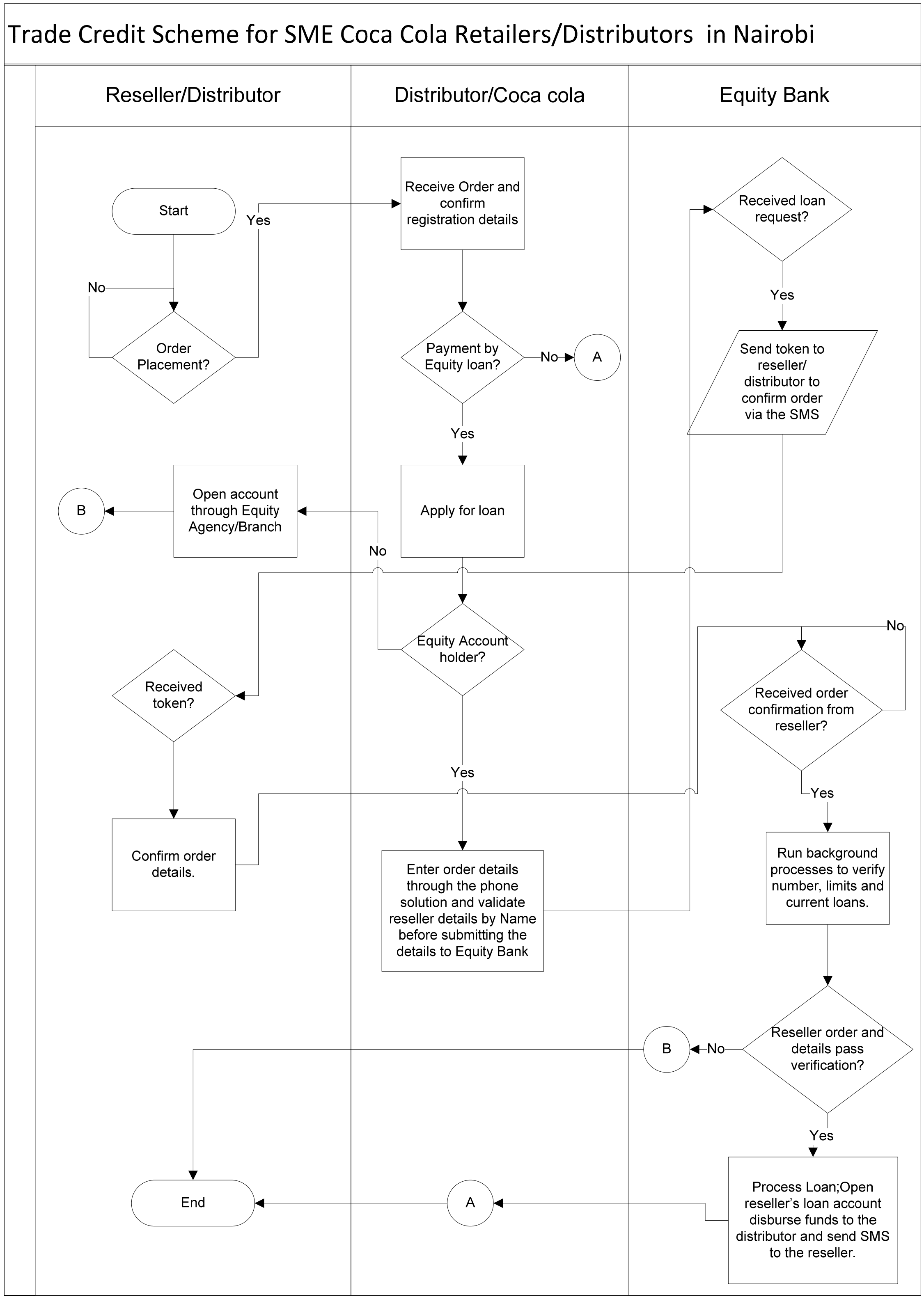
Example for Silver Retailers

The retailer pays approx. Kes. 480 per case (for 300ml bottles – being the fastest moving product) and is able to charge a margin of 14%. For the silver retailers we assume for this calculation that the marked limit that would be applied is Kes. 50,000. This amount is just assumed for this calculation and the marked limit will only be set once the researchers have finished collecting baseline sales data and, in collaboration with Equity Bank, decide on the most appropriate limit for the retailers.

The following table displays four different scenarios that could be faced by a silver retailer – they could purchase an extra 5, 10, 12 or 15 crates of 300ml Coca-Cola products using a loan from Equity Bank per week. The calculations are based on the daily charging of interest and pro-rata of loan approval fees. The loan approval fee is a one-off annual payment that will be spread over 12months. All estimates in this example are set at the top-end. Seasonality has not been taken into consideration – the number of crates ordered could fluctuate on a weekly or monthly basis. A better understanding of seasonality can be understood after the baseline survey is conducted and the researchers will advise Equity Bank on their findings.

				Number of Cases ordered with Loan			
				5	**10**	**12**	**15**
Transaction Cost (Eazzy 24/7)				**45.00**	**45.00**	**45.00**	**45.00**
Loan Approval Fee (@3% flat)	**3%**			**1500**	**1500**	**1500**	**1500**
Pro rata Loan Approval Fee		**No of Days**	**5**	**20.5**	**20.5**	**20.5**	**20.5**
Interest Rate (18% per annum)	**18%**	**No of Days**	**5**	**5.92**	**11.84**	**14.20**	**17.75**
Cost of Crates				**2400**	**4800**	**5760**	**7200**
Total Loan Cost				**71.47**	**77.38**	**79.75**	**83.30**
Total Purchase Cost				**2471.47**	**4877.38**	**5839.75**	**7283.30**
Total Sales Revenue		**(approx margin)**	**14%**	**2736.00**	**5472.00**	**6566.40**	**8208.00**
Net Revenue per Transaction				**264.53**	**594.62**	**726.65**	**924.70**
Revenue per annum		**(no. of weeks)**	**52**	**13755.78**	**30920.05**	**37785.76**	**48084.33**

The pro rata loan approval fee is calculated by taking 3% of the retailer's marked limit and spreading the amount in installments over a 12month period.



The trade credit product will benefit all three trading parties: distributor, bank and retailer.

USAID IPAK Trade Credit Progress Report

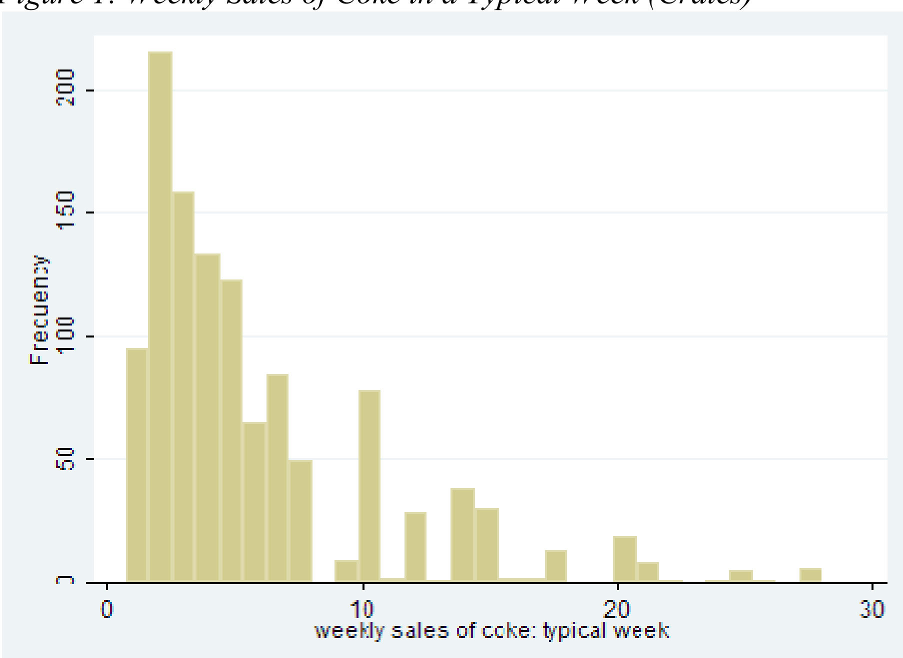
Introduction
The first Baseline Survey for the Mobile Trade Credit project took place from October 10th through November 17th. 23 enumerators visited 1,207 coca-cola retailers across Nairobi. A summary of preliminary results can be found below.

Weekly Coke Sales
The first Baseline Survey collected data on the typical sales of soda for relevant retailers. Since the credit product will allow retailers to purchase soda on credit, this is a particularly interesting metric. Every retailer in the sample is involved in soda sales.

Table 1: Weekly Sales (Crates)

	Typical Week	Good Week	Bad Week	Last Week
Observations	1166	1137	1115	1143
Mean	5.95	9.31	3.11	5.26
25th Percentile	2	4	1	2
50th Percentile	4	7	2	4
75th Percentile	8	12	4	7

Figure 1: Weekly Sales of Coke in a Typical Week (Crates)



Mean weekly coke sales ranged from 3.11 crates in a bad week (median of 2) to 9.33 crates in a good week (median of 7), with 5.88 crates in a typical week (median of 4). There is high variability in weekly coke sales at all points in the spectrum. 25th, 50th, and the 75th percentiles all increase by 200%-300% from sales in a bad week to sales in a good week.

As shown by Figure 1, most of the retailers sell a modest volume of coca-cola weekly and operate on a small scale. Despite this modest volume, soda sales make up an important part of revenue, as shown below.

Revenue Sources

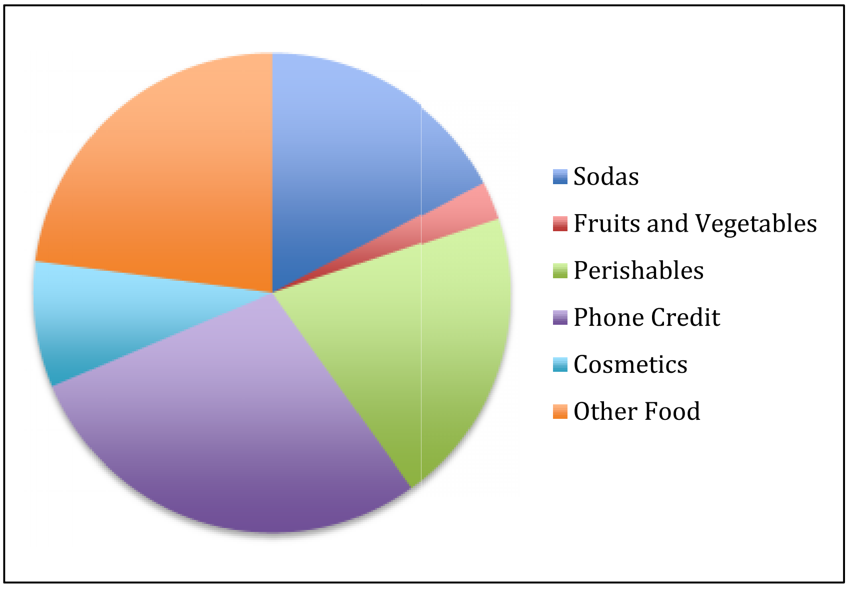
The Baseline Survey collected data on revenue from soda and other sources. Table 2 breaks down this revenue stream into component parts, for those retailers involved in each category of sale.

Table 2: revenue by product

in KSh, except n	Sodas	Fruits and Vegetables	Perishables	Phone Credit	Cosmetics	Other Food
n	1138	216	1063	1081	1003	965
Mean	7,561	7,042	14,639	18,863	6,621	22,068
25th Percentile	2,500	2,000	5000	7,000	2,000	5,000
50th Percentile	5,000	4,900	10,000	14,000	4,000	12,000
75th Percentile	10,000	10,000	19,800	24,500	8,000	25,000

As can be seen from table 2, relatively few retailers sell fruits and vegetables. Most retailers sell products across different categories. The relative importance of products for the average retailer is displayed in figure 2.[1]

Figure 2: Percent of revenue by product for average retailer



[1] Note that this is not weighted by revenue. Small retailers' relative importance is considered equally to large retailers.

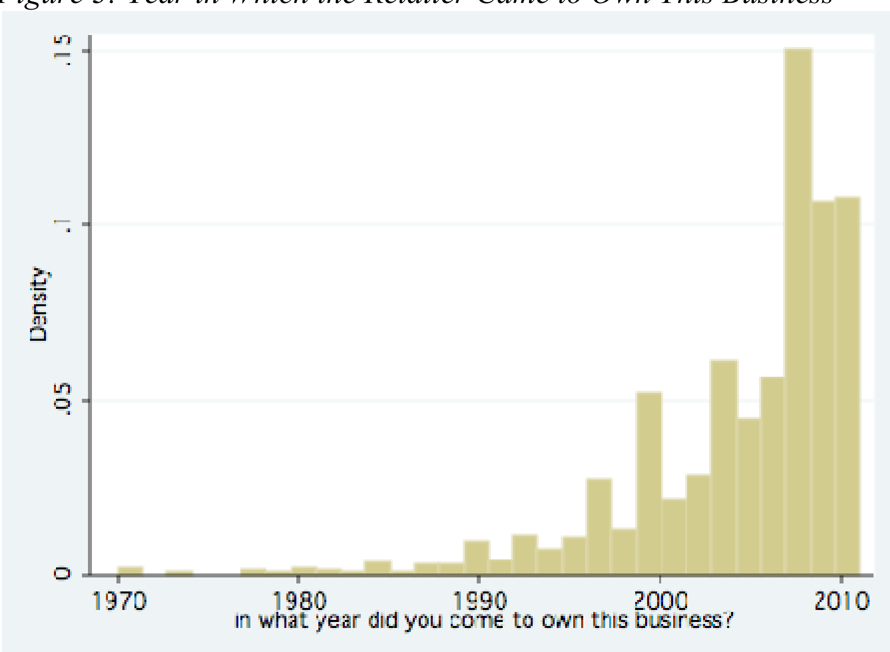
Phone credit is the most important item for the average retailer, accounting for 29% of revenue. Other food, including rice and grains, is the next most important at 23% of revenue. Perishables account for 20% of revenue. Sodas account for 17% of revenue. While not the most important product for our retailers, soda is a main source of revenue.

Time in Business

Table 3: Year in Which the Retailer Came to Own This Business

n	1191
Mean	2004
Earliest	1970
25th Percentile	2002
50th Percentile	2006
75th Percentile	2009
Latest	2011

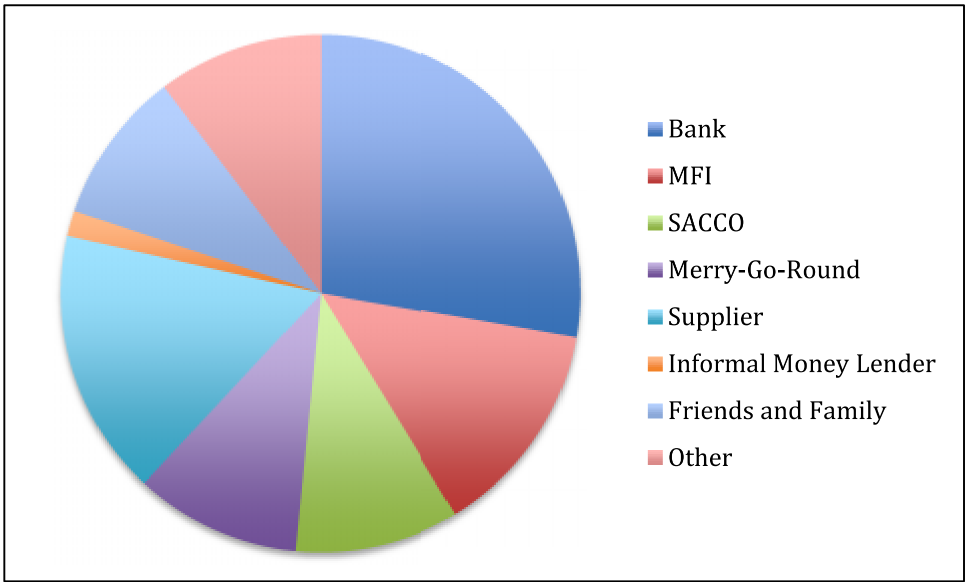
Figure 3: Year in Which the Retailer Came to Own This Business



50% of the sample has more than five years experience owning the retail shop. 25% have opened within two years.

Access to Credit
Of the 1,207 retailers surveyed, 117 (9.6%) accessed loans of some form. 89 of these were cash loans, with the other 29 were in-kind. Of these, only 35 came from a bank, 17 from a micro-finance institute, and 4 from a credit and savings cooperative. 45 of these 46 loans were cash. 21 retailers received money from a supplier. All 21 were in-kind. See figure 4 for the full list of sources.

Figure 4: Source of Loans



As table 4 shows, loans varied dramatically in amount.

Table 4: Loan Amount

n	95
Mean	**56,968**
Min	1,400
25th Percentile	10,000
50th Percentile	50,000
75th Percentile	80,000
Max	313,000

The average loan amount was KSh 50,000. The average Bank or MFI loans were bigger on average with a mean of 83,674 (median of KSh 70,000). In-kind loans were much smaller, with a mean of 32,865 (median of 13,500).

Table 8: Loan Amount Outstanding

	KSh	As % of Loan Amt
Mean	31,743	52%
Min	0	0%
25th Percentile	3,000	20%
50th Percentile	13,500	47%
75th Percentile	40,000	80%
Max	313,000	500%

10% of borrowers owe at least the value of their loan, while 15% of borrowers have completely paid off their loans.

Attrition

Baseline 2 revisited these retailers. Of the 1,207 in our sample, we were able to follow up on 1,121. The attrition can be attributed to refusals, relocations, demolished stores, and Christmas travels. We are currently revisiting retailers who were away over Christmas.

Table of Contents

I. Baseline 2 Updates

The second Baseline Survey for the Coca-Cola/Mobile Trade Credit Project concluded in the first quarter of 2012. As reported earlier in the Summary Status Report, approximately a 100 retailers have dropped out of the sample since Baseline 1. This has been the result of several factors including, but not limited to, outlets being demolished by the government for urban development projects and owners closing up shop or going out of business. Basic summary stats on those interviewed are given below:

A. Revenue Sources

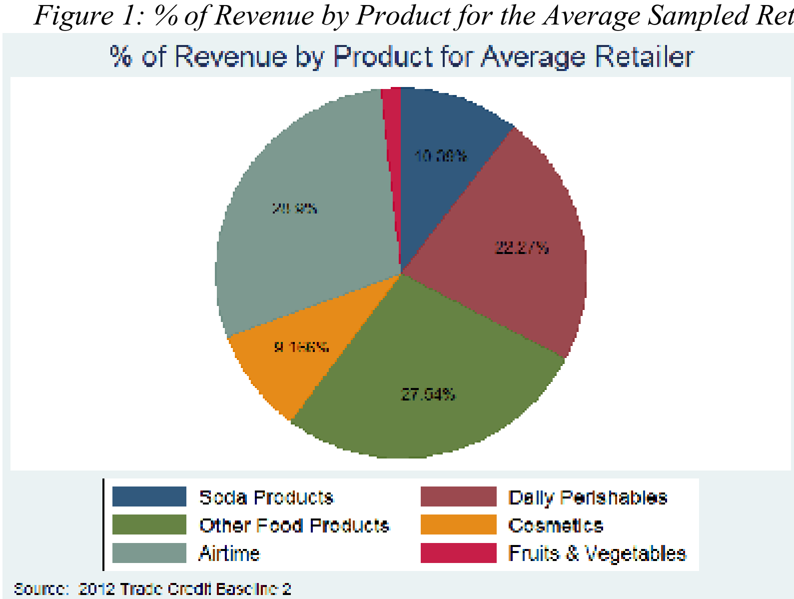
Weekly revenue streams by product category for sampled retailers are shown in Table 1:

Table 1: Revenue by Product

in KSh, except n	Sodas	Perishables	Phone Credit	Cosmetics	Other Food
N	1,086	1,089	1,087	1,091	1,080
Mean	6,709	14,331	18,632	5,889	17,875
25th Percentile	2,500	5,000	7,000	1,000	4,775
50th Percentile	5,000	10,500	14,000	3,500	12,000
75th Percentile	8,400	20,000	25,000	6,700	24,100

The figures are comparable to Baseline 1, with phone credit (Airtime) making up more than a quarter of weekly sales revenue for the average retailer and soda products making less. The breakdown for revenue by product category can be seen in Figure 1[1]:

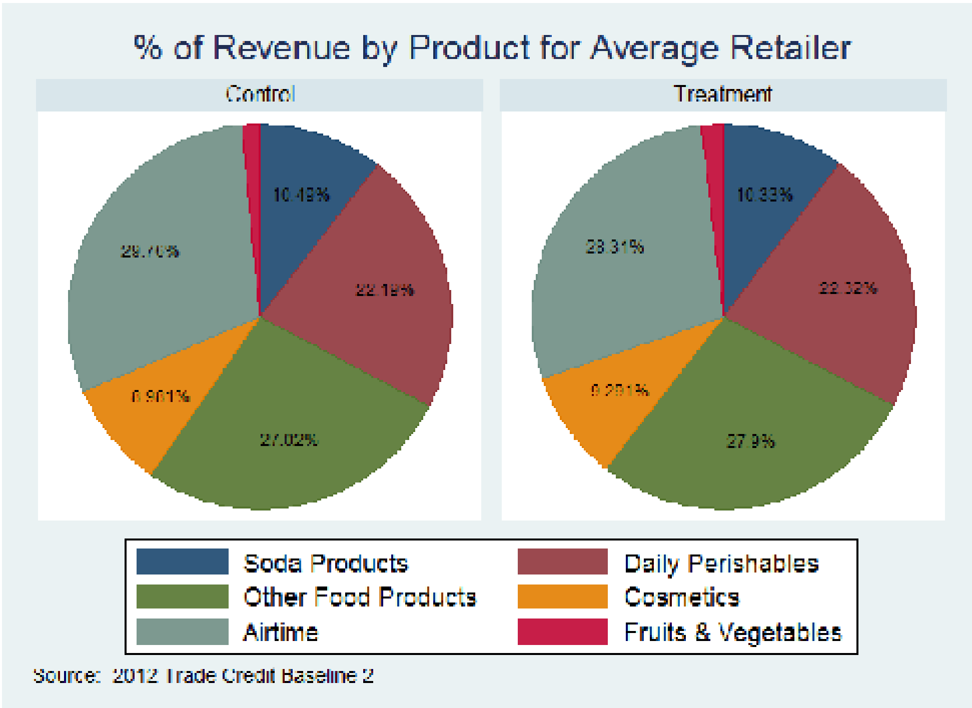
Figure 1: % of Revenue by Product for the Average Sampled Retailer



[1] Note that this is not weighted by revenue.

Furthermore, there is considerable homogeneity in the revenue streams by product across Treatment and Control groups for the average retailer in the second Baseline. Figure 2 illustrates the level of balance across the two groups prior to implementation on the product sales revenue indicator[2]:

Figure 2: % of Revenue by Product for the Average Retailer across Treatment & Control



Phone credit is the most important item for the average retailer in both groups, accounting for ~29.76% of revenue in the Control group and ~28.31% in the Treatment group. Other food, including rice and grains, is the next most important item followed by perishables. Sodas account for ~10.33% of revenue in Treatment group and ~10.49% in Control.

[2] Again, these figures are not weighted by revenue. Small retailers' relative importance is considered equally to large retailers.

B. Sales and Revenue

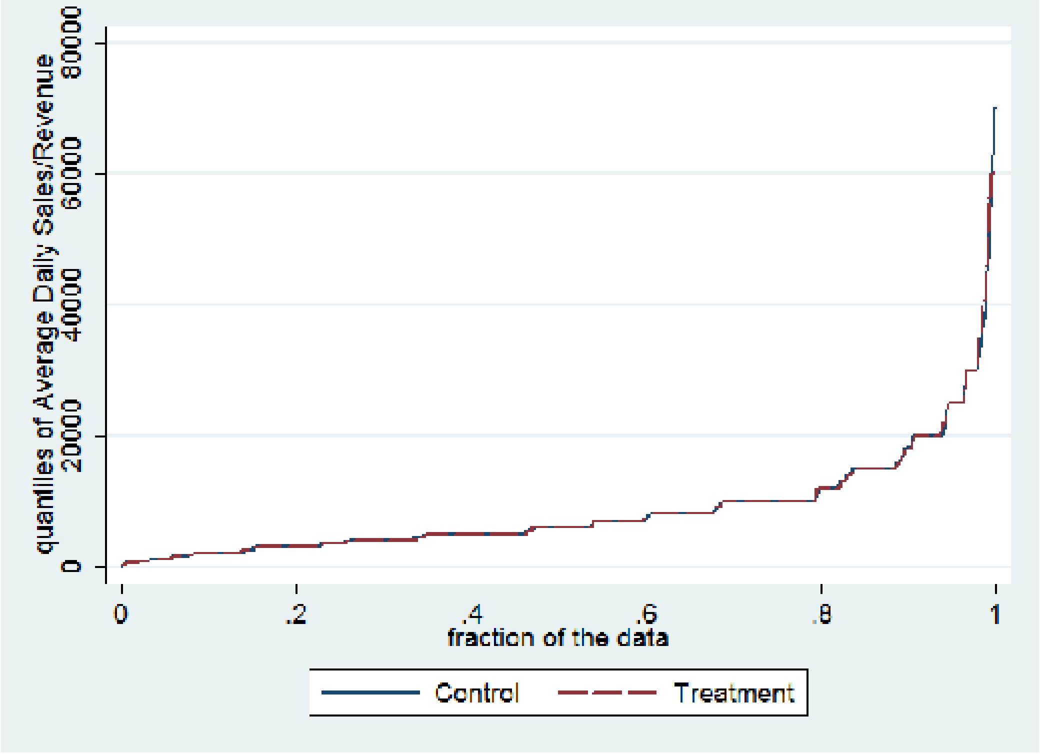
Based on data collected in the second Baseline, nearly 75% of the sampled retailers make less than Kshs 10,000 from average daily sales/revenue. The quantile breakdowns by Treatment/Control assignment are given below in Table 2:

Table 2: Quantiles and Mean for Average Daily Sales/Revenue (Kshs) by Treatment/Control

Assignment	p25	p50	p75	p90	Mean
Treatment	3,500	6,000	10,000	17,000	8,257.5
Control	4,000	6,000	10,000	12,000	8,672.9
Total	3,500	6,000	10,000	18,000	8,502.2

50% of the vendors make ~Kshs 6,000 with a mean of around Kshs 8,502 for the average retailer in the sample. Only about 7% of the sample makes more than Kshs 20,000 per day, which corresponds well to Baseline 1 figures. Finally, there is balance on average across the two groups on mean daily sales revenue, as illustrated by Figure 3:

Figure 3: Quantiles of Average Daily Sales/Revenue by Assignment



C. Inventory

Approximately 90% of the sampled retailers purchase nearly 100% of their Soda inventory from their designated Coke Distributor. This statistic is consistent across Treatment and Control groups as well, with ~91.07% Treatment retailers and 91.94% Control retailers buying 100% of their inventory from their Distributor.

Finally, nearly 80% of the retailer sample has less than Kshs 10,000 (~19 crates @ Kshs 518/soda crate) worth of Coke inventory in stock at the store at the time of the enumerator's visit. This is shown in Figure 4 below, where the quantiles for the total value of soda inventory currently in stock are consistent across Treatment and Control groups:

Figure 4: Quantiles of Total Value of Soda Inventory Currently in Stock across Treatment/Control

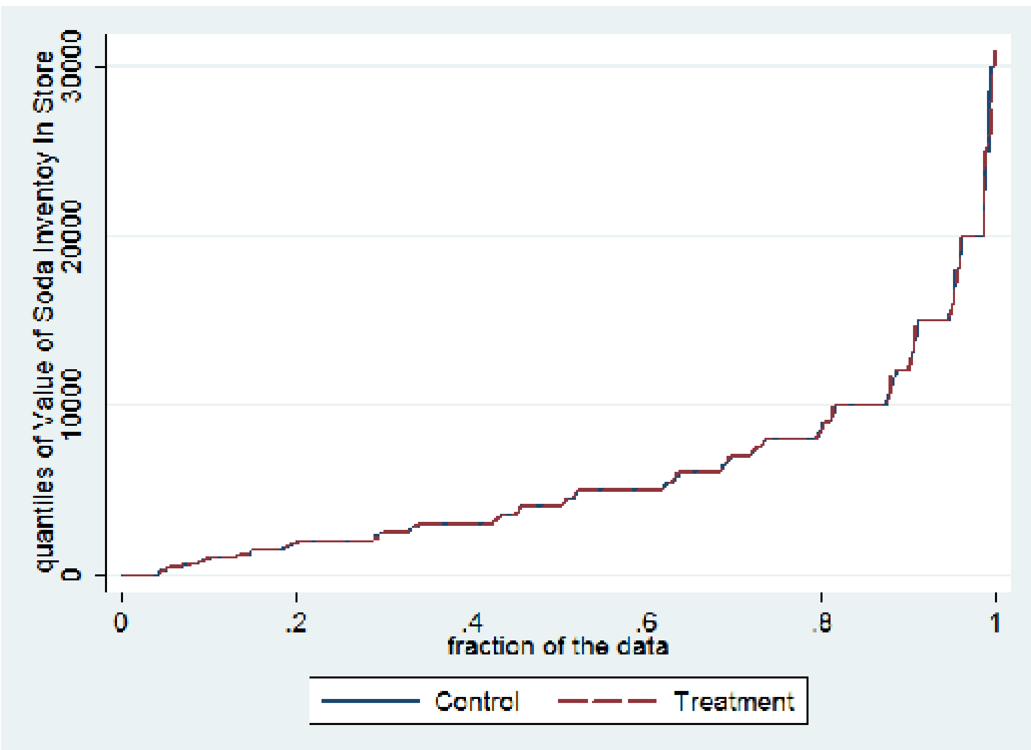


Table 3: Quantiles and Mean for Total Value of Soda Inventory Currently in Stock

Assignment	p25	p50	p75	p90	Mean
Treatment	2,000	4,260	8,000	12,000	5,728.66
Control	2,000	4,000	7,500	14,000	5,654.16
Total	2,000	4,000	8,000	12,000	5,698.20

These summary stats correspond very closely to the figures for total value of inventory in stock from Baseline 1, accounting for attrition.

D. Access to Credit

About 4% of the sampled vendors applied for and received loans in Baseline 2. Of the 40 retailers who accessed loans, 19 (~47%) were in cash and 21 (~53%) were in-kind. The majority of retailers who accessed loans got them from the supplier (~47%) which is consistent with Baseline 1 findings. Figure 5 gives a detailed breakdown of the loan access by funding source:

Figure 5: Source of Loans

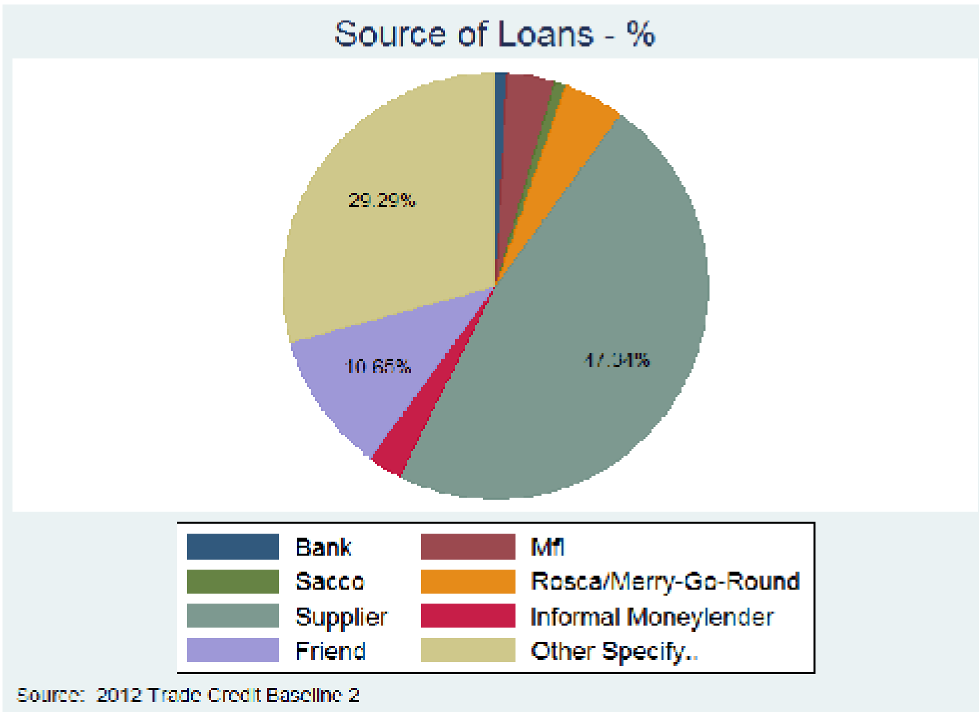


Table 4: Loan Amount

n	36
Mean	**33,032**
Min	2,000
25th Percentile	8,000
50th Percentile	27,500
75th Percentile	50,000
Max	116,800

Compared to Baseline 1, the mean loan amount has declined from Kshs 56,968 to Kshs 33,032. There is still a considerable amount of variation in the total value of the loans accessed with average Bank and MFI loans constituting ~Kshs 50,000 and ~Kshs 55,000 respectively.

II. Product Design

A. Marked Limit

A Marked Limit is the maximum amount of credit that Equity Bank will extend to its customers. The overdraft facility on the operating accounts is fixed at the marked limit being offered, precluding retailers from borrowing over and above the credit line. After considerable discussions between Equity Bank Credit Managers & Research Team staff, it has been decided that the Marked Limit calculation be based on the quantity of weekly Coke sales. The limits will be fixed as follows:

- 0 - 3 crates per average week (~40% of sample) limit of Kshs 2,500 (i.e. roughly 5 crates)
- 4 - 6 crates per average week (~27% of sample) limit of Kshs 4,000 (roughly 8 crates)
- 7 - 12 crates per average week (~20.9% of sample) limit of Kshs 7,000 (roughly 14 crates)
- 13+ crates per average week, (~12.4% of sample) limit of Kshs 12,000 (roughly 25 crates)

The premise behind these settings: Marked Limits are pegged to weekly sales so vendors do not get overburdened. Furthermore, since Equity will charge an annual fee of 3% on the marked limit being offered, a very high credit line might actually become prohibitive for small businesses.

On the other hand, a high enough mark limit was desirable so that vendors would be given sufficient credit to purchase inventory that could considerably increase their sales volumes. The weekly sales indicator was used as the estimator for this because vendors aren't likely to stock more than one week's inventory in their shop at any time. Marked Limits per crate are above the sales week to provide for this upwards mobility, within reason.

B. Technology

Distributors of Coke to the vendors are currently in the process of being added to Eazzy 24/7, Equity Bank's mobile phone banking platform. The progress is contingent on Distributors opening current accounts at Equity Bank and Equity Technical Staff registering the Distributors as "billers" into the system.

At present, the Research Team is working closely with the Distributors and Equity Branch staff to open the accounts post haste. Credit to retailers cannot be extended until Distributors are registered with Equity with the Eazzy 24/7 facility. The on-boarding has had its fair share of challenges because of the decentralized nature of the account opening process. Distributors have to individually open accounts in their regional Equity Bank branch. The account information is then sent from the branch level to the Microcredit Department at the Equity Head office where it is centrally collected and then forwarded it to the Equity Eazzy 24/7 Technical Programming Department. Once operational, the system will allow retailers to access credit and pay Distributors for coke products directly through the "bill pay" option from their cell phones. Once the transaction has been processed, the vendor, Coke Distributor and Sales Manager selling the coke to the vendor will each get a confirmation text documenting the sale. An excerpt of the data retrieved from the system is given below:

tran_number	transaction_date	amount	customer_mobileno	customer_name	biller_id	sales_person	tran_referece
20,615,156	29/Mar/2012 00:00:00	1	254722577910	KWEYU SHIUNZI ERIC	111111	0722577910	083020615156
20,616,405	29/Mar/2012 00:00:00	1	254722577910	KWEYU SHIUNZI ERIC	111111	0708022045	084404616405

This automated data collection system will allow the Research Team and Equity Bank staff to track and analyze the progress of the credit product during the pilot.

C. Coke Sales Automation

In early 2012, Nairobi Bottlers Ltd (Coca Cola) launched an automated inventory system which will help the company track inventory distribution across its supply chain. This data will be shared with the Research Team allowing for a richer, more holistic analysis of the impact of the trade credit product. Currently, the automated inventory system is still in the process of being rolled out to all of Nairobi Bottler's Distributors. Until a distribution center begins using the automated system, the Research Team will circulate hard copies of sales forms to be completed by Salespeople on their various distribution routes. These forms will be collected weekly and will record the quantity and type of coke products sold to the sampled vendors. As of April, 12 of the 19 distributors serving our sampled vendors have begun the process of being integrated into the system.

III. Distributors

The retailers in our sample do not receive Coke products directly from Nairobi Bottlers, but through local manufacturing distribution centers (MDC's, or distributors), which are privately-operated franchises. The distributors buy Coke products from Nairobi Bottlers and sell them to small and medium retailers. The shops in our sample purchase Coke products from nineteen different distributors.

A. Accounts

For the Coca-Cola trade credit product, each of these nineteen distributors needs to have an Equity Bank account. When retailers in the treatment group buy Coke products on credit, Equity Bank will take money out of the retailers' overdraft accounts and deposit it directly into the distributors' bank accounts. At that point Equity will send out payment confirmation text messages to the retailer, the distributor, and the distributor's salesperson who is physically delivering the Coke. The only way for the money transfer to be automatic and in real time, and for confirmation text messages to be sent to the distributor, is for the distributor to have an Equity account. The distributor also needs to have access to Eazzy 24/7, Equity's mobile banking platform, which allows them to access their account information on their cell phones.

We are currently in the process of opening distributor accounts at Equity Bank. As of Friday, April 27th, 14 distributors have Equity Bank accounts and Eazzy 24/7 access, while the remaining 5 are still in the process of opening, or deciding to open, them. We are working with nine different Equity Bank branches in the Nairobi area, and with Equity headquarters to directly communicate information to the nine branches about the trade credit product, such as types of retailer and distributor accounts and how to deal with implementation. We have worked hard to facilitate HQ-branch communication, including organizing an early morning breakfast with representatives from each branch, and continue to call and visit both headquarters and the branches regularly.

B. Incentives

The original research design had two treatment arms: trade credit supplied by up-stream distributors and trade credit surprised by third party financial institutions. The aim of the former was to understand whether distributors could play an active role in a credit market by leveraging two important things: (i) the relationship they have with the retailer through the supply chain and (ii) the information they have on retailers that a bank does not have. This project wants to test how important these two things are for credit markets for small retailers. This feedback will contribute to a well designed credit product that can be scaled by Equity Bank as well as by other supply chains.

To make the research and evaluation design extremely credible we decided on a slight alteration of the original design. The ultimate evaluation question was about whether distributors could better collect on these loans because of their information on and relationship with the retailers. However, for us to test these, we have to make sure that the retailers that take up the loans in the two treatment arms are identical. For this, we decided that all the retailer loans would be offered by Equity Bank. To mimic a loan from a distributor, we will provide the distributors with extra incentives to ensure that all the loans in this second treatment arm are paid off. Our second treatment group is now therefore a randomly selected subset of retailers, where the distributors will be allocated \$10 per retailer. The distributor only has access to these funds if 80% of the loan capital from these retailers is repaid. Through this process, distributors are incentivized to leverage their relationships to encourage repayment. This deals directly with (i) above.

To test (ii) above, before the project we used an incentive to identify which shops the distributors considered likely to repay their loans, and which they considered unlikely. To get true answers from distributors, we offered distributors \$10 for each retailer they recommended, but only if those retailers repaid 90% of the value of their Coca-Cola loans for the first six months of the study. In April 2012, we went back to the distributors with a list of which retailers had received the credit, and which had not (these two groups were allocated them randomly). Since not all the retailers the distributors had recommended in December had been selected to receive credit, we assured them that we still wanted to honor our commitment. So, after six months they would still receive \$10 for each retailer they had recommended, regardless of whether or not they had received credit, or paid back their loans.

The purpose of the first incentive was to give the distributors a vested interest in whether the shops in treatment group 1 repaid their loans and the purpose of the second was to identify ex ante which shops distributors considered more likely to repay (the information aspect). Both the first and second incentives also served a third purpose: to give the distributors an incentive to open an Equity Bank account and participate in our study. The money will be put in a fixed term account, where it would gather interest and be deposited in the distributor's Equity Bank account after six months. These incentives helped kick start the study - the surveys and the intensity of the research and evaluation side (requiring randomization) is taxing on the distributors and retailers and these incentives help defray those costs. In a scale up, these incentives will not necessarily be needed as there will be no evaluation component to the scale up. That said, the incentives may be useful for the scale up if they have big effects. If they do, then they can be incorporated into the research design as a risk mitigation for Equity Bank as these loans are uncollateralized and much as there is not much at risk from our study for Equity Bank, but for a scale up default and how to minimize it is certainly something they would like to understand.

C. Salesperson Training

The distribution centers all employ multiple salespeople, who deliver sodas to the retailers. The Research Team and enumerators are currently in the process of going to the different distribution centers to educate salespeople about the Trade Credit product. The most important information for the salespeople to know is that they will receive a payment confirmation text message from Equity Bank, which means that they can hand the soda over to the retailer. They are also being trained on how to answer questions about control vs. treatment group, and how to fill out a Coca-Cola sales form for our Research.

IV. Retailers

A. Treatment Group

Each treatment arm has increased by 50 retailers. The original research design had each treatment arm consisting of 300 people. Each treatment group currently has 350 people. This will give the research more power moving forward. Given the attrition between baseline 1 and 2, growing the sample size a little was a good idea.

We have held nine workshops – one with each Equity branch we are working with – to teach the ~700 retailers in the treatment groups about trade credit and give them an opportunity to sign up for the Equity overdraft accounts. At each workshop, an Equity Bank representative gave a PowerPoint presentation explaining how trade credit works, what its benefits are, what requirements it has, and how they can sign up for it. The retailers had an opportunity to ask questions, both about trade credit and about their Coca-Cola supply; several of the workshops had Coca-Cola representatives present. Afterwards, a team of people from the Equity branch, usually from the Accounts Opening department, would be available with account opening and Eazzy 24/7 forms and a camera to take the retailer's photo (the retailers had been requested to bring their national IDs and a copy, plus a copy of their business registration licenses, to the workshop).

For the retailers that did not attend the workshops, we are in the process of visiting them one on one to explain the trade credit . Our enumerators go to their shops with laminated printouts of the PowerPoint presentation and spend 10-20 minutes introducing them to trade credit. They also bring around account opening and Eazzy 24/7 forms from Equity Bank, in case the retailer wants to get a head start on signing up. We arrange for some of those retailers who are definitely interested in signing up to be visited by an Equity Bank representative within the following few days.

B. Control Group

Our sample now includes ~500 retailers in the control groups. As a whole, the control group has grown from 300 retailers to 500 retailers. This is because the control group has been evenly split into a pure control and an augmented control. The reason for this was a worry that if we found effects they may be attributed not to just the credit product but also to the fact that the retailers got bank accounts in the process of receiving credit. We will therefore have a random half of the control be offered a bank account. This adds value to both the research side as well as the scale up side. It allows us to see whether there are independent effects of bank accounts on the retailer business. If so, it adds to the suite of products that Equity Bank can scale up.

We are currently planning to hold workshops for this second part of the control group at the beginning of May 2012. Again, we are organizing them with each Equity branch, and will have Equity representatives present the account information to retailers and give retailers the opportunity to sign up.

INNOVATION FOR POVERTY ACTION

USAID fourth report: The Role of Mobile Banking in expanding Trade Credit and business development in Kenya

Tavneet Suri, William Jack, Chris Woodruff

9/25/2012

September 25, 2012

Table of Contents

I. Introduction

Due to delays on the project, a third Baseline was carried out between the end of February and April 26 2012. Implementation was then continued from April to June 2012. This report gives an overview of the results collected during this Baseline survey and highlights the updates of the product's implementation.

II. Baseline III analysis

The third Baseline survey started on 28th February 2012 and was completed in April 2012 (the last PDA data download was made on April 26th but additional paper surveys were inputted until May 15th). Each survey lasted roughly 30 to 40 minutes and it took us 2.5 to 3 weeks to complete the survey round with subsequent data collection trying to improve on attrition rates.

Baseline 3 was not originally planned but due to a gap in implementation activities (see below), we decided to introduce a third baseline, which included three additional sections: Raven Test, Digitspan and Locus of Control. For Baseline 3, an incentive of Ksh 250 airtime was given to the respondents.

Baseline 3 counts a total of 1089 retailers: 452 retailers (42% of the sample) fall in the control group and 637 retailers (58%) fall in the treatment group. Basic summary statistics on those interviewed are given below:

1. Revenue Sources:

Weekly revenue streams by product category for sampled retailers are shown in Table 1:

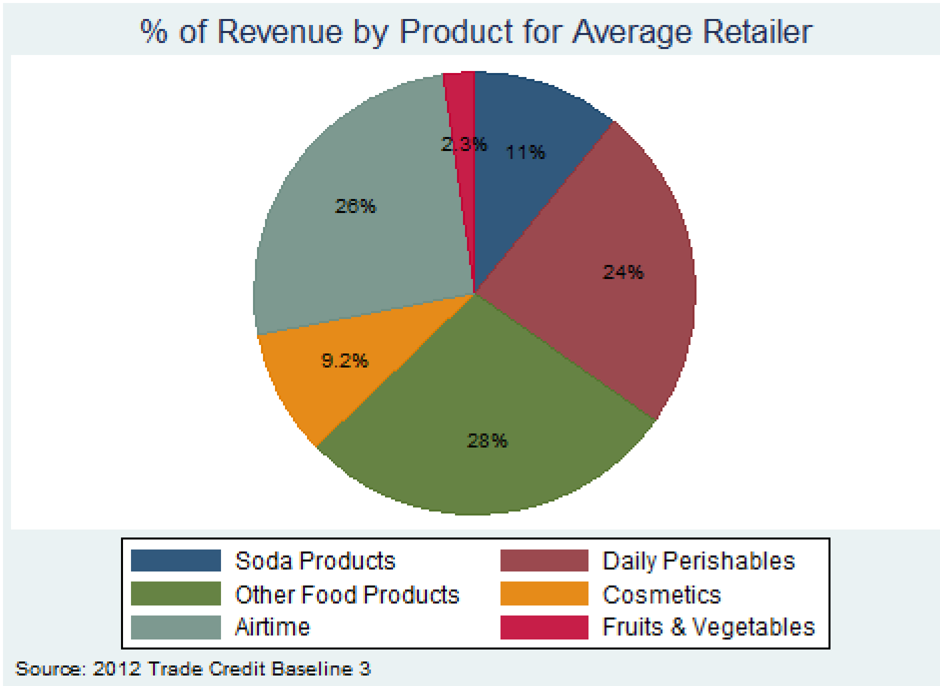
Table 1: Revenue by Product

In Ksh, except N	Sodas	Perishables	Phone Credit	Cosmetics	Other Food
N	1040	1039	1048	1036	1039
mean	7204.667	15901.18	16946.84	6124.061	18726.93
25th Percentile	3000	5000	6000	800	4000
50th Percentile	5000	12000	14000	3000	10500
75th Percentile	10000	21000	22000	6835	22000

The figures are very similar to Baseline 2, with phone credit (Airtime), Other Food Products and Daily Perishables making each around a quarter of weekly sales revenue for the average retailer. Other Food Products, including rice and grains, have overtaken Airtime in Baseline 3 (28% of revenue for Other Food Product and 26% for Airtime) compared to Baseline 2 where Airtime was the most important item accounting for 29% of revenue followed by Other Food Product for 27.5%. The breakdown for revenue by product category can be seen in Figure 1[1].

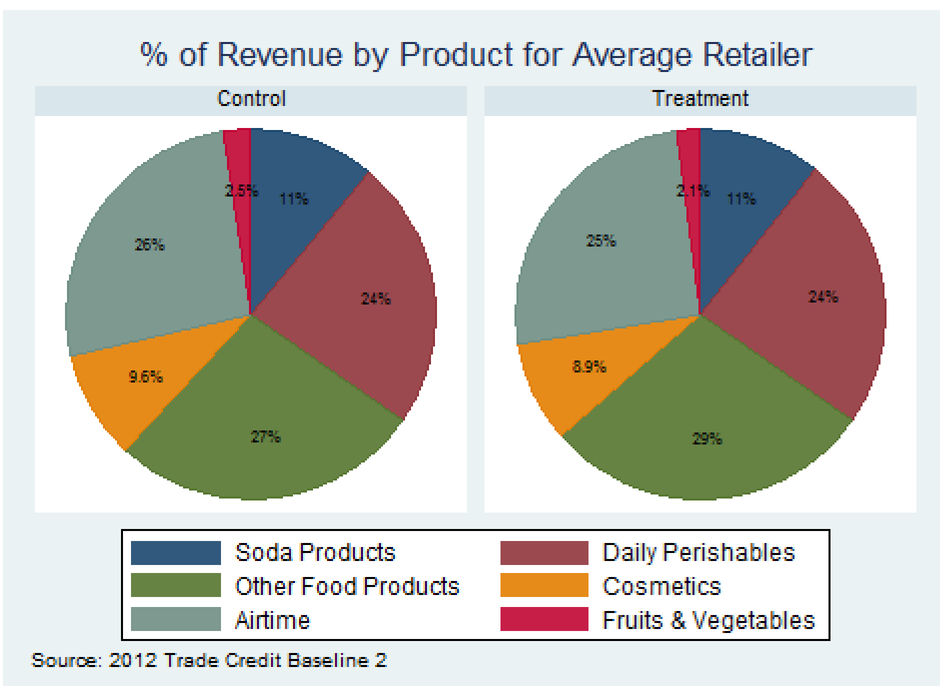
[1] The summary statistics are not weighted by revenue

Figure 1: % of Revenue by Product for the Average Sampled Retailer



As in Baseline 2, there is a clear homogeneity in the revenue streams by product across Treatment and Control groups for the average retailer before implementation of the product (Figure 2).

Figure 2: % of Revenue by Product for the Average Retailer across Treatment & Control



Indeed, “Other Food Products” remains the most important category across both groups, accounting for around 27% of revenue in the Control group and 29% in the Treatment group. Airtime remains an important item accounting for over 25% of revenue in both groups (26% in the Control group and 25% in Treatment group). Soda Products account for 11% of revenue for both groups.

2. Sales and Revenue

In Baseline 3, 72% of the sampled retailers make less than Ksh 10,000 from average daily sales/revenue. The quantile breakdown by Treatment and Control assignment is given below in Table 2.

Table 2: Quantiles and Mean for Average daily sales/Revenue (Ksh) by Treatment/Control

Assignment	N	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Mean
Treatment	**616**	3000	6000	10000	18000	8446.961
Control	**434**	3000	5750	10000	15000	7151.152
Total	**1050**	3000	6000	10000	15000	7911.36

Around 55% of the retailers make around Ksh 6,000 or less with a mean of 7,911.36. In Baseline 3, the mean for the treatment group is higher than in the control group (Ksh 8,446.961 for the treatment group and Ksh 8,446.961 for the control group) although this was the opposite in Baseline 2 (Ksh 8,257.5 for the treatment group and Ksh 8,672.9 for the control group).

3. Inventory

Approximately 95% of the sampled retailers purchase 100% of their Soda inventory from their designated Coke Distributor.

Nearly 80% of the retailer sample has less than Ksh 10,000 worth of Coke inventory in stock at the store at the time of the enumerator’s visit. The quantiles for the total value of soda inventory currently in stock are shown in Table 3 below and are consistent across treatment and control groups.

Table 3: Quantiles and Mean for Total Value of Soda Inventory Currently in Stock

Assignment	N	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Mean
Treatment	**624**	2000	4850	8000	15000	6414.782
Control	**441**	2000	4000	8000	15000	5930.145
Total	**1065**	2000	4100	8000	15000	6214.101

4. Access to Credit

In Baseline 3, out of the 40 retailers who accessed loans, 28 (70%) were in cash and 12 (30%) were in kind. In Baseline 3, the majority of the retailers who accessed loans got them from a bank (35%) or a MFI (21%), which differs from Baseline 2 where the majority of those who accessed loans got them from the supplier (47%) or other sources of funding (29%). Figure 3 shows the breakdown of loan access by funding source and Table 4 shows the quantile breakdowns by Treatment/Control assignments for loan amounts.

Figure 3: Source of Loans

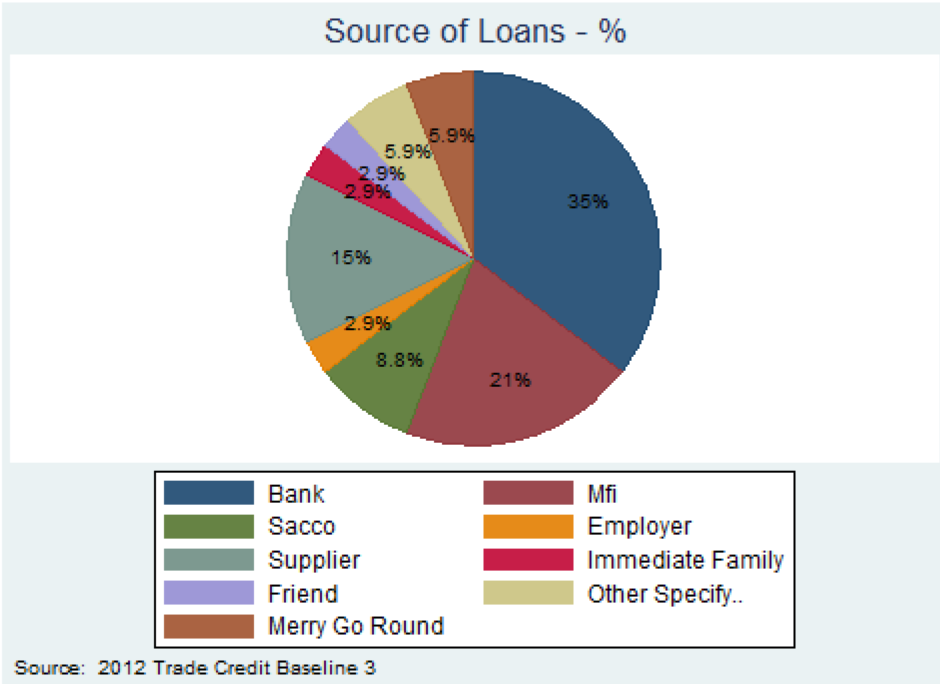


Table 4: Loan Amounts							
Assignment	N	Min	25th Percentile	50th Percentile	75th Percentile	Max	Mean
Treatment	22	0	30000	50000	100000	300000	76954.55
Control	12	0	14250	45000	100000	300000	69975
Total	34	0	20000	50000	100000	300000	74491.18

The mean amount has increased in Baseline 3 (Ksh 74,491) compared to Baseline 2 (Ksh 33,032) and is therefore closer to the mean loan amount collected in Baseline 1 (Ksh 56,968).

III. Reminder: financial product design

1. Equity's cashless accounts and Eazzy 24/7

The purpose of the research is to evaluate the impact of having access to credit on small Coke retailers in Nairobi. The credit product offered is a loan accessible through mobile banking. Indeed, retailers have the possibility of purchasing Coke products at credit (keeping the cash for other investments) using their mobile phone. This mobile process uses a system created by Equity Bank and called Eazzy 24/7. The process is as follows: when the registered retailers (in our treatment group, having opened a cashless account and gone through credit checks) want to purchase Coke products, they can access a loan via their phone and the sales can be finalized without any cash transactions. Indeed, at that point, the funds automatically reach the distributors' accounts and the retailer can repay his/her loan to Equity at a later stage with interest.

It should be noted that the accounts are all cashless accounts as the loans received can only be used for Coke products.

2. Distributor's Biller id

For the funds to reach the distributors' accounts at the time of the sale, each Coke distributor needs to have an Equity account and be assigned a Biller ID. Indeed, the retailer requesting a loan through Eazzy 24/7 will be asked to enter the distributor's Biller ID as part of the process.

3. Instantaneous transfer of funds

The transfer of funds from Equity to the distributors' accounts is instantaneous and has been tested.

4. Confirmation text messages

The successful loan activation and the transfer of the funds to the distributors' accounts will be confirmed via three text messages received by

(1) The retailer
(2) The distributor
(3) The Coke Sales person (the distributor's sales representative delivering the Coke products to the retailers)

This allows the Sales representative to leave the crates of Coke with the retailer having been ensured that they have been paid for.

5. Data collection

The data on the number of transactions and amounts involved between each retailer and their distributor will be collected from Equity. Equity can track these transactions on their system.

IV. Updates: Distributors

1. Distributors' Biller ID

After multiple sensitization processes, 17 out of the 18 distributors have signed up with Equity for Eazzy 24/7 and have received a Biller ID.

The last distributor whom we have not been able to convince is our only distributor in Westlands and covers 10 retailers in our sample. She is supportive of the product and research but requires Equity to solve some personal issues which have arisen on her other Equity accounts before she accepts to take part in the project. We have raised this issue to Equity who has promised to look into it.

2. Distributor Trainings

For the 18 distributors it was necessary to train the owners and the Sales people on the Trade Credit product. By June 2012, we had visited and trained each distributor four times.

The first visit: The distributor incentives group was explained to the owner
The second visit: The field staff gave the distributors their retailer lists and introduced the credit product to the Sales people
The third and fourth visits: the Sales people were taught to use the Eazzy 24/7 guide and trained on filling out the manual Coca-Cola order form.

V. Update: Retailers' cashless accounts: Take-Up

Retailers in the treatment group who want to access the financial product must go through a two stage process

(1) They must open a cashless account with Equity
(2) They must have credit checks done and be given a marked limit (maximum amount worth of Coke product that can be accessed per week)

1. Treatment group workshops

Our treatment group includes around 700 retailers. 9 workshops were organized between May 31st and April 10th involving Equity Bank representatives and Coca-Cola representatives to sensitize the retailers and give them an opportunity to sign up (see previous report). Table 5 shows the attendance rate and take-up rate per branch during these workshops. The final count for the workshops attendance was 250 retailers, which is a 35.8% attendance rate. From the workshops 190 cashless bank accounts were opened.

Table 5: Treatment group: Attendence rate and Take-up rate per branch during workshop April 2012

Equity Branches	Treatment retailers	Attendence to workshop April	%	Accounts signed up during work shop	%
Kasarani	38	21	55%	17	45%
Kawangware	127	33	26%	30	24%
Kiambu	47	21	45%	11	23%
Kibera	121	61	50%	47	39%
Nairobi West	91	25	27%	17	19%
Ngong	85	22	26%	11	13%
Rongai	98	33	34%	31	32%
Tea Room	85	31	36%	26	31%
Westlands	6	3	50%	0	0%
Total	**698**	**250**	**36%**	**190**	**27%**

2. Treatment group one-on-one visits

For those who did not attend the workshops, the workshop presentation was condensed and our staff went to visit the 448 retailers in April 2012 to educate them one-on-one. Once the initial education was conducted by the Field Officers, an Equity Bank staff member was then taken around to the interested shops.

3. Treatment group second round of Take-up

A second round of sensitization was carried out between August 7th 2012 and the beginning of September, for the retailers in the treatment group who did not have a cashless account. We also wanted to make sure that we could receive adequate support at the branch level. A training session was therefore organized at Equity headquarters on August 6th to which the credit champion in each branch was invited. The 9 credit champions attended and the staff in charge of the product at Equity Headquarters explained the design of the product, its importance in terms of Equity's performance and their respective role on this project. Shortly after, one Field Officer was allocated to each branch to assist the credit champion in increasing take-Up.

The Field Officers visited the retailers and opened accounts on the ground. Indeed, a reason for the low take-up rate is that Equity requires the retailer to visit the branch twice: to open their account and have their marked limits done. In most branches, the Field Officers carried account opening forms and a camera and provided the branches' account opening staff with the required documents and photograph.

Credit checks and marked limits were also encouraged during this Take-up round. In some branches, the product champion agreed to accompany our staff and get the contract for marked limits signed on the ground. In other branches, the contract forms for marked limits were filled in on the ground during our Field Officers' visits and the product champion will follow up for approval.

The following issues must be pointed out as they affect both the attrition rate and the number of retailers in the treatment group:

(1) Shops have closed down or have been demolished
(2) Shops have changed ownership and the new owner must be tracked. The previous owner was generally the one to have opened an account
(3) Shops have changed location and must be tracked (sometimes across distributing areas)
(4) Equity has lost some account opening forms for both accounts opened during the workshop and during the Take-up 2 process

The total number of accounts and marked limits we currently have (for the retailers in the treatment group) is shown in Table 6. Table 6 also indicates the number of retailers affected by some of the issues highlighted above.

Table 6: Take-up rate after 2nd Take-Up round (August 2012)										
	Nairobi West	**Ngong**	**Kawangware**	**Rongai**	**Kiambu**	**Tea Room**	**Kasarani**	**Kibera**	**Westlands**	**TOTAL**
Change in Outlet Name	1	2	5	2	0	7	2	3	.	**22**
Change in Ownership	0	3	15	6	2	2	2	4	.	**34**
Previous owner had account, new one not	0	0	4		0	0	1	2	.	**7**
Closed down/demolished shops	11	2	9	3	1	1	2	1	.	**30**
Lost accounts	0	0	0	1	0	0	0	3	.	**4**
Total accounts currently	**32**	**39**	**50**	**50**	**20**	**34**	**18**	**68**	**4**	**315**
Total marked limits currently	8	29	34	48	10	32	9	0	4	**174**
N in Treatment group	91	85	127	98	47	85	38	121	6	**698**
Take-up rate for accounts	35%	46%	39%	51%	43%	40%	47%	56%	67%	45%
Take-up rate for marked limits	9%	34%	27%	49%	21%	38%	24%	0%	67%	25%

Finally, we expect more retailers to open accounts and have their limit marked when the product is used more extensively across the retailers and confidence has increased.

4. Control Workshops

As a whole, our control group includes roughly 500 retailers (250 retailers in each sub-group). As of December 2011, the control group has been evenly split into a pure control and an augmented control to nullify the effect of having a bank account and only focus on the effect of having access to credit. The augmented control group has therefore been offered a traditional saving account (with no access to credit).

The “Control Group with Bank Accounts” was randomly selected. We needed to make sure that this group was offered these bank accounts in an identical way to the retailers in the treatment group. The content and the process of delivery of the information given to both these groups should be comparable (except for the product). Therefore in May 2012, nine separate but similar workshops were held by Equity Bank staff for the Control Group retailers who are eligible for a bank account. The final count for the control workshop attendance was 98 retailers or a 39.4% attendance rate. Table 7 below summarizes the attendance during the workshops.

Table 7: Control group: Attendence rate during workshop May 2012			
Equity Branches	**Treatment retailers**	**Attendence to workshop April**	**%**
Kasarani	20	10	50%
Kawangware	64	23	36%
Kiambu	23	15	65%
Kibera	31	11	35%
Nairobi West	29	6	21%
Ngong	30	15	50%
Rongai	24	7	29%
Tea Room	24	9	38%
Westlands	4	2	50%
Total	**249**	**98**	**39%**

5. **Control retailers one-on-one visits**

One-on-one visits for the remaining 151 retailers who did not attend the control workshops were also carried out by Field Officers. The presentation from the workshops was laminated and taken to the field. The retailers were provided with the savings account information and then instructed to go to their local Equity Bank branch to sign up.

VI. Focus on Coca-Cola section: Coke sales data

Nairobi Bottlers Ltd (Coca Cola) are supposedly in the process of rolling-out an inventory tracking system, which would enable us to get the necessary data –the number of crates sold from a distributor to each retailer per day. This process has been delayed and the automation has only been launched for the largest retailers of selected distributors –most of which do not fall in our sample. At the time of enquiry (August 2012), the automation data was not reliable and did not cover most of our retailers.

Other ways of data collection have therefore been explored. The importance of getting factual and objective sales data cannot be stressed enough. To avoid having self-reported data, which would be the case if the retailers were directly asked about their purchases; we must target data collection at the distributor level. From May 25 to end of August 2012, the Field Officers have distributed weekly Coca-Cola Order Forms to all distributors. The Sales people were asked to input information on the form manually and the forms were being collected every week by the Field Officers. However it became soon obvious that the Sales people had little incentive in filling in these forms, which had a detrimental impact on the quality and accuracy of the data collected.

Visits to the distributors' sites were carried out beginning of September 2012 to discuss with each distributor and/or store manager how to get the sales data in an adequate, feasible and sustainable way. Most distributors do keep some form of records of sale –they seem to fall in one of the following categories:

(1) Sales books including the number of crates of Coke product sold
(2) Copies of receipts handed over to the retailers
(3) No record

For (1) and (2), the challenges come from the fact that some distributors do not indicate the name of the outlet buying the Coke products and rather indicate the name of the Sales person in charge. The distributors in this case have agreed to add the name of the outlet on the receipts or on the sales books.

For (3), they suggested switching to daily forms that could be filled in by the Sales people. The forms should be tailored to each Sales person/sales route to reduce time spent going through the complete list. Data on the Sales people's routes has been collected in September 2012 and the daily forms per Sales routes have been created.

To simplify the data collection and increase accuracy, we have decided not to collect information about the type of soda/drink the retailer purchases and focus only on the number of crates and volume of sold.

For efficiency, data collection will be done on PDAs (Personal Digital Assistants) to standardize data entry and minimize errors. Field officers will visit the distributor centers two to three times a week to key in the information found either on receipts, sales book or daily forms. The collection survey has been coded and finalized. It now needs to be piloted.

VII. Challenges previously faced: resolved issues

1. Functionality of Equity's Eazzy 24/7 system

Equity has faced serious technical issues in launching the system. Indeed, incorporating this new financial product to the already existing Eazzy 24/7 platform has proven to be a real challenge. Indeed, the correct cashless account was not being displayed as an option when retailers logged into Eazzy 24/7 on their phone. We have had to invest a lot of time to push Equity to resolve those technical difficulties. This has delayed the project from March 2012 to August 2012 as most of the implementation has had to be put on hold.

This issue was solved end of August 2012. Our team requested several tests to be carried out in the different Equity branches to make sure the system was working correctly. From then, implementation has resumed with a second round of Take-up (August 2012/September 2012). A few retailers have already successfully bought crates of Coke using the system.

2. Confirmation text messages:

As described above, the three parties involved - the distributor, the retailer and the Sales person - should each receive a text message confirming that the transaction has been successful and that the funds have reached the distributor's account. Unfortunately, until mid-August, these were not reliable:

(1) They never reached the three parties and rarely reached two parties
(2) The confirmation message delivery was severely delayed taking up to 36 hours.

This has serious impacts on the success of the project as Sales people and distributors will not agree to leave the Coke products with the retailers without payment confirmation.

After multiple meetings and discussions, Equity has considerably improved the speed of the system and the delivery of the text messages. Currently, at least two parties receive a confirmation message within a reasonable timeframe (usually the distributor and the retailer). Agreements have been made with the distributors that in the occurrence of non-delivery/delay of one of the messages, these could be forwarded between parties to allow for the delivery of the Coke products.

3. Expiry of Ksh 200 processing fee due to the delay

An additional factor has aggravated the delay of the project. Some retailers had activated their account and therefore were expected to repay the Ksh 200 annual processing fee within the given repayment period. However due to the technical difficulties, they were unable to pay this processing fee and found themselves labeled as having defaulted. In August 2012, once the system had become operational, they were unable to access a loan as they were required to clear this balance beforehand. After multiple discussions, Equity has agreed to remove this requirement as they are responsible for the delay, although it is unclear whether this will happen.

4. Coke data collection

Please refer to section V.

VIII. Current challenges: interest rates charged by Equity

Recently, we have been facing some serious disagreements with Equity Bank concerning the interest rates they want to charge the retailers. Until this is resolved, we have had to stop all activities (from early September 2012) as Equity's actions do not respect the initial agreements and the MOU signed.

1. Initial agreement

The initial agreements on the terms of the loan, stated on the MOU are:
(1) 2% interest rate per month,
(2) a loan repayment period of 30 days
(3) a defaulting fee of 0.5% per month (after the 30 days period/on the outstanding amount).

This is the information that was delivered by Equity to the retailers during the workshops.

2. Design of Equity's current system and concerns:

Equity's current system is modeled on an overdraft system rather than on a traditional loan system. Therefore, it cannot match the initial agreement we had with Equity: currently, a flat interest rate has to be charged every time a loan is taken out rather than fractioning the monthly interest rate depending on the duration of the loan. Equity has therefore set the interest rate to be 2% per loan taken out, irrespectively of the repayment day (within the loan repayment period). We are concerned about (1) Equity and IPA's credibility towards the customers and (2) the deteriorating effects this change will have on the take-up and use of the system as the terms of the product are being changed after Equity has signed up new customers and (3) the amount charged to the retailers.

We are highly concerned about (3) -the amount Equity has decided to set as interest rates. Indeed, the marked limits given to the retailers are equivalent to their weekly sales of Coke products. We therefore expect retailers to take out more than one loan per month – the natural cycle seems to be weekly loans i.e. four loans per month. Our main concerns –for both the customers' and Equity's benefits- are twofold. Firstly, charging the retailers 2% per loan (as the system is now set), will therefore be equivalent to 8% monthly interest rate (96% per annum), which is significantly above the initial agreement. Secondly, this price structure will encourage retailers to limit themselves to one loan paid back within 30 days rather than opting for weekly loans. This incentivizes retailers to delay repayment - increasing the risk borne by Equity, reducing Equity's gains on transaction fees and minimizing the use of the system.

3. **Proposal:**

We are however aware of the time Equity might require to set up a different system and we are eager to minimize additional delays on the project. Our suggestion to Equity is to converge towards the terms of the initial product without having to modify the framework of Equity's current system. We have submitted to the Director of Credit and to the Management Board a proposal to reduce the per loan interest rate to 0.5% (the terms are explained below). This proposal was submitted on August 30 2012 and we are still waiting for their final decision. We have followed up with them regularly but our proposal has had to be discussed with different teams and at various levels within the bank. We are until now still waiting for their feedback.

4. **Terms of the proposal:**

Our proposal is to have a weekly loan charged at 0.5% per amount made available. If the retailer does not pay back his/her loan within 7 days, the loan gets rolled over to the next week and the retailer is charged an additional 0.5% (total interest of 1%). Similarly, if the loan is not paid back within the 2 weeks, it gets rolled over to the third week and the retailer is charged another 0.5% (total of 1.5%) and therefore the loan reaches 2% interest after 4 weeks (at that point, the retailer defaults). Although, this is not exactly in line with our initial agreement, it does seem to resolve the concerns highlighted above: the 2% interest per month is satisfied (although the interest rate might be higher if the retailer applies for more than 4 loans per month) and the customer has little incentive to substitute frequent/weekly loan applications and repayments for longer repayment periods with a lower interest rate.

Alternatively, after discussion with Equity's Credit manager, we would consider his suggestion: reducing the interest rate to 0.5% per loan and charge the customer a penalty fee of 6% per year (0.5% per month) if he/she fails to pay back within 2 weeks. The retailer would however only be defaulting (listed on the CRB) after 2 months. This is very similar to our proposal – it solves our previous concerns and the interest is equivalent to 2% per month. The main difference arises if the retailer fails to pay back within a week as he/she will subsequently be charged only 1% per month (0.5% initial interest and 0.5% default penalty) rather than the initial 2% interest rate. The threat of the default penalty should however incentivize retailers to pay back within 1 week.

IX. Conclusion and steps going forward

The project has made great improvement and overcame multiple challenges throughout the process of implementation. The main barrier to the full implementation of the product remains Equity's decision about reducing the interest rates charged.

If the proposal is accepted, our next steps include a Take-up round for retailers in the "Control with accounts" group, a sensitization round to update the retailers about the correct/new terms of the product, a pilot for the Coke data collection on PDAs and finally, our first follow-up survey. On the contrary, if the proposal is not accepted, steps going forward will have to be reassessed.