THE PHYSICAL AND ELECTRONIC PAYMENT INTERFACE AND ITS INFLUENCE ON CONSUMER PAYMENT CHOICES AND INFORMAL/FRAUDULENT PRACTICES: A CASE STUDY OF THE NATIONAL WATER AND SEWERAGE CORPORATION (NWSC) UGANDA.

STUDY REPORT

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June 2015

Abstract

Uganda has seen fast growth in the use of mobile money as a payment method and its acceptance by corporations like the National Water and Sewerage Corporation (NWSC) Uganda. This study used a logit model to analyze the drivers of consumer choice in using mobile money as a payment method to the NWSC. Data was collected from a survey of 238 domestic NWSC customers in the districts of Kampala, Luwero and Mukono. Results of the study that failed to conclude as to the effect of payment innovations on corruption show that consumer characteristics like marital status, income level and location could increase the probability that a consumer uses mobile money to pay bills.

Key terms: Mobile money, logit model

INTRODUCTION

The last five years have been characterized by innovations in payment systems not only with person to person transactions, but also individual to corporate transactions in Uganda. Corporations are increasingly adopting new payment methods like mobile money, PayWay, and internet banking. Notable are transactions that involve customers of big utility corporations like the National Water Sewerage Corporation (NWSC) Uganda. This corporation accepts a range of payment options giving her customers choice to use any of the following: mobile money transfers, cash deposits at the bank, standing orders at the bank, electronic transfers and cash payments at cash offices. This study sought primarily to analyze what drives consumers' payment choices, and the impacts that these new electronic payment methods could have on informal/fraudulent practices at the National Water Sewerage Corporation (NWSC) Uganda.

Research Questions

The study sought to answer the following specific research questions:

i. Why do people generally choose to pay water bills using a particular payment method?

ii. What is the role of gender, rank and position, economic and social class, age, physical ability, geographic location, and education level in the choices of payment options?

iii. How has the e-payment system changed fraudulent/informal practice dynamics? Are fraudulent practices becoming lesser or not? Are there new/emerging forms of fraud practices as a result of the cash-cashless interface? And if so, at what stage in the consumption-payment process are they occurring?

PROJECT ACTIVITIES

This research project has a series of activities that have enriched the report and the researchers themselves. Notable activities include:

- The successful proposal process that saw three researchers come together to bid for a grant to facilitate this study. The proposal process took two months of sometimes sleepless nights. It was worthwhile since the grant was secured.
- Inception of the project after the grant was approved. This involved anchoring the project to the key stakeholders, namely the research team including the researchers and research assistants, staff at the NWSC, and contact persons at district levels. This process was generally conducive as researchers did not find many difficulties in having the stakeholders on board thanks to the approval and letters of introduction from the office of the president.
- Data collection exercises. It has been a tiresome and involved eight months' exercise that gave new experiences to the researchers, and at the same time enriched the project with a combination of secondary data and primary data. The primary data collection exercise involved questionnaire guided interviews and focus group discussions.
- MTFI conference and mid-term report. The project's principal investigator attended the annual IMTFI 2014 researchers' conference at University of California Irvine. The researcher learned a lot, especially regarding anthropological research approaches and techniques. Interacting with fellow awardees was of great exposure on the part of the PI.
- Data analysis and reporting. This activity presented new challenges to the researchers because of data quality issues. The greatest challenge was isolating households that did not sell tap water to the neighborhoods. But the entire exercise was enriching to the researchers as they practically applied econometric tools to analyze field research data, combining both qualitative and quantitative research methods.

RELEVANT LITERATURE

Uganda is predominantly a cash-based country, although currently there is an increasing adoption of e-payment innovations. The majority of these innovations are bank-based (e.g. electronic funds transfer (EFT), Automated Teller Machines (ATMs), etc.) while one of them, mobile money, uses the mobile phone platform. As opposed to bank-based payment innovations, mobile money (simply defined as money saved on the phone) is considered an all-inclusive package that can be used by most communities, including the illiterate, the rural, and the poor, as long as they have access to a phone. It requires no minimum balances and has no associated monthly

maintenance costs except those incurred when transacting. The potential of mobile money expansion over Uganda is considered to be high, given that about six out of ten Ugandans own mobile phones, and that four of the nation's five big telecommunications companies offer mobile money services (FITS, 2011). In one financial year alone (June 2012-June 2013) the number of registered mobile money users in Uganda grew by over 100% (from 5,662,871 in June 2012 to 12,117,821 in June 2013), and the value of mobile money transactions grew by 53.9% (BOU report, 2012/2013).

A contrast with bank-based payment innovations reveals that majority of people in Uganda have not embraced these innovations. ATMs were introduced in 1997 (Daily Monitor 16th August, 2004), Bankom, a local electronic financial transaction services company in Uganda introduced mobile banking services in 2004 (Kanyegirire, 2004), and the Bank of Uganda introduced electronic funds transfer (EFT) in July 2007. All of these innovations were bids to improve the payment system and reduce cash transactions, but their adoption is still low. A study on a local commercial bank shows that 80% of its customers still transact at the counter despite owning ATM cards, a practice that contributes to the continued existence of long queues in banking halls similar to periods prior to internet banking (Tabaza, 2006).

Mobile money is predominantly used to exchange money between individuals, and to a smaller extent for business purposes. The low adoption rates of mobile money payments for business transactions could partly be due to the lack of a well-defined system that can allow users to transfer money across different telephone networks at no cost/risk. However, some service providers including the NWSC have adopted the use of e-payment technologies including mobile money. The NWSC is a government owned utility established in 1972 that is mandated to operate and provide water and sewerage services on commercial and viable bases. It currently serves 23 cities, which represent the larger, urban, and most populated areas of Uganda (Mugisha and Brown, 2010; Muhairwe, 2011). The NWSC has a current customer base of over 3,000,000 people (Source: http://www.nwsc.co.ug/). The NWSC has gone through major reforms since 1998 as a way to improve service delivery and turnout in the sector. The e-payment method is one of the key reform measures that were adopted to improve operations and service delivery including the collection of revenue and curtailing corruption practices at cash collection centers and in the field (Muhairwe, 2011). The different forms of payment methods offered by the NWSC can be grouped into two: 1) those that require access to a bank or bank account (internet banking and direct deposits, ATM payments, bank deposits. etc.); and 2) those that do not require access to a bank or bank account

(mobile money, PayWay centers, and cash payment centers among others) (Source: http://www.nwsc.co.ug/ewater.html).

With many payment options, the consumer makes the choice to use any single method or a combination to pay water bills. What determines this choice was central to this study. Previous research on determinants/drivers of adoption of such technologies has pointed to consumer attitudes with no concrete conclusions (Chiu et al., 2009; Schlosser, 2003). Lack of security and privacy has also been mentioned as a hindrance to adoption (Bhimani, 1996; Cockburn and Wilson, 1996; Quelch and Klein, 1996), hence affecting choice. Trust and perceived risk are critical drivers of adoption according to Morgan and Hunt (1994). Generally, studies on adoption have looked at all the above mentioned factors plus consumer characteristics including demographic, gender, and biophysical elements (Tugume, 2011). This research explored the latter factors plus the effect that payment innovations could have on informal/fraudulent practices.

METHODOLOGY

The data used came from a survey of NWSC customers in the districts of Kampala, Luwero, and Mukono. The data were supplemented by expert opinions and document reviews. The whole field exercise comprised of 350 participants. Descriptive statistics were summarized to give general impressions about the respondents and some research questions. The aim was to get measurements of location (quartiles), central tendencies (mean, mode, and median), and variability (range and standard deviation).

The study sought the opinion of people (experts) considered to have more knowledge about the different payment methods. These were people that had studied payments methods and related innovations (scholars), those that received bulky payments using these different methods (bankers), opinion/community/government leaders (leaders) and workers of corporations that newly accepted the modern payment methods (managers). They were separately engaged in informal interviews by the research team mainly to capture their take on the advantages of e-payment methods and mobile money in particular. The researchers drew on these interviews for their conclusions especially on how the experts thought about how the use of the modern payment methods affected corruption.

Logistic Modeling: this is one of the most common analytical approaches that are used in adoption studies involving multiple choices, the other being multinomial probit (Wu and Babcock, 1998). From the data set used, only the use of mobile money could be analyzed because other payment methods (bank transfer and cash) did not have enough representation in the data set, while cash deposit was fully adopted. With only one payment method to be analyzed, any of the logit or

probit regressions would be sufficient to predict the probability that a randomly selected customer uses mobile money as a payment method to pay for water bills. The observed dependent variable was that the consumer uses or does not use mobile money to pay for water, which generates a binary response (Y=1 or Y=0). This was predicted to depend on consumer characteristics (X) by a logit regression represented in equation 1 adapted from Wooldridge (2009).

$$P(y=1|x) = G(\beta_k x_k) = \frac{e^z}{1+e^z} = \frac{e^{\beta_k x_k}}{1+e^{\beta_k x_k}} \quad 1$$

Where the probability is that one adopts the payment method (dependent variable) given his/her characteristics. β_k is the vector for the coefficients estimated of a full specification of variables is in table 1 in the appendices.

Binary models are prone to heteroskedasticity and misspecifications according Godfrey (1991). The problems of inconsistence and even heteroskedasticity arise when the error term is related with the explanatory variables. Therefore, a Breusch-Pagan test using a function "bptest (π)" suggested by Kleiber and Zeileis (2008) was adapted, and the results were good, so corrective measures were not required. Furthermore, the McFadden pseudo R-squared value was also calculated in order to get a look at the goodness-of-fit of the model (Wooldridge 2005).

RESULTS

Results of analyses of data collected from a survey of domestic customers of the NWSC in the districts Kampala, Luwero, and Mukono are presented in tables 1 and 2 below:

Table 1: Summary of payment methods with attributes

	Convenient	Easy	Fast	Safe	Near	Cheap	Total Users
Used mobile money	10 (10.10)	20 (20.20)	63 (63.64)	4 (4.04)	2 (2.02)	0 (-)	99 (100.00)
Used bank transfer	0 (-)	10 (50.00)	4 (20.00)	6 (30.00)	0 (-)	0 (-)	20 (100.00)
Used cash deposit	10 (4.57)	26 (11.87)	10 (4.57)	130 (59. 36)	32 (14.61)	11 (5.02)	219 (100.00)

Source: *descriptive of survey data of 238 NWS domestic customers in the districts of Kampala, Luwero, and Mukono*

Most users of mobile money as a payment method said that they used it because it is fast (64%) and easy (20%). Those that used bank transfers said that they used them because they are

easy (50%) and safe (30%), while those who deposited cash in the bank said that it is safe (59%) and closer to them (15%).

Table 2: Views of the experts on modern payment methods.

Scholars	1. Yes e-payment methods can reduce corruption between users and agents of providers because they reduce the time the two meet and discuss transactions 2. More innovations will come up but only those that are user friendly to the poor will make a difference.
Bankers	1. The danger is that the users are now exposed to 'modern' malpractices like hacking. 2. Corruption would reduce but it occurs in the billing process not payment therefore e-payment reduces more on the risk of money theft not so much on corruption. 3. Our work becomes less tedious as more customers embrace technology and payment innovations.
Leaders	1. Such advanced innovations are good but not for our people save for mobile money. 2. Even the district uses bank transfers to reduce on corruption in the cash system.
NWSC Workers	1. These payment methods and such technologies have pushed some of our colleagues out of work and the companies do not look at us as valuable resource as before. 2. The fight against corruption or preventing it has led us this far we were receiving more than 90% of our revenue through cash centers 10 years ago. 3. Such innovations will leave out many people especially the poor and illiterates

Most of the experts indicated that modern payment methods if implemented could reduce corruption apart from the bankers for whom it only reduces the risk of money theft during the transaction. The experts are in favor of innovations in payment methods but express concern that some innovations leave out illiterate, poor, and rural people.

Table 3: Summary of logit model results for mobile money payment method adoption

Description	**Units**	**Estimate**	**Marginal Effect**
He is male (dummy)	1=yes; 0=no	-0.800 (0.307)**	-0.190
Age (continuous)	Years	0.039 (0.100)	0.009
Years of education (continuous)	Years	0.049 (0.044)	0.012
Salary earner (dummy)	1=yes; 0=no	-0.673 (0.355)□	-0.161
Unemployed (dummy)	1=yes; 0=no	-0.439 (0.551)	-0.100
Married (dummy)	1=yes; 0=no	1.278 (0.388)***	0.299
Household income ('000,000) (continuous)	UGX	13.560 (5.531)*	3.241
Years as a customer (continuous)	Years	0.008 (0.035)	0.002
Monthly water bill ('00,000')	UGX	47.920	11.457

(continuous)		(20.810)*	
Household size (continuous)	Number	-0.176 (0.457)	-0.042
Located in Kampala district (dummy)	1=yes; 0=no	1.077 (0.416)**	0.256
Located in Luwero district (dummy)	1=yes; 0=no	0.474 (0.441)	0.115
Breusch-Pagan (BP)		28.35.1	
Pseudo R-squared		0.169	
% Correctly predicted		67.2	
Figures in parenthesis are standard errors Significance codes:, 0 '***', 0.001 '**'. 0.01 '*', 0.05 '.', 0.1 ' ' 1			

Source: *LM regression of survey data of 238 NWS domestic customers in the districts of Kampala, Luwero, and Mukono*

Results from the logit model also presented in table 2 above show that at even a 0.1% confidence interval, men are two points less likely to use mobile money as compared to women, all other things held constant. Salary earners at a 5% confidence interval are 16% less likely to use mobile money as compared to the self-employed, while the model reports no significant change in the likelihood that an unemployed customer would use mobile money as compared to the self-employed, other factors remaining unchanged. If one is, married they have three points greater likelihood of using mobile money than the unmarried. Those located in Kampala district are 26% more likely to use mobile money, and there was no difference among those located in Luwero district as compared to those located in Mukono district. The model further shows that the higher the income one earns, the higher the likelihood that they use mobile money to pay for water bills, all other factors held constant. Variables like age, years of formal education, years of being a customer, and household size report no significant effect on the customers' choices about whether or not to use mobile money to pay for water bills to NWSC.

LIMITATIONS TO THE STUDY PROCESS

Some of the limitations have already been mentioned in the "project activities" but there are some specific challenges worth mentioning at the moment as they will help the reader better understand and make use of this thesis.

- Primary data collection was more difficult than anticipated because the research wanted to analyse domestic water users but it turned out that many respondents were selling tap water

to their neighbours. This reduced the number of respondents that were included in the analysis.

- The research had an ambition to report on whether e-payment methods affected corruption but it ran short of credible information to draw a conclusion as there was no proper documentation of corruption cases at NWSC and the respondents showed no interest in discussing their fraudulent encounters with NWSC staff.
- It would be interesting to analyse the three modern payment methods in this research but the data collected did not have enough statistical representation for other methods apart from Mobile Money.

OUTCOMES

The study has been able to empirically point to attributes that users have, and based on to choose the payment method that they use. The major attributes most mentioned are: the payment method is safe, fast, easy, near, and convenient.

The study also analyzed the drivers of consumer choice of whether or not to use mobile money to pay for water bills to NWSC. Those that are significantly determining this choice are: location, amount payable to NWSC, household income level, marital status, occupation, and sex.

The study could not conclude on the effect of the different electronic payment methods on fraudulent practices/corruption even when all experts interviewed expected them to reduce the occurrence/incidences of corruption. The failure to conclude on this question is because there is no proper documentation of corruption at NWSC. It would be interesting, therefore, if further research could specifically look at this unanswered question by collecting data on corruption from institutions that keep such information like the Department of Public Prosecution and anti-corruption courts

The potential use of electronic payments for business transactions in Uganda is high and will increase even more. Although the study results are representative of a small group of electronic payment users – i.e. the National Water and Sewerage Corporation, those that use the systems find them fast, easy, safe and convenient. We speculate that the future use of electronic transactions especially mobile money for utility bill payments in Uganda will generally grow, especially with the increased acquisition of mobile phones and accessibility to internet. However factors like affordability, security and accessibility will create differences in its adoption rates by different people based on social economics and geographical locations. For instance, daily use of mobile

money for bill payments may accrue high transaction fees and may become unaffordable. Past experiences will also likely play a big role in the adoption of electronic payments in the future. The people who have used mobile money payments to pay for their water bills for example will most likely choose the same payment method to pay for other services because they are more aware of the cons and pros of the system.

CONCLUSION

Customers of the NWSC have adopted modern payment methods, especially mobile money, and are yet to appreciate bank-based innovations like internet banking and other direct transfers. Attributes to the innovations clearly help in explaining why NWSC customers used a particular payment method, and their characteristics could help predict the probability that a consumer uses mobile money to pay for water bills. Further research will be needed to conclude as to the relationship between payment innovations and corruption.

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APPENDICES

Data collection Tool

QUESTIONNAIRE ON: The physical and electronic payment interface and its influence on consumer payment choices and informal practices: a case of the National Water and Sewerage Corporation (NWSC) Uganda

Section 1: Questions to capture respondent demographic characteristics					
a. Gender		**b. Age**			
Male					
Female					
c. year of Education		**d. Employment status**			
e. Marital Status		**f. Household/family size**			
g. What position do you hold in the family? Examples include head, child, maid etc.					
h. Place of residence		**I. Known disability**		**If yes please specify type of impairment**	
Village		*Yes*		*Mobility*	
Sub county		*No*		*Visual*	
District				*Hearing*	
***j.* What is your current monthly total household income**					
k. In what ways do you receive and store your household income? Please mention all that apply					

Section B: Questions to capture water consumption characteristics & bill payment choices							
a. For how long have you been a customer for NWSC							
b. What do you mainly use the water for?		**c. On average, what is the range of your monthly water bill**					
e. Which bill payment methods are available and accessible by you? Please mention all that apply							
How have you paid for your water bills in the last 6 months?(mention all that applies)							
For the method(s) you selected above, give reasons why you chose to use it (them) for bill payment during the respective times?							
Has new company policies dictated your choice of a payment method during the last 6 months.							
For your most preferred payment method, what do you like and dislike about it? Please mention all that apply.							
For your least preferred payment method, what do you like and dislike about it? Please mention all that apply.							

Please mention any suggestions that you think can improve service delivery in Mobile Money services

……

Mention something you would like us to know about Mobile Money Services as a payment method (it may not be covered in questions above)

……

You can ask questions if you have some.

……

Thank you for your participation!

Table 4: Summary of descriptive analysis of NWSC customers' characteristics.

Name	Description	Units	Mean	Std. Dev	Min	Max	Sum
mukono	located in Mukono district (dummy)	1=yes; 0=no	0.256	0.438	-	1.000	61.00
kampala	located in Kampala district (dummy)	1=yes; 0=no	0.420	0.495	-	1.000	100.00
luwero	located in Luwero district (dummy)	1=yes; 0=no	0.324	0.469	-	1.000	77.00
male	He is male(dummy)	1=yes; 0=no	0.538	0.500	-	1.000	128.00
hdage	Age (continuous)	Years	43.983	11.179	19	75.000	10468.00
educ	Years of education (continuous)	Years	12.227	3.460	-	18.000	2910.00
servant	Salary earner (dummy)	1=yes; 0=no	0.586	0.494	-	1.000	139.00
self	Self-employed (dummy)	1=yes; 0=no	0.298	0.458	-	1.000	71.00
umply	Unemployed (dummy)	1=yes; 0=no	0.105	0.307	-	1.000	25.00
married	Married (dummy)	1=yes; 0=no	0.471	0.500	-	1.000	112.00
hhsize	Household size (continuous)	Number	4.458	2.171	1.000	11.000	1061.00
incm	Household income ('000,000) (continuous)	UGX	0.575	0.455	0.100	6.000	136.820
yac	Years as a customer (continuous)	Years	6.538	4.538	1.000	26.000	1,556.00
bill	Monthly water bill ('00,000') (continuous)	UGX	0.248	0.119	0.020	0.600	59.09
atm	Has ATM (dummy)	1=yes; 0=no	0.882	0.323	-	1.000	210.00
bank	Has bank Account (dummy)	1=yes; 0=no	0.929	0.258	-	1.000	221.00
mmr	Registered for mobile Money(dummy)	1=yes; 0=no	0.937	0.244	-	1.000	223.00
usedmm	Used Mobile money (dummy)	1=yes; 0=no	0.416	0.494	-	1.000	99.00
usedbt	Used bank transfer (dummy)	1=yes; 0=no	0.084	0.278	-	1.000	20.00
usedcd	Used cash deposit (dummy)	1=yes; 0=no	0.929	0.258	-	1.000	221.00
usedcash	Used cash (dummy)	1=yes; 0=no	0.101	0.302	-	1.000	24.00
prfrsBnk	Prefers bank to cash (dummy)	1=yes; 0=no	0.454	0.499	-	1.000	108.000

Source: *survey data of 238 NWS domestic customers in the districts of Kampala, Luwero and Mukono*

Table 5: Logit model variables and expected signs

Description	**Units**	Expected sign
male(dummy)	1=yes; 0=no	-
Female (dummy)	1=yes; 0=no	+
Age (continuous)	Years	-
Years of education (continuous)	Years	+
Salary earner (dummy)	1=yes; 0=no	+
Self-employed (dummy)	1=yes; 0=no	+
Unemployed (dummy)	1=yes; 0=no	-
Married (dummy)	1=yes; 0=no	-
Not married (dummy)	1=yes; 0=no	+
Household income ('000,000) (continuous)	UGX	+
Years as a customer (continuous)	Years	+
Monthly water bill ('00,000') (continuous)	UGX	+
Household size (continuous)	Number	-
located in Kampala district (dummy)	1=yes; 0=no	-
located in Luwero district (dummy)	1=yes; 0=no	+
Located in Mukono district (dummy)	1=yes; 0=no	+

Logit model specification:

$$P(usedmm) = + \text{male} + + hd\text{age} + hd\text{age}^2 + \text{educ} + \text{servant} + \text{umply} + \text{married} + \text{incmr} + \text{yac} + \text{billr} + \log(\text{hhsize}) + \text{I(incm * prfrsBnk} + \text{kampala} + \text{luwero} + \omega \quad 2$$

R-SCRIPTS

```
library(AER)
library(gdata)
library(sandwich)
library(nlme)
library(erer)
library(grid)
library(proto)
dat <- read.csv(file="Datanew1.csv", header=TRUE, sep=",")
dim(dat)
attach(dat)
print(sort(names(dat)),quote=F)
summary(dat)
logitg1<-
glm(usedmm~male+hdage+I(hdage^2)+educ+servant+umply+married+I(incm/10000000)+yac+I(b
ill/1000000)+log(hhsize)+I(incm*prfrsBnk)+kampala+luwero,
family=binomial(link="logit"),data=dat,x=TRUE)
summary(logitg1)
maBina(logitg1)
bptest(logitg1)
logitg01<-glm(usedmm~1, family=binomial(link="logit"),data=dat,x=TRUE)
summary(logitg01)
lllogitg1<-logLik(logitg1)
lllogitg1
lllogitg01<-logLik(logitg01)
lllogitg01
pseudog1<-(1-(lllogitg1[1]/lllogitg01[1]))
pseudog1
Likelihood ratio test
lrtest(logitg01,logitg1)
###### Percentage correctly predicted#####
summary(logitg1$fit)
table(dat$usedmm)
table(round(logitg1$fit))
correct <- dat$usedmm==round(logitg1$fit)
mean(correct)*100
table(dat$usedmm)
```

```
c0<-subset(correct, dat$usedmm == 0)
length(c0)
c1<-subset(correct, dat$usedmm == 1)
length(c1)
mean(c0)*100
mean(c1)*100
cbind("Prob usedmm"=mean(dat$usedmm)*100,
"%correct total"=mean(correct)*100,
"%correct usedmm=0"=mean(c0)*100,"%correct usedmm=1"=mean(c1)*100)
```

Table 6: Summary of R-Output

	Estimate	Std. Error	z value	Pr(>|z|)		ME
(Intercept)	(3.216)	2.361	(1.3620)	0.1732		(0.769)
male	(0.800)	0.307	(2.6110)	0.0090	**	(0.190)
hdage	0.039	0.100	0.3950	0.6929		0.009
I(hdage^2)	(0.001)	0.001	(0.5440)	0.5867		-
educ	0.049	0.044	1.1240	0.2609		0.012
servant	(0.673)	0.355	(1.8940)	0.0583	.	(0.161)
umply	(0.439)	0.551	(0.7970)	0.4256		(0.100)
married	1.278	0.388	3.2940	0.0010	***	0.299
I(incm/1e+07)	13.560	5.531	2.4510	0.0143	*	3.241
yac	0.008	0.035	0.2280	0.8195		0.002
I(bill/1e+06)	47.920	20.810	2.3030	0.0213	*	11.457
log(hhsize)	(0.176)	0.457	(0.3850)	0.7003		(0.042)
I(incm * prfrsBnk)	(0.000)	0.000	(3.5840)	0.0003	***	-
kampala	1.077	0.416	2.5900	0.0096	**	0.256
luwero	0.474	0.441	1.0750	0.2825		0.115
BP = 28.3511, df = 14, p-value = 0.01278						
Pseudo R squared = 0.169						
Significance codes:, 0 ‘***’, 0.001 ‘**’. 0.01 ‘*’, 0.05 ‘.’, 0.1 ‘ ’ 1						