

# **Financial Exclusion in Uganda: an analysis of financial service use**

A Report Prepared for Financial Sector Deepening, Uganda

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## Executive Summary

A range of factors influence which financial services people use. These include the factors of cost and distance as well as those such as literacy, income source and gender. In order to develop policies to expand access and use, policy-makers need to have an understanding of these factors - socio-economic, demographic and geographic – and how they operate to include or exclude people from the financial sector. This report uses data from the FinScope Uganda Survey 2006 to analyse these influences on inclusion and exclusion.

### Key findings:

Overall, the analysis finds some key influences on who is included and who is left unserved – these include employment, education, age, gender, region and some poverty proxies. The strongest influences are on the use of formal services - and particularly banks. The factors influencing inclusion via the semi-formal and informal sector rather than being unserved not particularly strong, consistent or clear. This is not surprising given the overall high proportion of those unserved (62%) and low levels of inclusion via these two sectors (semi-formal – 3%; informal - 17%). It means that those who use semi-formal and informal services are not particularly easy to distinguish from those who are unserved.

#### 1. Employment is a key influence on which services are used and who is left unserved.

Those who are most likely to use formal services are those people employed in the formal sector. Those who are more likely to be unserved are farmers; those who work in others' farms or homes; and those who are dependent on pensions or transfers. Those who are dependent on pensions or transfers are also less likely to use informal services.

While employment is related to income level, the analysis examined these factors separately and found that those who reported annual incomes of over Ushs300,000 were more likely to be using formal sector services and were least likely to be completely unserved. Being employed in the formal sector is however influential independently of income level since it is likely that even where incomes are low they are paid through bank accounts.

#### 2. Being educated, aged 25-44 and male increases the likelihood of using formal financial services.

Being educated to secondary level is one of the most influential factors affecting use of formal financial services.

Those aged 25-44 are more likely to use formal services than other age groups.

Men are more likely to use formal services – especially banks - than women, while women are more likely to use MDIs and informal services - especially ROSCAs - than men. Overall, however, they are equally likely to be unserved.

#### 3. Overall, 18% use formal services and there are regional differences in the patterns of use but whether someone lived in a rural or urban area did not affect the likelihood of using them.

Those who were more likely to use formal services lived in Kampala, Northern and Western regions, while those who were least likely to use them were in Eastern and Central Regions (excluding Kampala).

Those living in Western were more likely than others to use semi-formal services, although overall use of these in Uganda is low (3.1%). People living in Central regions (excluding Kampala) were less likely to use informal services than those in Kampala. Those who live in Kampala are more likely than those in any other part of the country to save and borrow from family and friends.

4. Owning a TV or mobile phone increases the likelihood of using formal services but is less important than education in influencing use.

Ownership of a TV or mobile phone increased the likelihood of using formal services although overall, ownership of particular assets (car, radio, bicycle) was not systematically associated with patterns of use. Other poverty proxies (eg. water sources and dwelling condition) had predictable influences on access in that those with semi-permanent dwellings or without piped water were more likely to use informal services.

5. There are two basic market segments: those who use formal services are relatively easy to identify, and the majority of the population who do not.

The socio-economic, demographic and geographic characteristics of those who use formal services are numerous and hence this group is easy to identify. Overall, it is hard to identify the characteristics of market segments representing the next tier of customers to whom formal services can most easily be extended because this is the majority of the population. However, there are around 6% of the population who have similar characteristics to those who use formal services but who are unserved – the reasons for this need further investigation.

### **Policy implications:**

The findings demonstrate that extending access is a huge challenge for the financial sector in Uganda. While formal sector provision is extremely important, these findings suggest that the informal and semi-formal sectors also require policy consideration and that underlying barriers to access also need to be tackled.

- Policy-makers must take a pluralist approach to extending access. Formal sector institutions must continue to be encouraged to move downmarket to serve poorer clients. In addition, given the contribution of informal groups to access overall (17%), the findings suggest that the case can be made for government policy measures that would support the expansion of informal groups. Some local and international NGOs are actively promoting Village Savings and Loan Associations (VSLAs) which are purported to be safer and more flexible than other informal groups. Further research is needed into their operations. However, policy should avoid lending to them or seeking to federate them as these approaches have not been found to be successful elsewhere.
- The semi-formal sector makes a small contribution to overall access (3%). This may suggest that the SACCO sector is not as well adapted to the needs of rural populations as it is often expected to be and the case can be made that support is better directed elsewhere.
- Policy-makers should consider how to develop financial literacy programmes that can familiarise people with the skills required to effectively understand, assess and access financial services. These could also be incorporated into school curricula. This will help overcome the underlying barriers to access of factors such as education and gender.
- Since simple product design that is easily communicable to those with little education is also important in overcoming barriers to access, policy-makers might consider how to promote the development of products that are easy to understand.
- To overcome constraints to women's access to bank services requires understanding of how product design differentially impacts women and men and whether delivery systems are accessible by both genders. Policy-makers also need to systematically identify and tackle the societal norms constraining women's access and consider how to promote positive role models.

## 1. Introduction

### 1.1 Conceptual Framework and Approach to the Analysis

A key concern of policy makers is to understand how to extend access to financial services to low-income people. The FinScope Uganda survey carried out in 2006 by Steadman Group on behalf of FSDU, is a means to establish a detailed understanding of the extent of current access to existing financial services and provides a baseline against which progress can be measured in the future. The data can also be used to understand the nature of barriers to access and use in order for policy makers to consider how best to address them.

It is well understood that a range of factors can affect poor people's ability to use financial services – particularly formal ones. Obviously cost is a factor so that minimum deposits, fees and charges mean that holding a bank account, for example, is too expensive for many. In addition to these financial costs, the cost of reaching a bank is also important - hence distance from a bank implies transport costs or at least travel time and inconvenience. In addition, analysis has also highlighted the non-financial costs that people may incur in accessing banks such as the difficulties of understanding and completing forms for those who are not literate or the social barriers of status experienced in dealing with bank staff. Hence it is not solely economic factors that determine access.

But factors that affect access to services also extend beyond those of income, wealth and education. It is well known for example that women are less likely to use banks than men and this is rooted in gender relations related to control of income and assets such as land (especially with respect to borrowing). On the other hand women often make more extensive use of group-based financial mechanisms such as ROSCAs compared with men. These differences are rooted in deeper social and cultural traditions of the way in which women co-operate in community groups and gendered patterns of access to and control of income and expenditure responsibilities<sup>1</sup>. Moreover, the extent to which ROSCAs and group-based mechanisms are used can differ between ethnic groups who have different social and cultural traditions.

Given then that a wide range of socio-economic, demographic and geographic factors do influence use, they present barriers to access for poor people. It is important therefore for policy-makers to have an understanding of which are the most important factors that may be causing exclusion from particular services and from the informal and formal financial sectors as a whole if they are to consider how to best promote access and use policy and programmes to enable poor people to overcome such barriers.

The FinScope Uganda dataset can therefore be analysed to establish patterns of use and to examine which factors are relatively more important than others in influencing them. Hence we can use it to provide a detailed analysis of the role of socio-economic (income, wealth, education etc), demographic (age, gender, household composition, marital status etc) and geographic (rural/urban, or region) variables.

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<sup>1</sup> See for example: Johnson, S. (2004). "Gender norms in financial markets: evidence from Kenya." World Development 32(8): 1355-1374.

The analysis presented here approaches this analysis in two ways. The main approach to the analysis uses regression techniques to establish patterns of access and to determine which socio-economic, demographic and geographic variables are most important in influencing them (see Annex 1 for more details). This analysis enables the factors that most influence exclusion in particular to be identified.

However, from the perspective of policy makers it may not be effective to seek to overcome the barriers to entry of the most excluded first, but rather to seek to extend improved access to those who are most likely to be able to be included. From the perspective of financial service providers this is certainly the most fruitful approach. The second part of the analysis seeks therefore to segment the population according to socio-economic characteristics along a spectrum of access, which in theory offers a means of identifying the characteristics of groups whom policy makers and providers might prioritise for access.

## 1.2 Methodology

In undertaking our analysis we are constrained to use the variables available in the existing data set although these do not always directly address the key variables that we might want to use in such an analysis. In particular:

- (i) Income poverty levels – the survey did not collect robust data on levels of expenditure or consumption which can be compared to the Uganda poverty line. It did collect an income estimate through two questions on agricultural and non-agricultural income received over the last year. However, these are not robust questions as they stand. The question also had a low response rate (66%). We have used the data by categorising it into ranges and it demonstrates some usefulness in the analysis, however it is likely that because it is a weakness that the influence of income level is also being picked up by other variables in the analysis which are likely to include (but not be confined to) main income source, gender and age.
- (ii) Wealth / poverty proxies – the dataset contains variables related to *objective* poverty indicators such as household assets, dwelling condition, sanitation facilities, sources of water, fuel and lighting, mobile phone use etc. These have been not yet been combined into a composite poverty proxy but used individually in the analysis. They are therefore operating as proxies for poverty rather than as direct explanations of barriers to financial service use. Further analysis can be undertaken when these variables have been combined into a poverty proxy that can be used to place respondents into wealth quintiles consistent with UBOS practice.

The analysis uses cross-tabulations to examine the percentage of the population in particular sub-groups that are using a particular service. So that rather than looking at the proportion of those who use a bank account, for example, by gender or different education levels, we instead look at the proportion of men or women, or of those at different educational levels who use a bank account. Hence, for example, FinScope Uganda results show that the proportion of those using formal services who are self-employed in business is 43%, while 21% are employed in the formal sector. However, relative frequencies give the results that 23% of those who run their own business use formal services, while 68% of those who with formal sector employment use them. Approaching the analysis in this way enables to start to understand the influence of underlying socio-economic characteristics on access.

The analysis then uses regression techniques to establish which socio-economic, geographic and demographic characteristics are most strongly associated with and therefore appear to most influence people's access to services<sup>2</sup>. In discussing the results we refer to the differences in the likelihood that a service is used - this is always relative to a base category for

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<sup>2</sup> See Annex 1 for more detail.

each variable. For example, someone in formal employment might be found to be two times more likely to have a bank account than the base category which is those who run their own businesses. The strength of this regression technique is that it enables the influence of a particular variable to be established when all other variables in the analysis are held constant. Hence, for example the influence of gender on access to a bank account is independent of the fact that more women have no education than men, since education is also contained in the equation and can therefore be held constant. The effect of education is therefore being separated out from that of gender. However, it may be the case that a variable in the equation is related to other factors which are not reflected by variables in the equation and therefore that we cannot assess – eg the fact that women may have lower incomes than men which cannot fully and adequately assess because of the weakness of the income/expenditure data.

The analysis has been written prioritising the variables discussed according to the statistical significance of the regression results. Where a variable is influential in increasing or reducing the likelihood that a service is used, for example being over formally employed we discuss the influence of all the categories of that variable, ie all other types of employment or main income source, whether or not they are significant so that the overall effect of that indicator can be seen. It should be noted that the charts presented below are visual aids, the bars give an indicative idea of the relative impact of different factors but the odds ratios have had to be transformed to present them in this way and this is why scales have been removed<sup>3</sup>. Again it should be borne in mind that the influence of any variable is relative to the base case for that variable and not an absolute figure, hence discussing the influence of formal employment is relative to the base case of someone running their own business and the increased or decreased likelihood relative to that indicator.

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<sup>3</sup> The detailed tables of results appear in Annex 2.

## 2. Socio-economic influences on financial service use

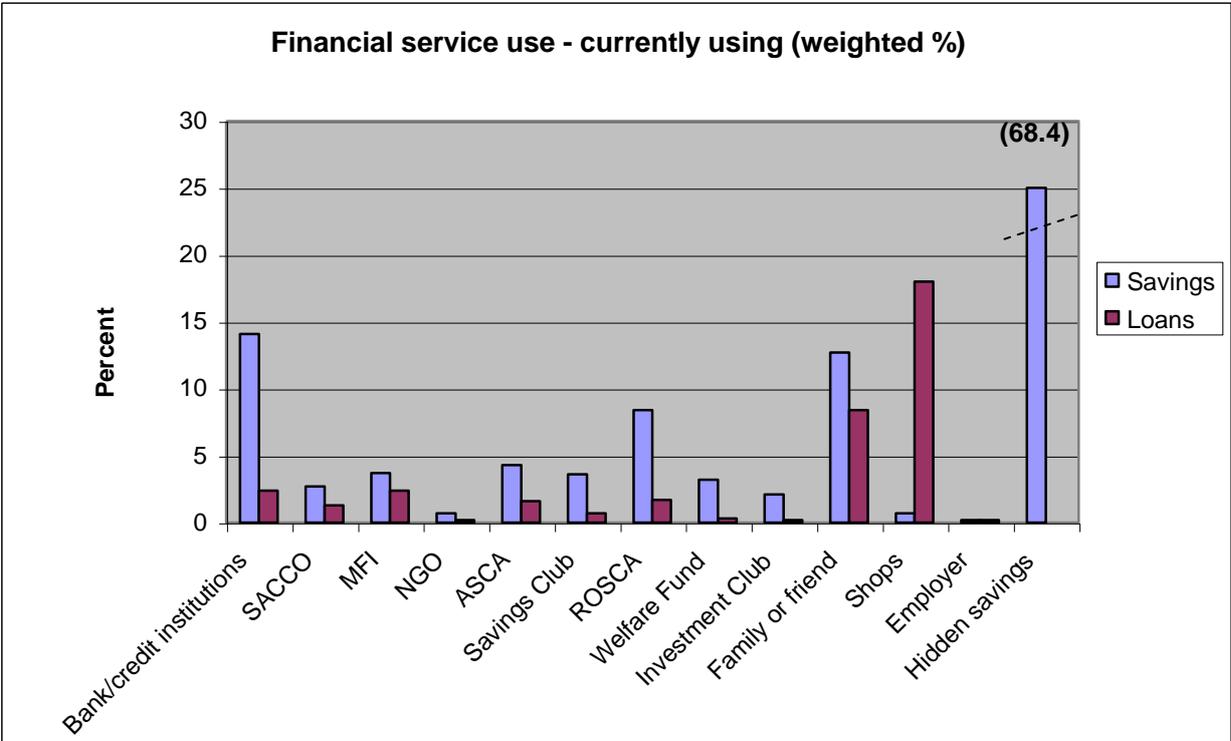
This section summarises the key factors affecting the use of key services. The factors are reported in order of importance on the savings side and then we review whether similar factors are important for the credit side. Table 1 summarises the proportions using each service and Figure 1 graphs these.

**Table 2.1: Financial service use – % currently using (weighted)**

	Savings	Loans
Bank/credit institutions	14.1	2.4
SACCO	2.7	1.3
MFI (MDIs and other MFIs)*	3.7	2.4
NGOs	0.7	0.2
ASCA	4.3	1.6
Savings Club	3.6	0.7
ROSCA	8.4	---
Welfare Fund	3.2	0.3
Investment Club	2.1	0.2
Family or friend	12.7	8.4
Shops	0.7	18
Employer	0.2	0.2
Hidden savings	68.4	---
Informal moneylender	0.1	0.5

\* See discussion of MFI definition in text.

**Figure 2.1: Use of financial services (% currently using)**



The Central Bank of Uganda has developed a categorisation of MFIs in different Tiers of the system depending on their nature and degree of regulation. Tier 1 institutions are fully regulated banks, and Tier 2 institutions are other regulated financial institutions. Tier 3 refers to the Microdeposit taking institutions (MDIs) registered under the 2003 Act. Tier 4 refers to all other MFIs and informal groups.

In terms of the categorisations used here, the Bank/Credit institutions category in Table 2.1 above refers to Tier 1 and 2 institutions and the MFI category refers to the MDIs and 'other MFIs' i.e. Tiers 3 and 4. However, the Tier 4 institutions here do not include the informal groups as these are dealt with separately.

An alternative categorisation of microfinance by the Ministry of Finance includes particular institutions from the Tier 1 and 2 categories with MFIs as a whole. These are Centenary Bank from Tier 1 and Commercial Microfinance Ltd and Post Bank Uganda from Tier 2. Re-calculating the figures in Table 2.1 to allow for this categorisation (and therefore removing the Tier 1 and 2 institutions from the Bank/Credit institutions category) gives the figures in Table 2.2 for what we call "MFI overall".

**Table 2.2: Financial service use – % currently using (weighted)**

	Savings	Loans
Bank/credit institutions (revised)	12.8	1.5
MFI 'overall'	9.1	3.2
Of which:		
MDI	2.0	1.4
Other MFI	1.8	1.0

This recalculation reduces the proportion of the population using bank/credit institutions for savings from 14.1% to 12.8% a fall of 1.3% and increases the proportion using MFIs for savings from 3.7% to 9.1%. This is a big jump of 5.4% and represents the large contribution of Centenary Bank, in particular, on the savings side. However, the fact that the Bank/CIs figure has not fallen by as much suggests that a high proportion of these people also have accounts with other bank/credit institutions. On the loans side the impact is a fall in the proportion of the population taking loans by 0.9%, from 2.4% to 1.5%, while rising by 0.8% from 2.4% to 3.2%, suggesting that loan use is not multiple across institutions in the same way.

**2.1 Banks**

As indicated in Table 2.1, 14.1% use a bank savings account whereas 2.4% use bank credit.

Figures 2.2 and 2.3 show the most important socio-economic factors that influence use of a bank savings account.

Education is a very strong factor influencing bank use - having a secondary education increases the likelihood that someone will have a bank savings account by ten times compared to someone who has no formal education, while having a primary education more than doubles it.

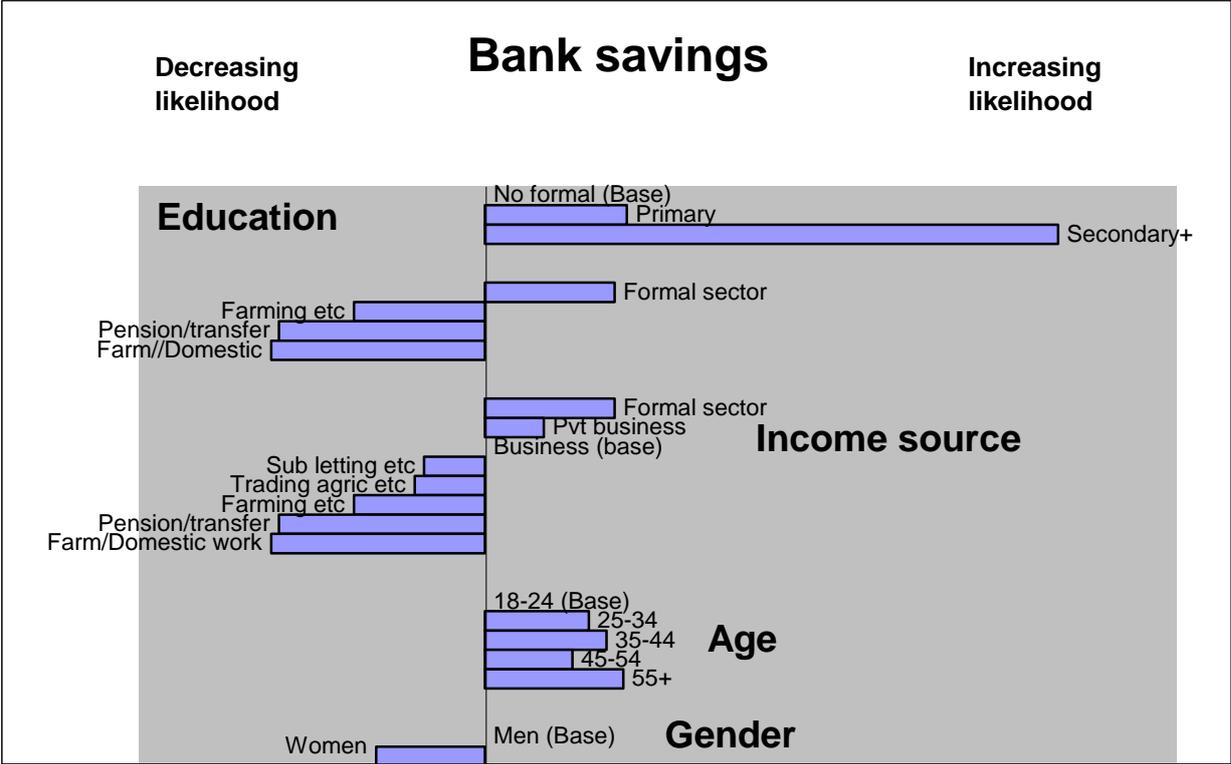
Source of income (employment) is also a key influence. 61% of those employed in formal sector<sup>4</sup> employment have a bank savings account and they are twice as likely to use one as

<sup>4</sup> The questionnaire used two categories of employment which are not clearly and completely distinct: "working for an individual in a private business" and "employed in the formal sector like in an office (public or private)". This approach is seeking to establish a formal and informal employment sector divide but the delineation may not be entirely robust.

those who run their own businesses. 20% of those who run their own businesses (the base group) have bank savings accounts, while 25% of those who work for an individual in a private business do but this does not make this group more likely to hold one. On the other hand, farmers are significantly less likely than those who run their own business to hold one, as are those who rely on pensions/transfers or those who are employed on other people’s farms or in domestic chores.

Age is also influential. Compared to the 18-24 age group, those aged 25-44 and over 55 are more likely to use a bank savings account. This is not the case for the age group 45-54 however, so the effect of age tends to be stronger as people get older but this does not apply entirely consistently.

**Figure 2.2: Bank savings – socio-economic factors influencing use**



10% of women have a bank savings account compared to 20% of men and this also gives a result that they are two times less likely to do so when all other factors are held constant.

The effect of income level is significant for the highest two income categories<sup>5</sup> (see figure 2.3) – i.e. those who reported incomes of over Ushs300,000 per year compared to those who reported an income of under Ushs90,000. People in the top income category of incomes over Ushs850,000 (i.e.13% of the sample) were three times more likely as those with under Ushs90,000 to have a bank savings account, while those with incomes between Ushs300,000 and Ushs850,000 were two times as likely.

With respect to assets, those with a mobile phone are more likely to use a bank account by a factor of three, while those with TVs were twice as likely and those with bicycles 1.5 times more likely. However, perhaps surprisingly, car ownerships did not give a significant result.

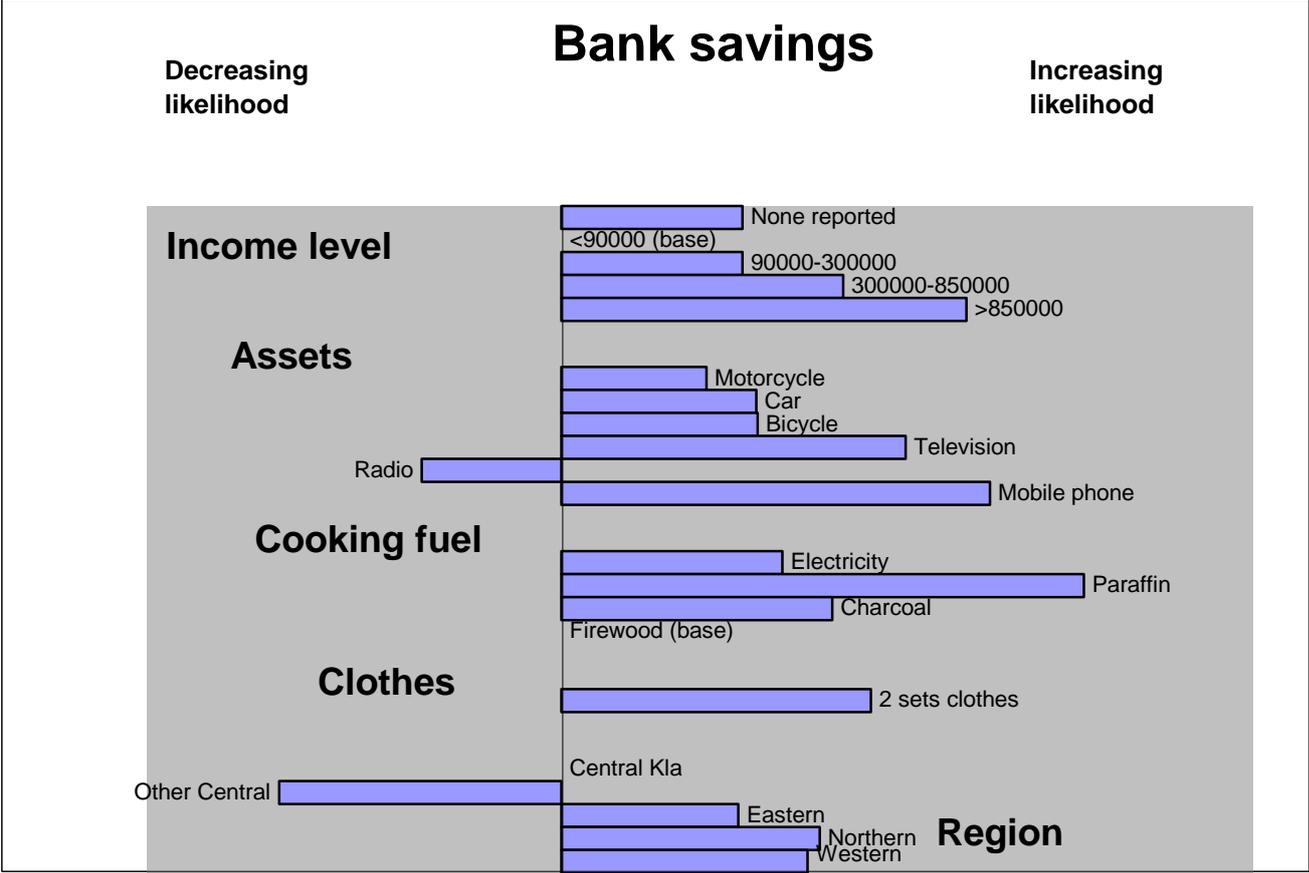
Further poverty proxies that were significant were clothing and cooking fuel. Where all members of the household had two sets of clothes, the likelihood of having a bank account was

<sup>5</sup> Income level was analysed into the following categories: Not reported; Ushs<90,000 (US\$50); Ushs90,000-300,000 (US\$175); Ushs300,000-850,000 (US\$500) and over Ushs850,000. These groups represented 34%; 14%; 23%; 16%; 13% of the sample respectively.

double. Cooking with paraffin or charcoal significantly increased the likelihood of using a bank account compared to cooking with firewood. However perhaps surprisingly cooking with electricity did not significantly increase the likelihood but this may be due to the very low overall proportion using this fuel (1.5%).

Finally, the effect of Region was mildly significant and those in Northern and Western Regions were almost twice as likely to use one as those in Kampala, while those in Central Regions (excluding Kampala)<sup>6</sup> were half as likely. This result is not intuitively explicable but also carries through into the access strand analysis – see below.

**Figure 2.3: Bank savings – further socio-economic factors influencing use**



When it comes to taking a **loan** from a bank, the analysis suggests that one of the strongest influences is Region. Those in Northern were ten times more likely to have a loan, compared to those in Central Kampala, those in Western six times more likely and those in Eastern three times more likely. Again this is not an intuitive result and requires further investigation. Perhaps surprisingly rural people were mildly more likely to have a loan than those in the urban area.

The second most influential factor was age, with those in the 45-54 age category more than seven times more likely to have a loan than those aged 18-24, while the age categories from 25-44 were also mildly significantly more likely to do so.

Main income or employment is influential to the extent that those in farming were significantly less likely to report borrowing and this reduces the likelihood tenfold compared to those who run their own business, but no other employment group was significantly affected. This underlines the continuing difficulty of obtaining loans in the agriculture, livestock and fishing sectors and is

<sup>6</sup> Central Regions excluding Kampala are referred to in the charts as “Other Central”

not entirely consistent with the slightly higher likelihood of getting a loan in the rural area mentioned above.

A further factor was again education, with those educated to secondary level being ten times more likely to borrow than those with no education. Interestingly those who refused to answer the education question were also more likely to borrow - again as above suggesting that this group are probably reasonably well educated.

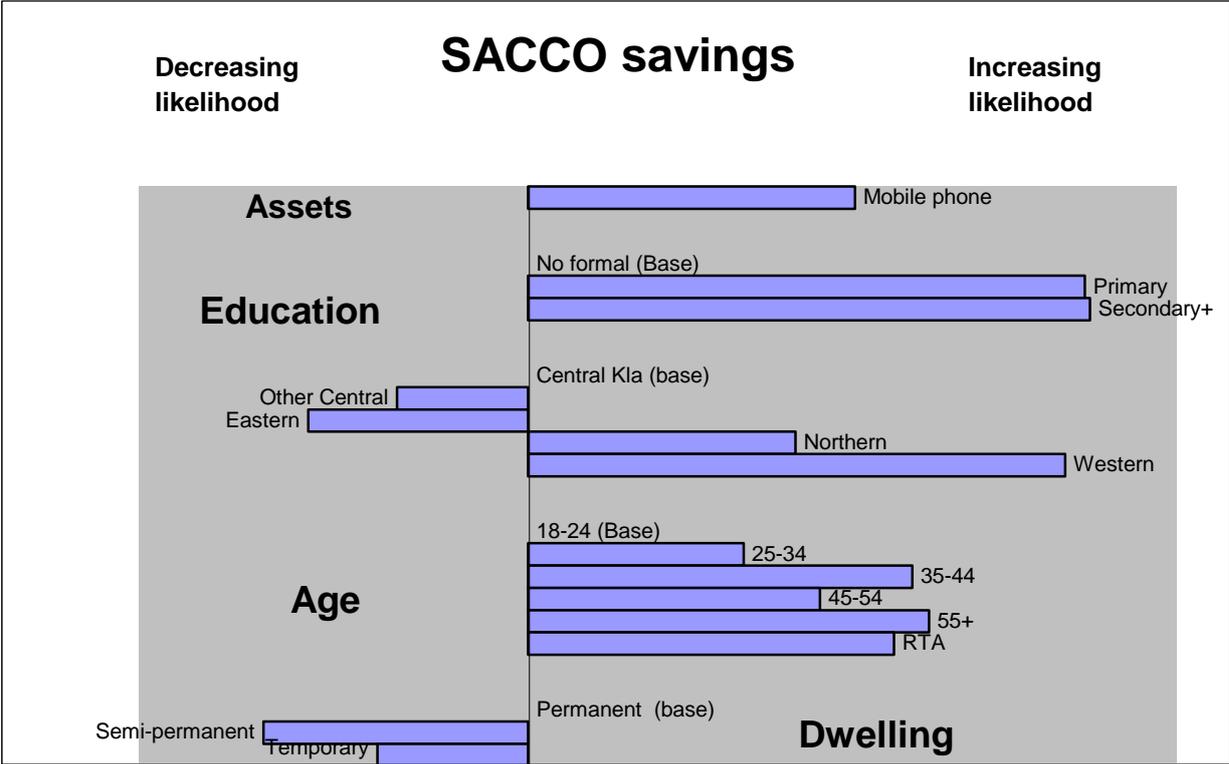
Gender also has an effect with women being more than two times less likely to borrow from a bank than men and directly reflecting the result on savings given above.

Those owning a TV or mobile phone were also mildly more likely to borrow from a bank, and this is consistent with the above results of their likelihood to save in them more, but is not as strongly significant.

**2.2 SACCOs**

Overall 2.7% save with SACCOs and 1.3% borrow from them. The influences on using them are not very distinct. The most significant is owning a mobile phone and those with them are twice as likely to have a SACCO savings account as those without.

**Figure 2.3: SACCO savings – socio-economic factors influencing use**



All the other factors are only mildly significant so should not be over-emphasised. Having primary or secondary education increasing the likelihood by a factor of four compared to having no education. Living in Western Region increases the likelihood by a similar factor compared to Kampala. Those aged 35-44 are also mildly significantly more likely to save in a SACCO compared to those aged 18-24.

Finally those whose dwelling is semi-permanent compared to those whose is permanent are half as likely to use one. Other poverty proxies, including income level, clothing, types of cooking fuel etc were not significant in the analysis.

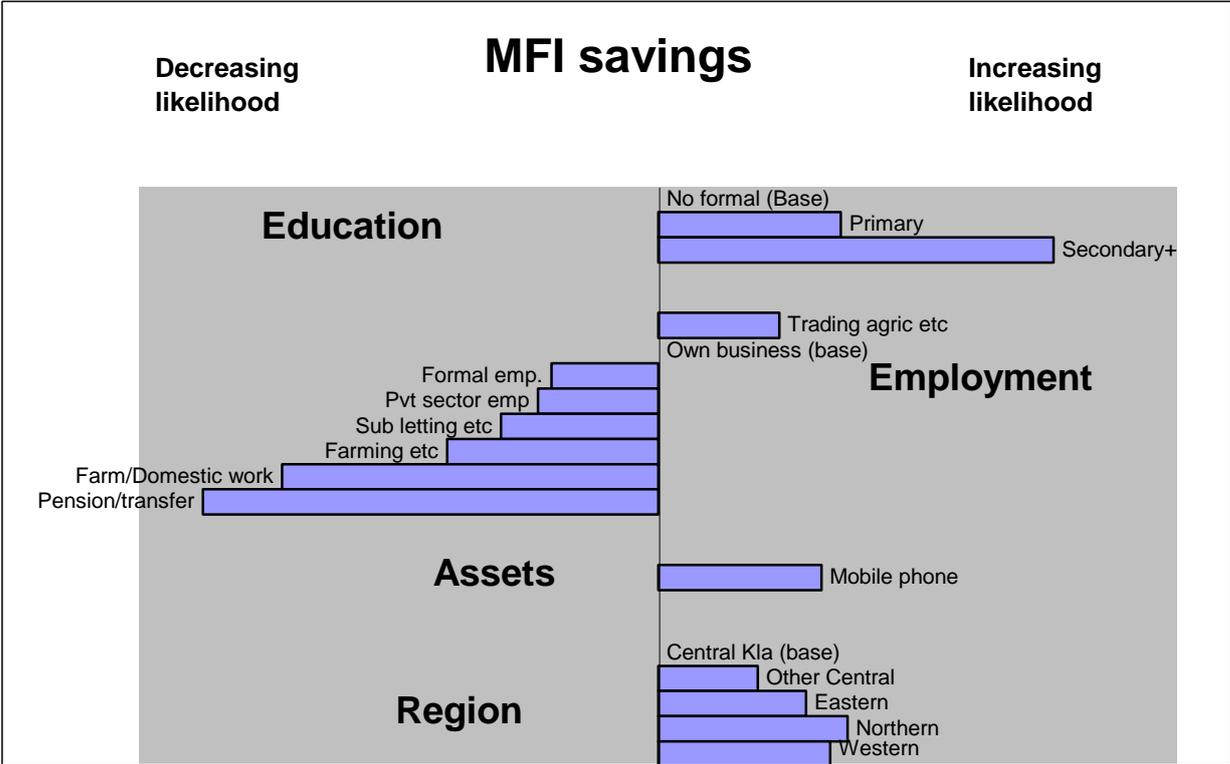
Examining the influences on borrowing from a SACCO, again the results are only very mildly significant and they are also not entirely consistent with the savings side, which would be expected since it is necessary to save in a SACCO before borrowing from one so that it is to be anticipated that similar factors would be important. There appears to be some positive influence from being over 55 compared to age 18-24; owning a mobile phone; or rather surprisingly having surface water as your main water source rather than piped water. Owning a TV was likely to significantly reduce the likelihood of SACCO borrowing.

**2.3 Microfinance Institutions**

Table 2.1 indicates that 3.7% use MFIs for savings and 2.4% for loans. This is using the definition of MFIs as including MDIs and 'other' MFIs.

The two strongest influences on saving with an MFI are education and employment. Having a secondary education makes it four times more likely that someone saves with an MFI than those with no formal education, and those with a primary education are twice as likely to. While this effect is not quite as strong as for banks it is similarly the most important factor. Given that 34% of the population have a secondary education and less than half the proportion are actually banked, it is not surprising that the MFI sector is attractive to well-educated people.

**Figure 2.4: MFI savings – socio-economic factors influencing use**



A second influential factor is main employment or source of income. It is important to recall that in this analysis those who run their own business are the base category and represent some 31% of the population – 6.2% of these use an MFI for saving. Compared to these people, the groups who are significantly less likely to use MFIs are those who are engaged in farming, livestock and fishing - who are less than twice as likely to use MFIs; and those who are

dependent on pension/transfers or work in others farms or homes, who are five times less likely to use them.

In terms of asset ownership, owning a mobile phone significantly increased the likelihood of using an MFI - almost doubling it. However, in terms of income levels, while the highest income category (>Ushs850,000) increased the likelihood of using one, it was only mildly significant.

Living in the Northern and Western region also produced a mildly significant result in increasing the likelihood of MFI use for savings.

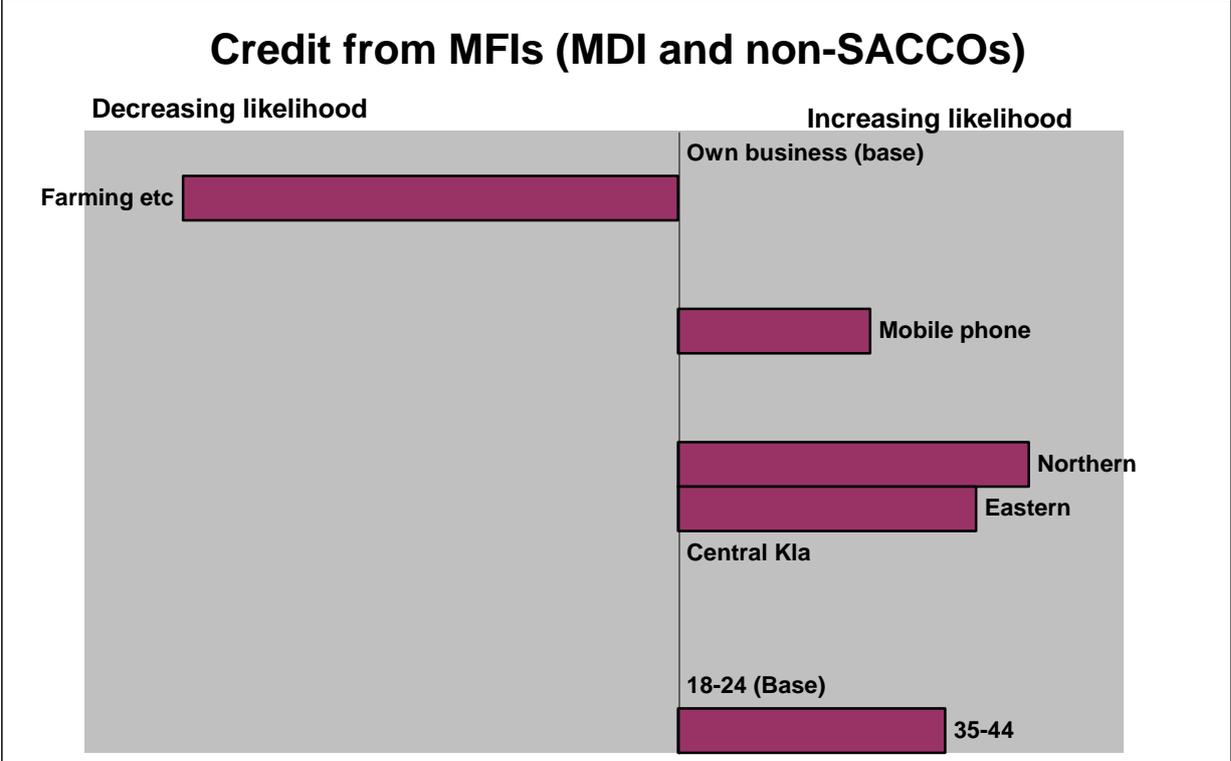
Age was not a strongly significant factor on the savings side, although those aged 35-44 were mildly more likely to save with an MFI compared to the 18-24 year olds.

On the other hand, in terms of taking credit from an MFI, education did not come out as significant, although main employment in farming, livestock and fishing still significantly reduced the likelihood by a factor of eight (see figure 2.5). Owning a mobile phone still meant an increased likelihood, as did living in Northern and Western regions – interestingly also now joined by Eastern region - again all compared to living in Kampala. This may of course represent the efforts MFIs have made to move the more remote parts of the country.

Those aged 35-44 were significantly more likely to borrow from an MFI than the 18-24 age group, but no other age group appeared to be significant. This underlines what is generally known about the profile of MFI borrowers being in this age category.

Poverty proxies that were significant were that those who used water sources that were not piped were significantly more likely to borrow from an MFI whereas those households where all members had two sets of clothes were half as likely to borrow from this source.

**Figure 2.5: MFI credit – socio-economic factors influencing use**



## 2.4 Informal groups: ROSCAs, ASCAs, savings clubs, investment clubs and welfare funds

The survey asked people whether they saved in variety of types of informal groups: ROSCAs, ASCAs, savings clubs, investment clubs and welfare funds. Respondents therefore classified according to their own views of the groups category and there is clearly scope for groups to be defined in a mixture of ways. ROSCAs were reported to be the most used form, the other four types all occurred with frequencies of between 2 and 4%. Since these are all included in the categorisation of the informal access strand we will discuss the overall coverage of the informal sector further in the next section of the report and only discuss particular findings of interest to these other group types here.

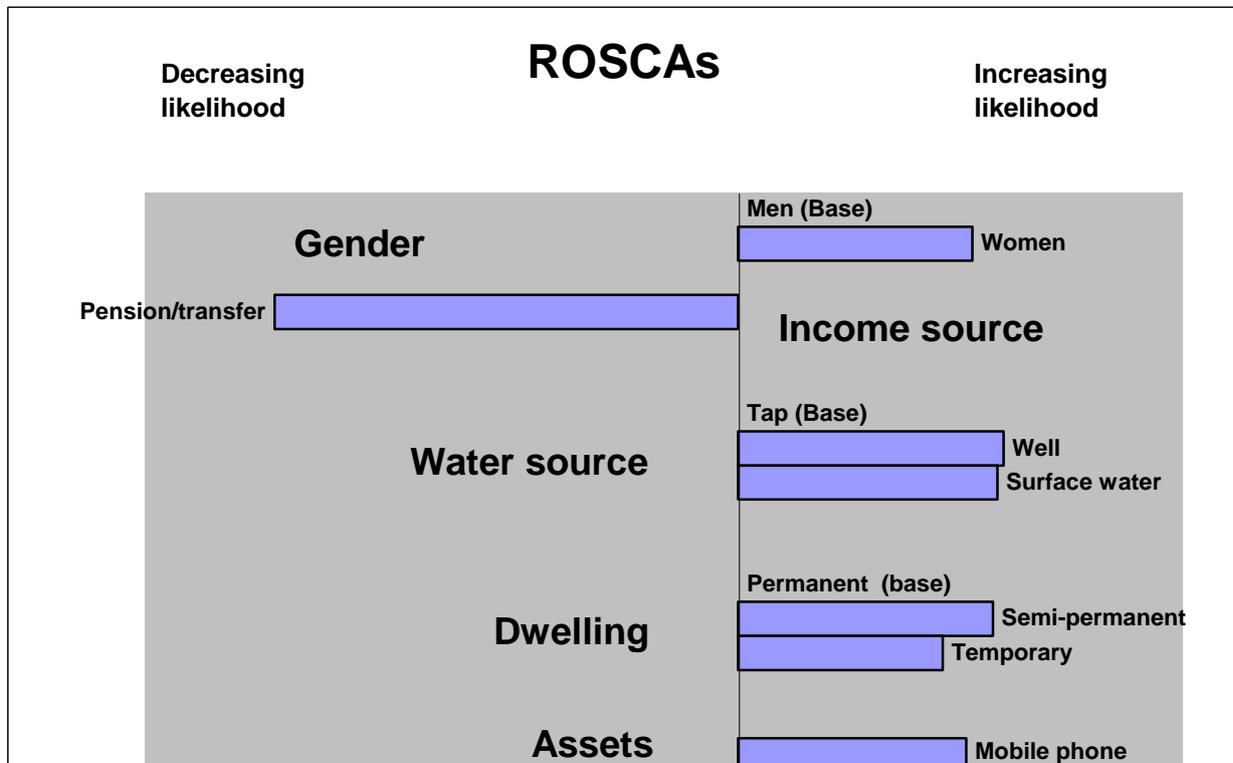
8.4% of the population save in ROSCAs - and these are the most used type of informal group service (excluding hidden savings). 9.7% of women use them compared to 6.8% of men and they are significantly more likely to use them than men.

Those who are dependent on pensions and transfers as their main income source were much less likely to use them, but interestingly no other income source was significant.

The poverty proxy of water source was also significant, in that those who did not use a source of piped water were significantly more likely to use them than those using piped water. Living in a semi-permanent dwelling compared to a permanent one also raised the likelihood. Interestingly however, their use is not biased towards the rural areas, with no impact of being rural or urban on their use.

Perhaps surprisingly, owning a mobile phone was associated with mildly increased the likelihood of using a ROSCA.

**Figure 2.6: ROSCAs – socio-economic factors influencing use**



According to the analysis, education has no influence on whether or not people use ROSCAs, although for those who were over 55 they were mildly significantly less likely to use them than 18-24 year olds.

For ASCAs, only one factor was significantly associated with increasing the likelihood of using them for savings which was region – being in Western region significantly increased the likelihood by a factor of eight compared to living in Central Kampala. This was reflected in the fact that 6.6% of the sample in Western used them compared to the overall average of 3.6% (unweighted). Borrowing from ASCAs on the other hand was significantly more likely for the 45-54 age group compared to 18-24 year olds, and being in Western and Northern regions increased the likelihood but was only mildly significant.

For savings clubs, influences were only mildly significant - these were those not using piped water sources being more than twice as likely to use them as those with piped water; those widowed being twice as likely to use them as married people; those in Eastern region being three times less likely to use them than those in Central Kampala; and those dependent on pensions and transfers being 10 times less likely to use them than those running their own businesses.

Investment clubs were significantly more likely to be used by people in households where all members had two sets of clothes, but this wealth effect was not picked up in other poverty proxies or in the income level.

Welfare funds were again significantly more likely to be used by those not using piped water sources compared to those who have piped water. Other factors were only mildly significant, this included an increased likelihood of using them in Eastern region compared to central Kampala; and an increased likelihood of using them amongst those aged 55 and over compared to 18-24 year olds. Those depending on pensions and transfers were five times less likely to use them and those whose lighting source was electricity compared to paraffin.

Overall, the patterns of use in the analysis for these informal group mechanisms are not very strong. There is no influence of education suggesting that those in all educated categories make use of them, age is also not a strong factor. Income source is important in that being dependent on pensions and transfers reduces the likelihood of using them, but income level did not come out as important. The consistent factor across these was the higher likelihood of those not using piped water to use these group mechanisms. There is also a slight regional influence in that people in Western appear more likely to use ASCAs while those in Eastern are more likely to use welfare funds.

## **2.5 Local shops as a source of credit**

While this credit is primarily given in the form of goods provided on credit it is the most used source of credit overall at 18%.

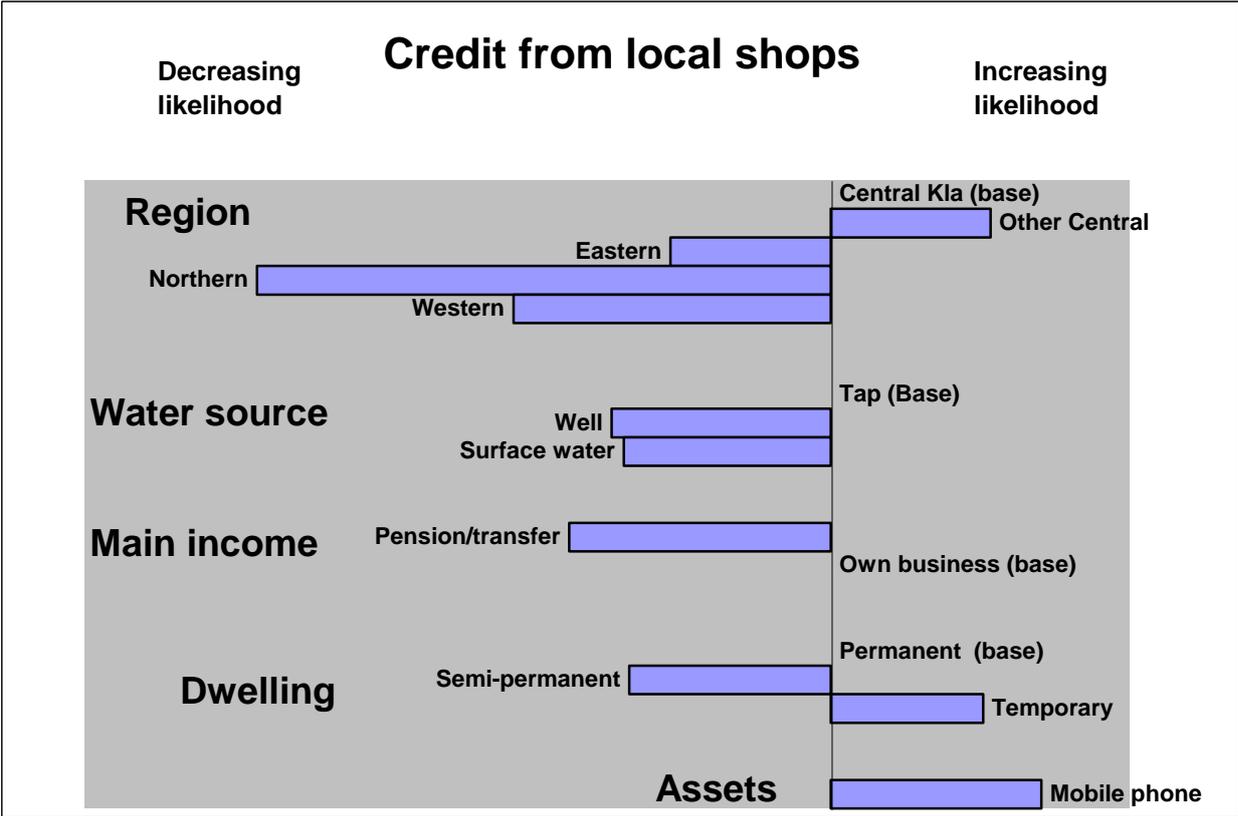
The most significant factor affecting use is region with those in Northern and Western much less likely to use this source of credit than those in Central Kampala. This is interesting because it contrasts to the fact that people in these regions were more likely to use bank credit than those in Central Kampala.

Using water sources other than piped water reduced the likelihood of using this credit source. This is a little surprising, as this variable seemed to be picking up some bias of the informal sector towards those who did not have piped water above, so it is curious that this is reversed on the credit side.

Being dependent on pensions and transfers again significantly reduced the likelihood of using shop credit compared to those running their own business, but no other employment group was affected.

Living in a semi-permanent dwelling was associated with a mildly reduced likelihood of using this as a source of credit compared to those with a permanent dwelling but the effect of living in a temporary dwelling was not significant. Having a mobile phone on the other hand was associated with a mildly significant increase in the likelihood of using this source.

**Figure 2.7: Local shop credit – socio-economic factors influencing use**



**2.6 Saving and borrowing from family or friend**

Overall this is the second most used place to save at 12.7% and the second most used source of loans at 8.4%.

The factors most strongly influencing saving with family and friends are region, age, and clothing. Those in Western and Eastern are three times less likely to use family and friends as a place to save as those in Central Kampala, and those in central regions (excluding Kampala) are half as likely to use them while those in Northern are mildly less likely to do so. This suggests that those living in Central Kampala are making much greater use of this service, and suggests that this may be because there is a shortage of other accessible and appropriate alternatives underlying the overall high levels of the unserved found in this study.

It is also apparent that those in the 25-44 age categories are significantly less likely to save with their family and friends than those of 18-24, and underlining the difficulty for young people of even being able to save in this way.

The poverty proxy of having two sets of clothes for all members of the household served to show that those who have these are less likely to save with family and friends.

Figure 2.8: Saving with family and friends– socio-economic factors influencing use

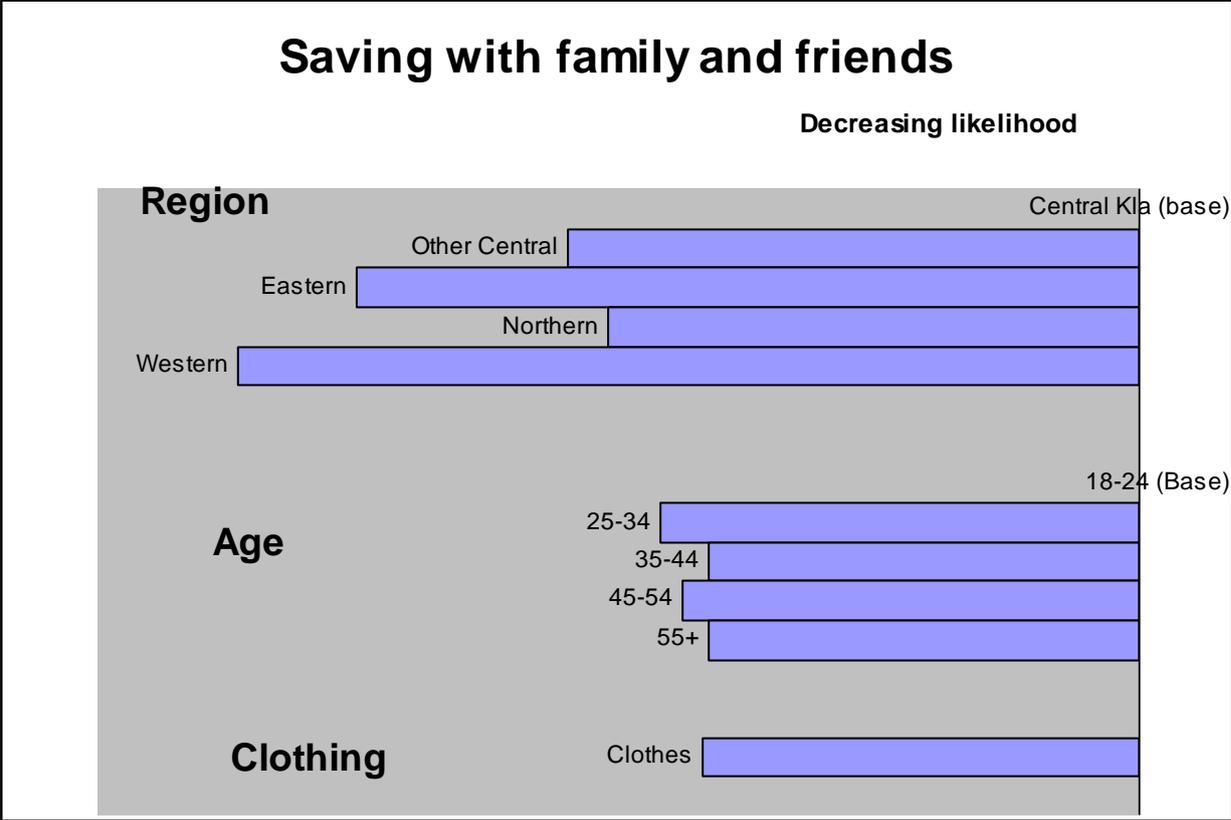
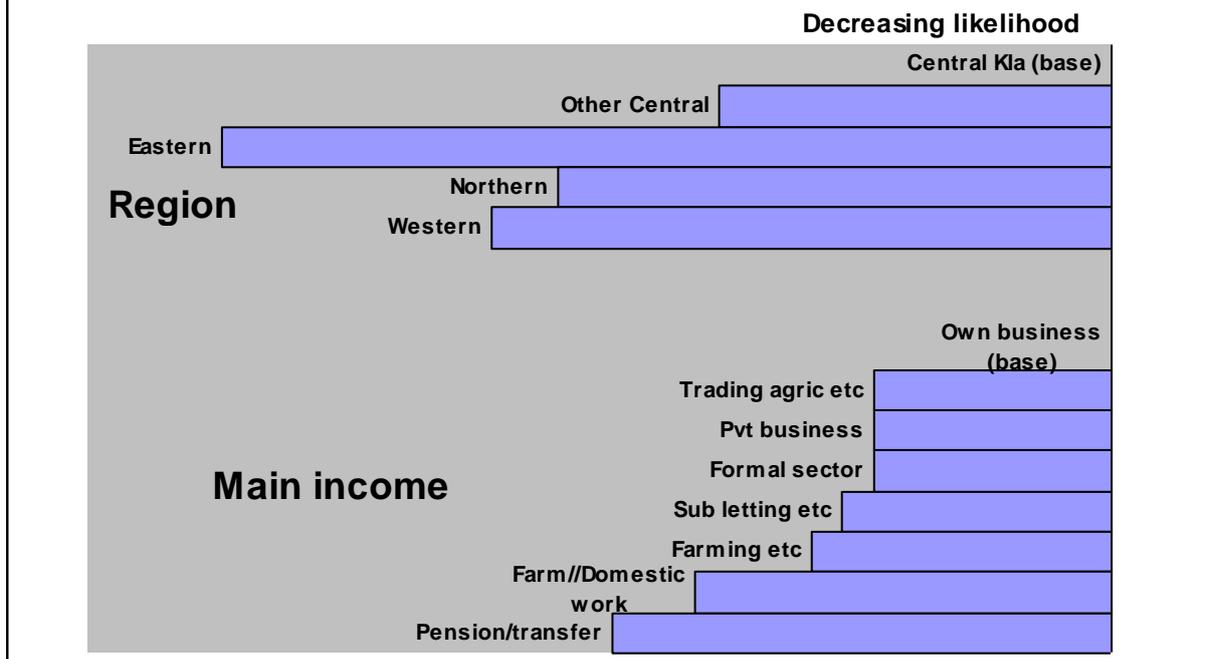


Figure 2.9: Borrowing from family and friends– socio-economic factors influencing use

## Borrowing from family and friends



The two most influential factors on borrowing from family and friends are region and main income source. Compared to living in Central Kampala, people in all other regions are less likely to borrow from family and friends, and this is by a factor of three to four times. Again this would seem to reflect high demand in Kampala for funds and a shortage of appropriate services.

Apart from this, those dependent on pensions and transfers were significantly less likely to borrow from family and friends as might be expected. Working in others farms or homes (domestic chores) and those whose main income sources were farming, livestock and fishing were mildly less likely to use this source of credit.

### 3. Financial Access Strands

The previous section analysed characteristics of users of a range of different financial services. The financial access strand is an alternative means of analysing the market by placing each user in only one category dependent on the most formal service they use. Hence if someone has a bank account but also uses ROSCAs they will be counted as being a user of formal services and placed in the formal access strand. If they only use a ROSCA they would be placed in the informal access strand.

In Uganda the access strands have been defined as follows:

- Formal: banks, credit institutions and MDIs
- Semi-formal: other MFIs and SACCOs
- Informal: ROSCAs, ASCAs, NGOs, savings clubs, welfare funds, investment clubs and moneylenders
- Unserved (excluded): none of the above financial services (ie hidden savings, saving and borrowing with family and friends).

In this definition, MDIs have been included in the formal sector because they are now fully regulated by the Central Bank and, in terms of quality, therefore do not differ from Banks and credit institutions. In this case the 'other MFIs' are classified with SACCOs in the semi-formal access strand. Since the analysis in the previous section separated out MDIs and other MFIs from banks and credit institutions, this gives an opportunity to look at the influence that including MDIs into the formal access strand has on the influences on using the formal sector.

The definition of the informal sector used here involves use of a range of informal group types and moneylenders. Those who saved or borrowed from family and friends; borrowed from employers, shops or other suppliers (eg agrovet); and used hidden savings are classified as unserved.

Looking at the proportions in each category – see table 3.1: 18.1% are included via the formal sector with 15.9% being covered by the banks, and 1.9% by the MDIs and only 0.3% by the credit institutions. The regulated MDIs are therefore a net contributor to overall inclusion in the formal financial sector of 1.9% of the population. The semi-formal sector contributes 3.1% of which 1% is provided by the 'other MFIs' and 2.1% by the SACCOs. A further 16.6% are included via the informal sector only, leaving 62.2% unserved by any of these services.

**Table 3.1 Access strands (weighted % of population currently using)**

Access strands	%	
<b>Formally Included:</b>	<b>18.1</b>	
Banks		15.9
Credit institutions		0.3
MDIs		1.9
<b>Semi-formally included:</b>	<b>3.1</b>	
Other MFIs		1.0
SACCOs		2.1
<b>Informally included</b>	<b>16.6</b>	
<b>Unserved</b>	<b>62.2</b>	
<b>Total</b>	<b>100</b>	

In order to see to what extent people actually use services across the three access strands we can look at multiple - see Table 3.2. This shows that of the 18.1% of the population using

formal services, the majority - 11.8% - use these only, while 4.3% combine them with the use of informal services, and a further 2% are combining them with semi-formal services. On the other hand only a minority of those using the semi-formal sector are combining their use with informal services (0.4%).

**Table 3.2 Multiple use of services across access strands (weighted)**

Access strands (weighted)	%	
<b>Formally Included</b>	18.1	
Of whom: Formal only		11.8
Formal & Semiformal		1.6
Formal & Informal		4.3
Formal & Semiformal & Informal		0.4
<b>Semiformal</b>	3.1	
Of whom: Semiformal only		2.4
Semiformal & Informal		0.6
<b>Informally included</b>	16.6	
<b>Unserved</b>	62.2	
<b>Total</b>	<b>100</b>	

Given this, we can examine the effect of the geographic, demographic and socio-economic factors on use across the strands to see which ones are most important overall in determining access. The analysis is prioritised on the most influential factors affecting inclusion or exclusion.

**3.1 Source of income**

A person’s employment or main income source is the factor that has the most influence on exclusion. Those who are dependent on pensions and transfers from others are five times more likely to be excluded than those who run their own businesses. Those who work on other people’s farms or undertake domestic chores are more than twice as likely to be excluded and farmers and those whose income is from sub-letting and investments are almost twice as likely to be excluded. On the other hand those who are employed in the formal sector are two times less likely to be excluded as those running their own business.

Inclusion via the informal sector is only significantly affected by having a main income source of pensions or transfers and this significantly reduces the likelihood by a factor of three compared to running your own business.

Inclusion via the semi-formal sector on the other hand is not significantly affected by any particular income source.

The likelihood of inclusion via the formal sector is significantly increased by being a private sector employee compared to running your own business, while it is five times lower for those working on people’s farms or on domestic chores; three times lower for those in receipt of pensions or transfers and three times lower for farmers.

Figure 3.1: Influences on inclusion - main income source

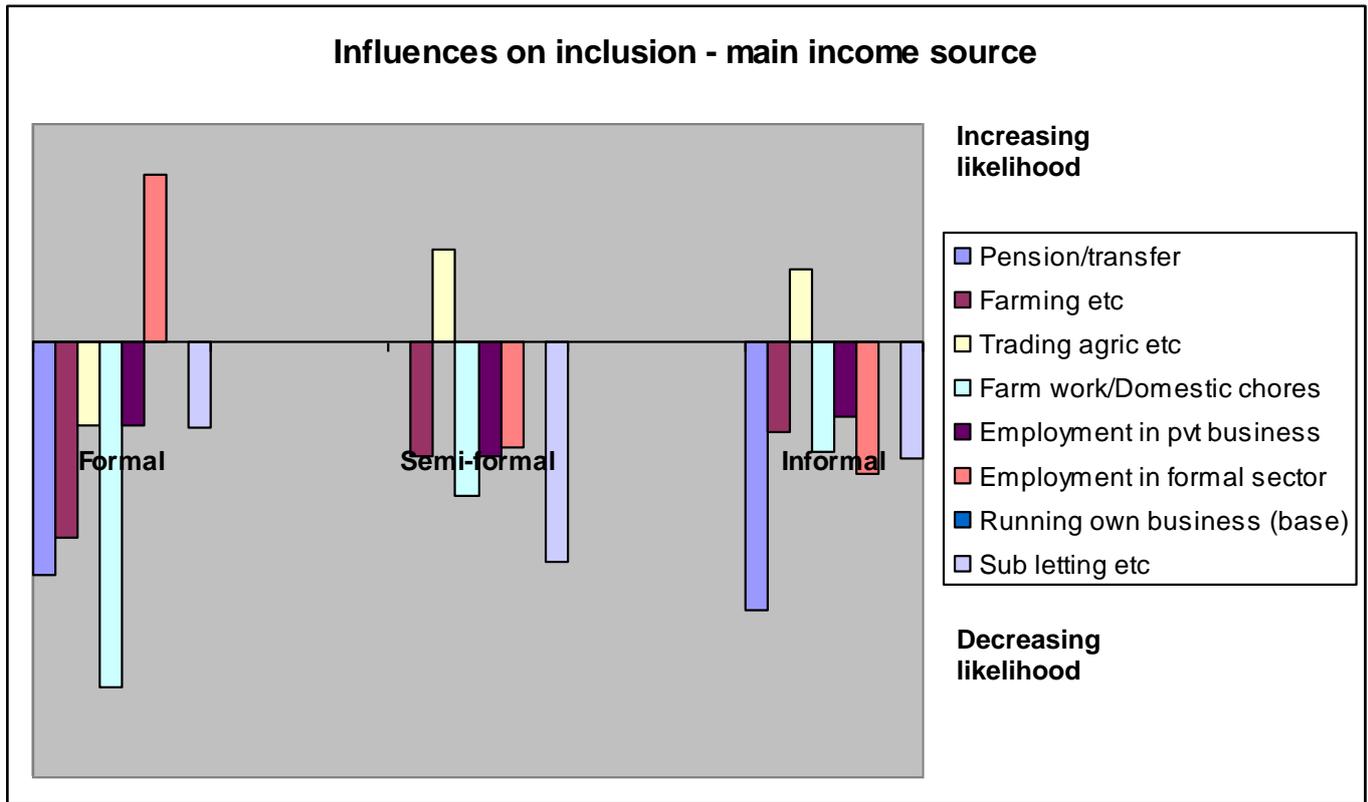
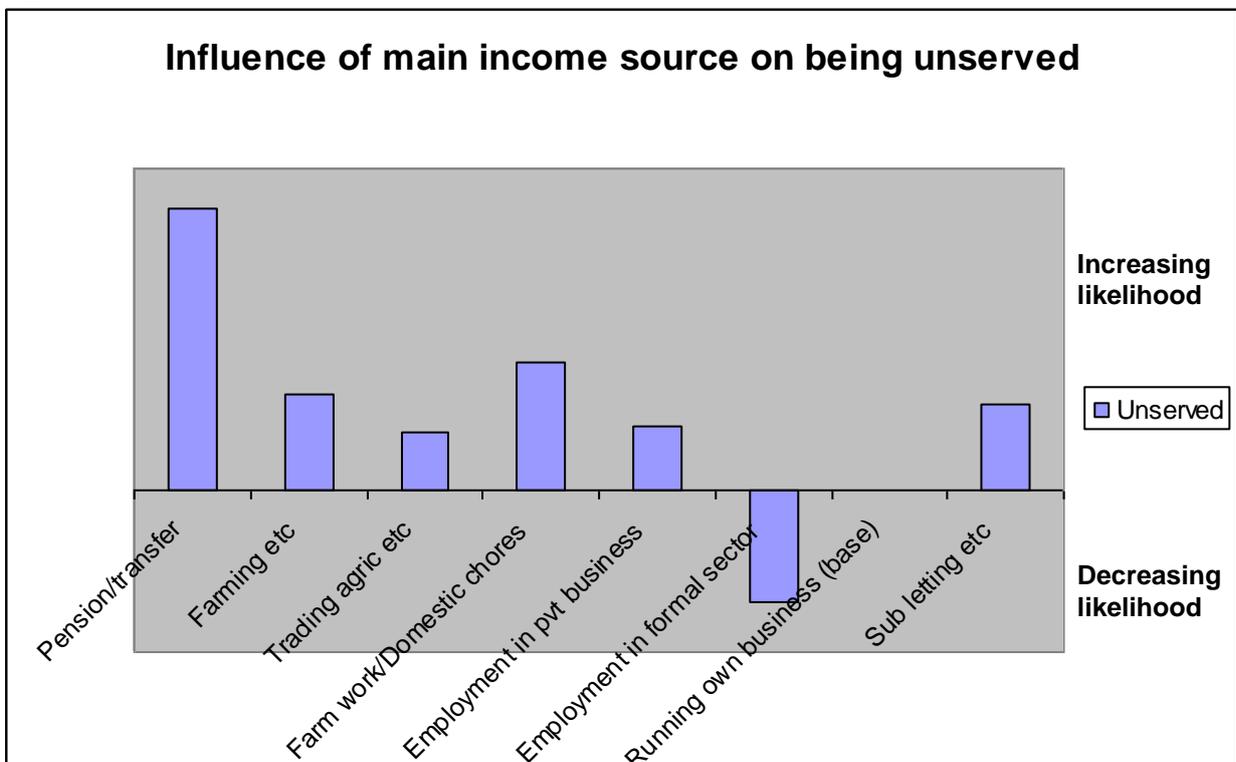


Figure 3.2: Influences on exclusion – main income source

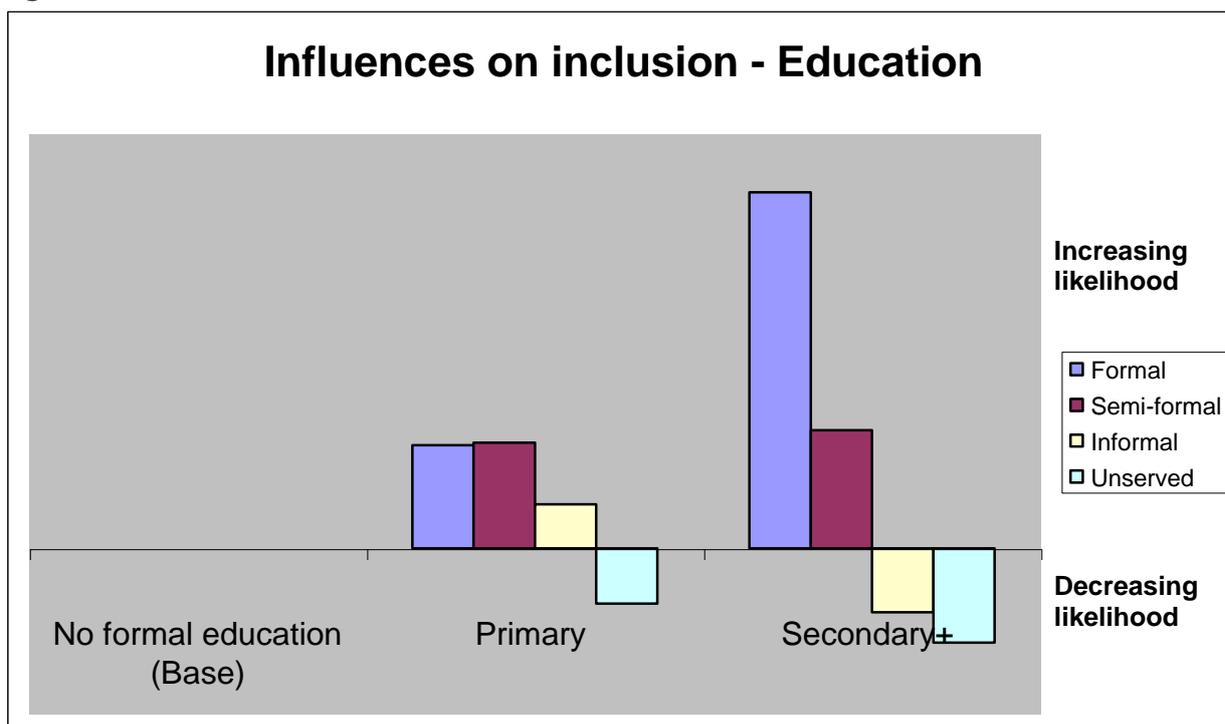


### 3.2 Education

As might be expected, having a secondary education is one of the strongest positive factors associated with use of formal sector services, and those having it are eight times more likely to use them compared to those having no education. Whereas having a primary education only doubles this likelihood.

Therefore level of education also has a significant effect on being excluded. Those with secondary education are half as likely to be excluded as those with no education. Having a primary education also reduces the likelihood of being excluded.

**Figure 3.3: Influences on inclusion – education**

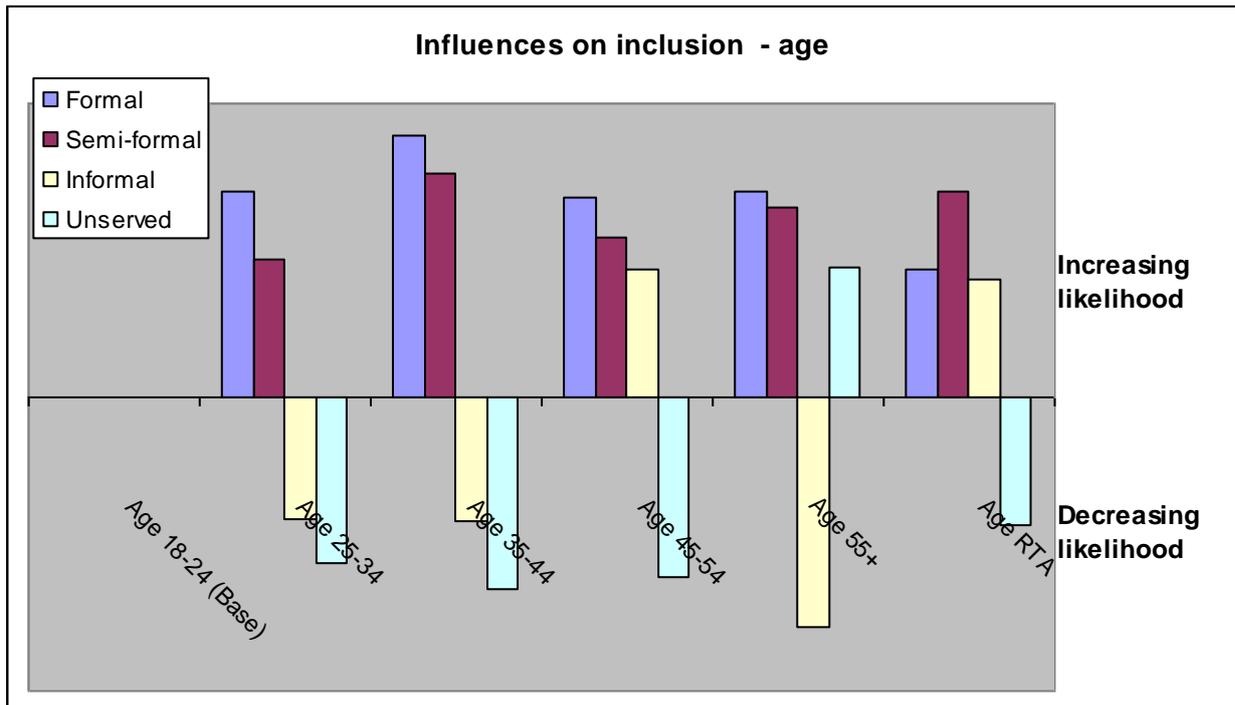


### 3.3 Age

The effect of age on formal inclusion is that those in the 25-34 and 35-44 age groups are significantly more likely to be formally included than the 18-24 years category, but this is not significantly the case for age categories over 45. This formal inclusion is also reflected in the fact that the 25-44 year olds are significantly less likely to be unserved, the 45-54 age group was also significantly less likely to be unserved than 18-24 year olds. Being 35-44 also significantly increases the likelihood of inclusion through SACCOs. People in the over 55 category were also significantly less likely to be included through the informal sector.

This is an interesting pattern and may be explained by the fact that banking services have expanded in the last 20 years since the civil war ended and younger age groups have learnt to use them while older people did not have access to and learn banking practices during the unstable years of the 1970s and early 1980s.

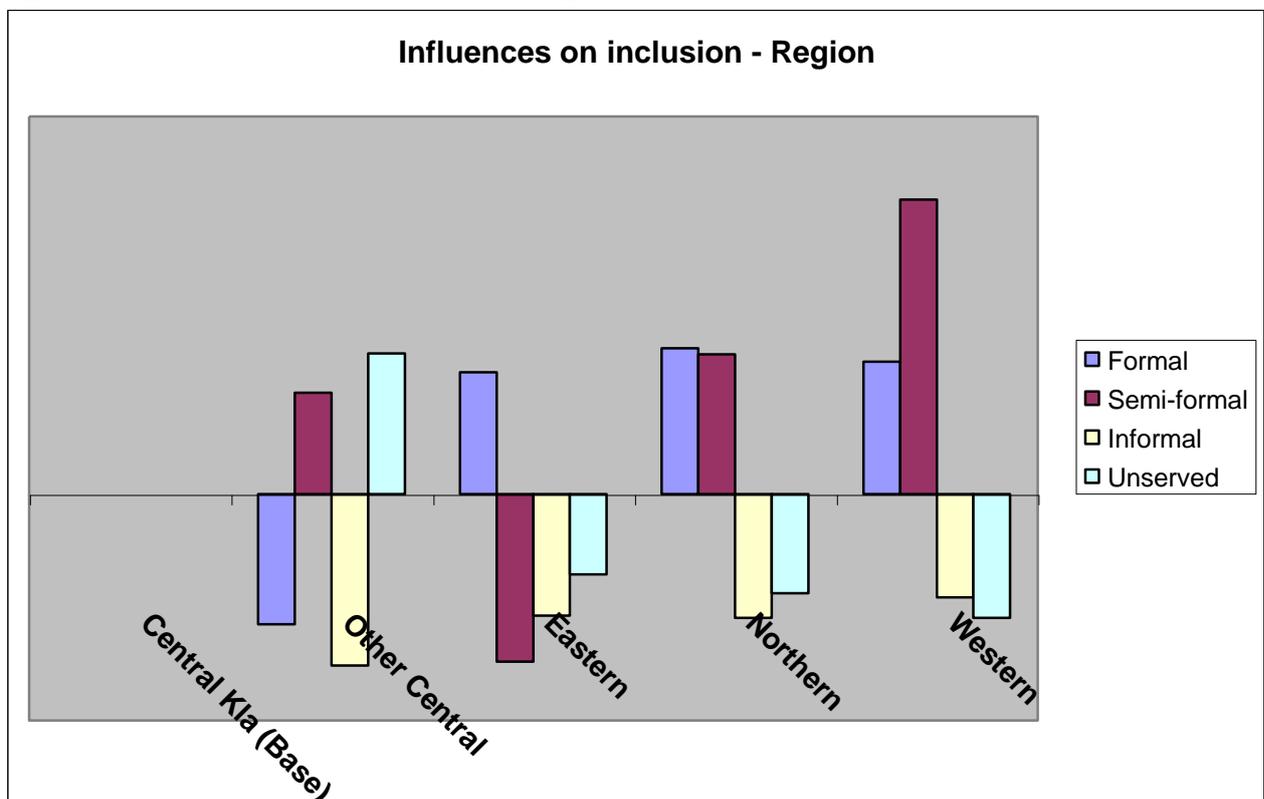
**Figure 3.4: Influences on inclusion – Age**



### 3.4 Region

According to this data region does have an influence on inclusion. Compared to Central Kampala, those in Northern and Western regions are almost twice as likely to be included via the formal sector. However, this is not a finding that is intuitively compelling and may therefore be a curiosity of the data.

**Figure 3.5: Influences on inclusion – Region**



People in Central Regions (excluding Kampala)<sup>7</sup> are half as likely to be included via the formal sector and almost twice as likely to be unserved as those in Central Kampala. They are also twice less likely as those in Central Kampala to be informally included, suggesting that the informal sector is less strong there than in other regions as a means of inclusion.

A further significant result is that those in Western Region are 4 times more likely than those in Central Kampala to be included via the semi-formal sector and this is due to a higher prevalence of SACCOs in that region with 5% of the population using them.

While the results for the formal sector in Northern and Western are surprising, the data indicates a reduced role for the informal sector in 'other central regions' compared to Kampala and a slightly stronger role for the semi-formal sector in Western region.

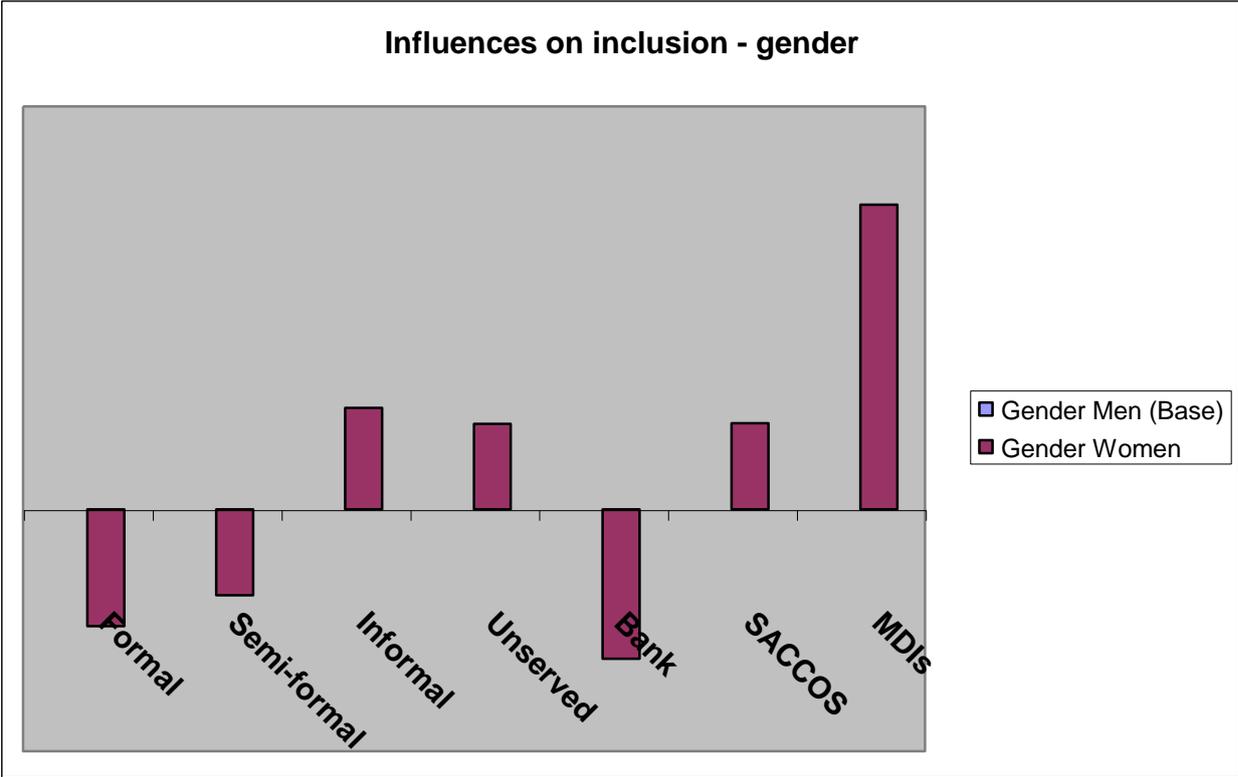
### **3.5 Gender**

Women were significantly less likely to be included via the formal sector compared than men. They are also less likely to be included via the semi-formal sector but not significantly so. They are significantly more likely to be included via the informal sector. On the other hand when the effect of the MDIs is split out from the banks, we see that the MDIs do significantly reverse the bias of banks in excluding women. This is not surprising given that a number of these MDIs started out with largely women-focussed programmes. However, interestingly the semi-formal MFIs do not appear to have a similar bias towards women.

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<sup>7</sup> Referred to in the charts as 'other central'.

**Figure 3.6: Influences on inclusion - Gender**

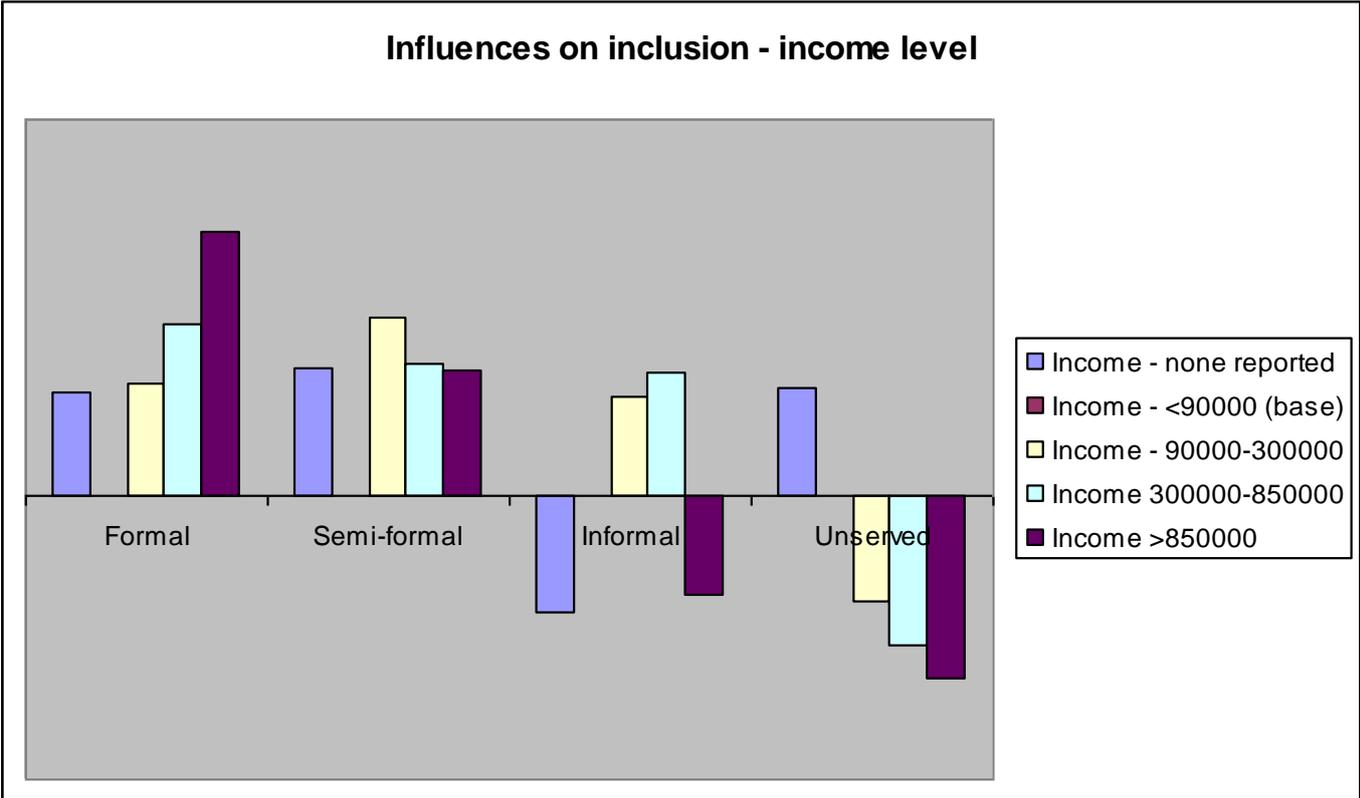


The service by service analysis in Section 2 indicates that women are more likely to use ROSCAs than men and this is the main factor that is driving women’s greater likelihood of inclusion via the informal sector. However, overall there is no significant gender bias in the likelihood of being unserved.

**3.6 Level of income**

The income variable was split into five categories and has a straightforward effect. Those who reported their annual incomes to be over Ushs300,000 are significantly more likely to be formally included compared to those with incomes up to Ushs90,000 and significantly less likely to be unserved. Those with incomes between Ushs300,000 and Ushs850,000 were almost twice as likely to be formally included as those with less than Ushs90,000 while those with incomes over Ushs850,000 were almost three times more likely to be formally included.

**Figure 3.7: Influences on inclusion – income level**



**3.7 Asset ownership and other poverty proxies**

The analysis looked at the influence of a number of assets and poverty proxies. Those who owned either of two assets were significantly associated with increased likelihood of formal inclusion and reduced likelihood of being unserved – these were those having a TV or mobile phone. Having a TV also significantly increased the likelihood of using a semi-formal MFI. Owning a car or bicycle had no significant effect on inclusion in any particular sector.

Cooking fuel is another poverty proxy and has a slightly surprising influence on formal inclusion. Those who cooked on paraffin or charcoal were significantly more likely to be formally included than those cooking with firewood, but those who cooked with electricity were not significantly more likely, but this is likely to be due to the very low overall use of electricity as a cooking fuel.

## 4. Market segments<sup>8</sup>

The section uses the data to describe a number of market segments. Segmenting the market into people with different characteristics can help to understand which groups might most easily be able to gain access to services – particularly what the characteristics of those who might be most easily reached by formal services. While the previous analysis looks at the influence of particular characteristic on whether or not people use services, this section attempts to categorise the characteristics of the population across the access strands.

To do this we use three different approaches to the data. First, we use the regression analysis developed in the previous section to analyse the access strand of those who are excluded. We do this by creating an “excluded” score for each respondent and then sorting the sample according to these scores, segmenting them into deciles and analysing the characteristics of each decile. Second, we use two clustering techniques. The first of these is called natural clustering and this sorts the sample into a number of groups depending on their underlying socio-economic and other characteristics. The second, called supervised clustering, uses the access strands to allocate people to clusters and then we examine the distribution of this sample in predicting access strands correctly.

As a base analysis, Table 4.1 below describes key features of those in each access strand. It does this by highlighting the characteristics of those in each strand which occur more frequently than the average occurrence of these characteristics for the sample as a whole. Hence we have highlighted those characteristics that occur more than twice as often as the mean proportion for the sample as a whole (>200% of the average) and those that occur 1.5 to 2 times as often (150-200% of the average).

This reveals key features of those who have access to formal services and those that are particularly distinctive are: being in formal employment, owning a TV; cooking with electricity; owning a mobile phone and so on – as in Table 4.1. While this is consistent with the analysis in the previous section in terms of identifying those who are formally included, it also reveals that there are very few distinct characteristics overall of those in the remaining strands. Those who are semi-formally included occur twice as frequently in Western Region as the average proportion across the sample who are semi-formally included. This reflects the higher likelihood of belonging to a SACCO in Western region that was discussed above. In the semi-formal sector, those who trade agriculture, livestock or fish; own a radio and are in the 35-44 age group are more represented in this strand.

However, there are no characteristics given for those in the informal and unserved strands. This is because none of the socio-economic characteristics in the dataset occur more than 1.5 times as frequently among people in these strands as they do for the sample as a whole and indicates that these people actually represent the average profile of the Ugandan population. The implication of this relative lack of distinctiveness across the strands other than the formal means that while it is relatively easy to differentiate those who use formal services, the characteristics of those in the remaining strands are hard to distinguish as they little different from the average profile of the sample. The three further exercises confirmed this.

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<sup>8</sup> We are particularly grateful to Cono Ariti for assistance with this section of the report.

**Table 4.1 Access strands described**

<b>Strand</b>	<b>&gt;200% of average score</b>	<b>150-200%</b>
Formal	<ul style="list-style-type: none"> <li>• Formal employment</li> <li>• TV</li> <li>• Cook with electricity</li> <li>• Flush toilet</li> <li>• Mobile phone</li> <li>• Income &gt;Ushs850,000</li> <li>• Lighting – electricity</li> <li>• Car</li> <li>• Motorcycle</li> <li>• Secondary education</li> <li>• Central Kampala</li> <li>• Eat meat 3-4 days/wk</li> <li>• Cook with charcoal</li> </ul>	<ul style="list-style-type: none"> <li>• Water from well/borehole</li> <li>• Urban</li> <li>• Cook with paraffin</li> <li>• Income from sub-letting/investment</li> <li>• Permanent house</li> <li>• Eat meat 5-7 days/wk</li> <li>• HH eats 3 meals/day</li> </ul>
Semi-formal	<ul style="list-style-type: none"> <li>• Western region</li> </ul>	<ul style="list-style-type: none"> <li>• Income from trading agric / livestock / fish</li> <li>• Radio</li> <li>• Age – 35-44</li> </ul>
Informal		
Unserviced		

#### 4.1 Using multivariate scores to produce deciles

This approach used the regression equation used to analyse the excluded category in the previous section to predict “excluded” scores for the population, and the sample was then ranked into deciles according to these scores.

Table 4.3 describes the deciles again in terms of key characteristics that stand out relative to the average.

This produces some greater distinctiveness among the bottom two deciles with a higher incidence of what we would expect to be indicators of some of the deepest poverty conditions such as: working for others (and hence landless); being elderly; having no latrine and using the bush; being dependent on pensions or transfers from others; having but assets; eating one meal per day; having no education; using candles or firewood for lighting; living in a house built of temporary materials; and being widowed. Decile 10 also indicates that those in central regions (excluding Kampala) are more likely to be in this group.

While giving more specific features for those most likely to be excluded, the middle deciles 5 to 8, give no feature which is more than twice the average and indeed decile 6 gives no characteristics that are even 1.5 times the average for the sample.

**Table 4.2 Characteristics by decile**

Decile	>200% of average score	150-200%
1	<ul style="list-style-type: none"> <li>• Formal sector employment</li> <li>• TV</li> <li>• Cook with electricity / gas</li> <li>• Mobile phone</li> <li>• Car</li> <li>• Flush toilet</li> <li>• Lighting electricity/solar etc</li> <li>• Income over 850,000 shs</li> <li>• Secondary education</li> <li>• Central Kampala</li> <li>• Eat meat 3-4 days/week</li> <li>• Cook with paraffin</li> <li>• Water from well/spring/borehole</li> <li>• Cook with charcoal</li> <li>• Motorcycle</li> <li>• Urban</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent house</li> <li>• Eat meet 5-7 days per week</li> <li>• 3 meals per day</li> <li>• Western region</li> <li>• Age 35-44</li> </ul>
2	<ul style="list-style-type: none"> <li>• Cook with electricity</li> <li>• Motorcycle</li> <li>• Mobile phone</li> <li>• TV</li> <li>• Lighting electricity</li> <li>• Secondary education</li> </ul>	<ul style="list-style-type: none"> <li>• Working for an individual in a private business</li> <li>• Income from sub-letting / investment</li> <li>• Car</li> <li>• Cook with charcoal</li> <li>• Income employed in formal sector</li> <li>• Income running own business</li> <li>• Eat meat 3-4 days/wk</li> <li>• Flush toilet</li> <li>• Income &gt;Ushs850,000</li> <li>• Water from wells/boreholes</li> <li>• 3 meals per day</li> <li>• Central Kampala</li> <li>• Urban</li> <li>• Western region</li> <li>• Income from trading agric etc</li> </ul>
3	<ul style="list-style-type: none"> <li>• Education -refused to answer</li> </ul>	<ul style="list-style-type: none"> <li>• Working in a private business</li> <li>• Income trading agric etc</li> <li>• Cook with paraffin</li> <li>• Income from own business</li> <li>• Western region</li> </ul>
4	<ul style="list-style-type: none"> <li>• Income Ushs300 – 850,000</li> </ul>	<ul style="list-style-type: none"> <li>• Income from sub-letting/investment</li> <li>• Cook with paraffin</li> <li>• Income - own business</li> </ul>
5		<ul style="list-style-type: none"> <li>• Main income trading ag livestock/fish</li> <li>• Income Ushs300-850,000</li> </ul>
6		
7		<ul style="list-style-type: none"> <li>• Income from sale of farm produce / livestock / fish</li> </ul>
8		<ul style="list-style-type: none"> <li>• Income from sale of farm produce/livestock / fish</li> <li>• Income from working on other's farms / domestic chores</li> <li>• No education</li> </ul>
9	<ul style="list-style-type: none"> <li>• Income from working on other's farms/domestic chores</li> <li>• Age 55+</li> </ul>	<ul style="list-style-type: none"> <li>• Temporary house</li> <li>• No assets</li> <li>• 1 meal per day</li> </ul>

Decile	>200% of average score	150-200%
	<ul style="list-style-type: none"> <li>Toilet – bush</li> </ul>	<ul style="list-style-type: none"> <li>No education</li> <li>Income from sale of farm produce</li> <li>Meat eaten – not at all</li> <li>Income from pension/transfer</li> <li>Central regions (excl. Kampala)</li> <li>Income group &lt;90k</li> <li>Widowed</li> </ul>
10	<ul style="list-style-type: none"> <li>Income from pensions/transfers</li> <li>No assets</li> <li>Age 55+</li> <li>Toilet bush</li> <li>1 meal per day</li> <li>No education</li> <li>Lighting firewood/candle</li> <li>Farm/domestic work for others</li> <li>Temporary housing</li> <li>Widowed</li> <li>Central regions (excl. Kla)</li> </ul>	<ul style="list-style-type: none"> <li>Eat meat not at all</li> </ul>

To use this as a means of producing a smaller number of market segments we can look for breaks in the distribution of the deciles across the access strands. Table 4.3 gives the proportions of each decile who are accessing the different sets of services. The breaks in this spectrum of access appear to be:

- moving from decile 2 to 3 results in a halving of the proportion in the decile using the formal sector; and the proportion using the semi-formal sector also falls while the proportion using the informal sector increases to near the peak level
- moving from decile 3 to 4 shows a further almost halving of the proportion using the formal sector, and fall in the proportion using the semi-formal from its highest level while the proportion using the informal is at a maximum
- moving from 4 to 5 shows a fall in the proportion using the informal sector along with a fall in the proportion using the formal sector and a very slight rise in the proportion using semi-formal services
- moving from decile 7 to 8 shows a fall in the proportion using informal services.

**Table 4.3 Distribution across access strands by decile predicted by regression scores**

Decile	Overall	1	2	3	4	5	6	7	8	9	10
Formal	18.5	72.9	45.3	23.0	12.8	11.8	7.4	5.1	3.0	2.4	1.4
Semi-formal	2.8	5.4	6.1	4.1	3.7	2.0	2.4	1.4	0.7	1.4	1.0
Informal	16.5	6.1	18.6	23.0	27.0	20.3	18.2	22.0	13.2	8.8	7.8
Excluded	62.2	15.6	30.1	50.0	56.4	65.9	72.0	71.6	83.1	87.5	89.9

This would suggest five segments as follows:

Segment 1: Deciles 1 –2 = 20%

Segment 2: Decile 3 = 10%

Segment 3: Deciles 4 = 10%

Segment 4: Deciles 5 - 7 = 30%

## Segment 5: Decile 8 - 10 = 30%

This segmentation produces two large groups at the bottom end of the distribution with segments 4 and 5 closely matching the 62.2% of the population who are unserved. But segments 2 and 3 could now be further investigated to examine whether people in these categories might be more easily reached by formal services.

However, taking segment 1 consisting of deciles 1 and 2, we can see from table 4.3 that, in fact 73% of those in the first decile have formal access and only 45% in the second decile. This leaves 27% and 55% respectively in the other access strands and in fact we see that 15% of decile 1 and 30% of decile 2 are in fact unserved. This is telling us that there are therefore 2.7% and 5.5% of the sample - ie a total of 8.2% who have the characteristics of those most likely to be included who are in fact excluded or not using formal services. This is interesting because it suggests that further investigation of why they are not using the services is necessary.

### 4.2 Clustering methods

Two clustering methods (natural and supervised) were used to explore these patterns further. Clustering is a statistical exercise that seeks to produce groups of cases within the dataset that have strong similarities with each other and differences from other groups. The 'natural' clustering method does not use any information about which financial services people are using to produce the clusters, it simply looks at the underlying socio-economic characteristics of the population and produces clusters of people who are similar to each other as possible while being sufficiently dissimilar to those in another cluster.

Natural clusters were used to explore the characteristics of the majority of the unserved population further, that is to seek to 'break up' or differentiate among the 62% who are unserved. Clusters were not easily separated but table 4.4, identifies characteristics for two sub-clusters within the unserved category. These formed 5% and 18.6% of the unserved, leaving the remaining 76.4% difficult to differentiate from each other. It is apparent from the characteristics of these two sub-clusters that the approach has identified two very different groups – sub-cluster 1 appears to be very poor on a number of characteristics and we can see that these are also similar the characteristics of those in deciles 9 and 10 in Table 4.2. Those in sub-cluster 2 on the other hand have many of the same characteristics as those in the formal access strand and indeed look relatively wealthy by comparison.

**Table 4.4 Characteristics of natural clusters within the unserved access strand**

Sub-cluster	>200% of average score	150-200%
1 (5%)	<ul style="list-style-type: none"> <li>• Lighting – firewood / candle</li> <li>• Toilet – bush</li> <li>• One meal per day</li> <li>• Cook with paraffin / grass (leave out as this is probably the cow dung/grass group)</li> <li>• No assets</li> <li>• Temporary house</li> <li>• Northern</li> </ul>	<ul style="list-style-type: none"> <li>• No education</li> <li>• Income &lt;Ushs 90,000</li> </ul>
2 (18.6%)	<ul style="list-style-type: none"> <li>• Electric light</li> <li>• Central Kampala</li> <li>• Toilet – latrine</li> <li>• TV</li> <li>• Cook with electricity</li> <li>• Cook with charcoal</li> <li>• Water – well/borehole</li> <li>• Mobile phone</li> <li>• Urban</li> <li>• Formal sector employment</li> <li>• Eat meat 3-4 days/week</li> <li>• Income – pensions/transfers</li> <li>• Motorcycle</li> <li>• Income Ushs&gt;850,000</li> </ul>	<ul style="list-style-type: none"> <li>• Employed in private business</li> <li>• HH eats meat 5-7 days/week</li> <li>• Single</li> <li>• All hh members have shoes</li> <li>• Eat 3 meals per day</li> </ul>

Sub-cluster	>200% of average score	150-200%
	<ul style="list-style-type: none"> <li>• Car</li> <li>• Secondary education</li> <li>• Permanent house</li> <li>• Income from sub-letting/investment</li> </ul>	

Sub-cluster 2 is 18.6% of the unserved population of 62.2%, that is, it represents some 11.6% of the overall population. This is therefore suggesting that, 12% of the sample have a number of characteristics of the formally included but are not using any services.

This second clustering approach uses the actual information on who is using services in each access strand, to first find clusters of characteristics that are associated with them. It then takes these characteristics and uses the characteristics to predict the access strand that each person in the sample should actually be in.

This approach produces a profile of cluster members with the same characteristics to those of the access strands - as would be expected (see Table 4.1). Table 4.5 shows the actual proportions of the sample in each access strand and the predicted proportions. Hence it shows that while 18% are actually in the formal strand, this exercise suggests that on the basis of the characteristics given in table 4.1, 24.5% of the sample should in fact be in the formal sector, that is a further 6.4% of the population than are actually using formal services, also have the characteristics of those who are using formal services. When we then look at the actual distribution of the predicted users of formal services across the services they are actually using, we see that 60.8% are actually using formal services, 0% are using semi-formal; 2.2% are using informal services, but most of the remainder are actually unserved – 37%.

This approach has also over-predicted the proportion in the semi-formal category and included 17% of cases who should be in the formal access strand, and a third who are in fact unserved and informal strands. It has predicted 35% to be in the informal category whereas in fact 16.5% are – half of these cases (51%) should have in fact been predicted to be unserved. It has then under-predicted those in the unserved category by roughly half. That is, it has predicted that 32.3% would be in the unserved category when in fact 62.2% are, however it has not predicted any cases to be in this strand that should not be (100%).

**Table 4.5 Distribution of supervised clusters across access strands**

Cluster	Overall	1	2	3	4
Actual % of sample	100	18.1	3.1	16.6	62.2
Predicted % of sample	100	24.5	8.2	35.0	32.3
Distribution of predicted clusters across actual access strands:					
Formal		60.8	16.9	6.3	0.0
Semi-formal		0.0	34.3	0.0	0.0
Informal		2.2	12.0	42.8	0.0
Unserved		37.0	36.8	51.0	100.0

This exercise therefore suggests that there are some 6% of the population who have characteristics very similar to those who are formally included but who are in fact unserved and further confirms that the segmentation characteristics are not especially easy to identify.

### **4.3 Conclusions**

The overall implications of this investigation of segmentation of the population therefore are that the characteristics of those who are formally included are numerous and this helps in identifying them. However a sizeable proportion of the population - some 6%-8% - who have these characteristics but are in fact unserved.

In terms of extending outreach, we might expect that those with the characteristics of the already formally included would be the easiest group to reach. Further investigation needs to be undertaken as to the reasons why these people are not included. One possible reason is that they live in households which are relatively wealthy - since the data on assets, living conditions etc is at the level of the household rather than the individual - but may not have their own accounts. This may be because they have little income, but the reasons need further investigation.

On the other hand, we have found it difficult to clearly identify the characteristics of those who use semi-formal and informal services. This is because they mostly represent the average characteristics for Ugandans as a whole and are not clearly distinguished from the unserved either. However, among the excluded are those whose characteristics we can recognise as those with the deepest poverty.

## 5. Informal groups

The report explores the characteristics of informal groups using data from general questions and from a detailed section of the survey questionnaire which went into more depth on the use of informal groups.

The definition of particular types of informal groups is not necessarily straightforward, and the questionnaire also asked what the main services provided by the group were to enable this to be cross-checked. These were mainly as expected: ROSCAs were reported as giving money to one member at a time; saving and borrowing as need arises. ASCAs were primarily reported as lending, then saving and then (much lower) raising money for emergencies. Investment clubs were primarily reported for saving, then lending and third as raising money for emergencies. However, savings clubs were primarily reported as raising money for emergencies and funerals and then as savings mechanisms. Finally welfare funds were most often described as for investing second as raising money for emergencies. This suggests that the use of the terms savings clubs and welfare funds is slightly different to the prioritisation of activities and focus that we would expect: that savings clubs are more concerned with welfare type activities and welfare clubs are in fact more likely to undertake savings activities, and this helps explain the findings below.

### 5.1 Membership

23% of the overall sample reported belonging to at least one informal group. Of these 80% reported having only one group, 14% reported having two groups and 1% reported having 3 groups<sup>9</sup>.

ROSCAs are the most used type of group (8.7%<sup>10</sup>); ASCAs by 4.2%; investment clubs by 3.5%; savings clubs by 3.1%; and welfare funds (WFs) by 1.5%.

Exploring the socio-economic characteristics<sup>11</sup> of those using groups, ROSCAs are more likely to be used by women than men; slightly less likely to be used by the over 55s and much less likely to be used by those dependent on pensions and transfers.

ASCAs are much more likely to be used by those in Western region than those in Central Kampala; and slightly more likely to be used by those with a TV but other factors did not appear to clearly influence their use.

Investment clubs were more likely to be used by people in households where every member had at least 2 sets of clothes than those without; and were slightly more likely to be used by the 35-44 year olds compared to 18-24 year olds. Again no other factors were found to influence their use.

Savings clubs were more likely to be used by those whose water source is a piped compared to those whose is not; also slightly more likely to be used by those with a bicycle or TV; slightly more likely to be used by those who are widowed compared to married; and slightly less likely to be used by those in Eastern region compared to central Kampala and those whose incomes are from pensions/transfers compared to running a business.

WFs are more likely to be used by those who do not have tapped water; slightly more likely to be used by the over 55s; those in Eastern region; and less likely to be used by those dependent

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<sup>9</sup> 5% reported not knowing how many groups they were in.

<sup>10</sup> The figures reported in the informal groups section of the questionnaire differ slightly from those reported above in the overall service questions. The proportion reporting ROSCAs is slightly higher (5%) than the proportion in the earlier section. The biggest differences are higher reporting of investment clubs (67%) and lower reporting of welfare funds (-54%).

<sup>11</sup> Using regression analysis also used for section 2 above.

on pensions and transfers. It is not apparent that rurality, age, gender or education influence their use.

## 5.2 Contributions

Data was collected on contributions normally made to the principal group in a month in contribution ranges<sup>12</sup> (and is given in the table below 5.1). As can be seen, the median<sup>13</sup> and mean averages differ substantially with the mean for ASCAs and ROSCAs being approximately double the median. For the median averages, ASCAs, ROSCAs and Investment clubs all have medians of Ushs7,500; while those of welfare funds are Ushs3,500 and savings clubs are the lowest at Ushs750. On the other hand the mean average is highest for ROSCAs at Ushs16,568, followed by Investment funds Ushs16,182; ASCAs – Ushs15,572; again followed by welfare funds and savings clubs as the lowest overall.

**Table 5.1: Average monthly contributions made to informal groups**

Group	n=	Median			Mean		
		Contribution	Total (Ushs)	Total (US\$)	Contribution	Total (Ushs)	Total (US\$)
<b>ASCA</b>	641,366	7,500	4,810,246,641	2,829,557	15,572	9,987,354,758	5,874,915
<b>ROSCA</b>	1,141,294	7,500	8,559,705,504	5,035,121	16,568	18,908,960,105	11,122,918
<b>Savings club</b>	399,648	750	299,736,153	176,315	4,652	1,859,163,447	1,093,626
<b>Investment club</b>	455,437	7,500	3,415,776,402	2,009,280	16,182	7,369,879,164	4,335,223
<b>Welfare Fund</b>	205,505	3,500	719,266,977	423,098	10,521	2,162,116,533	1,271,833
<b>Total</b>			<b>17,804,731,677</b>	<b>10,473,372</b>		<b>40,287,474,008</b>	<b>23,698,514</b>

Aggregating to the total population we can therefore make an estimate of monthly contributions to groups, and the median gives us a rather more conservative estimate than the mean. This suggests that overall some Ushs18bn (US\$10m) are mobilised by groups monthly with an upper estimate based on the mean of Ushs40bn (US\$24m). Approximately half is being mobilised by ROSCAs.

## 5.3 Reasons for belonging to informal groups

The findings demonstrate that key reasons for belonging to ROSCAs are in order of importance: to save money for a particular purpose; increase income; borrow money and get help in case of emergency. For ASCAs the reasons are similar but borrowing money is the primary reason. As would be expected, investment club members are primarily motivated by saving for a particular purpose, but are also concerned with getting help in case of emergencies, to keep money safe and to increase incomes. Among welfare fund members the primary reason reported was to increase income; then investment; increasing income and, fourth, emergencies. This is a slightly surprising ordering of factors for welfare funds and may reflect different uses of these terms (see above). The most frequent reason reported by far for belonging to savings clubs was to get help in case of emergencies, other (much less) important reasons were to keep money safe, save for a particular purpose and because it was compulsory in the village.

The main reasons for using groups were: first, that services are close-by; second that the cost of travel is affordable; third that they are user friendly and fourth that they had simple procedures to access the services. For ROSCAs, a higher proportion of people in rural areas reported these four reasons compared to those in urban areas.

<sup>12</sup> The mid-point of ranges has been used to calculate the averages.

<sup>13</sup> The median average is the contribution of the person at the 50<sup>th</sup> percentile.

In terms of borrowing, groups were seen as good places to borrow from, in particular ROSCAs because they do not ask for security and take a short time to disburse money. ASCAs were useful because they are easy to access and also take a short time to disburse money. The majority did not actually report the amounts borrowed from ROSCAs and ASCAs but where they did these were not surprisingly in the lowest category of below Ushs500,000 (US\$300).

Reasons given for not belonging to groups (78% of the sample) were first that the person did not have money to save (36% of respondents) and a higher percentage of the rural than urban respondents reported this; those in the older age groups and those without formal education and who don't eat meat/fish at all, and those who eat only one meal per day. The second most frequently reported reason was the person did not trust the group (24%) and this was reported by a higher proportion of urban than rural respondents; those with secondary education and those who ate meat/fish rather than those who did not. The third most cited reason for not belonging was that it requires too much time (16%); and fourth that the person did not know about them (15%) and this latter reason was reported more amongst respondents with no formal or primary education than secondary education.

Reasons for stopping using groups were reported by 8% of the overall sample and amongst these the most frequent was having no money to save (4%) and reporting that money was stolen (2.5%). Similar types of problems were reported in relation to the constraints to using informal groups. The two main reasons were that groups were located in unsafe areas (14%) and 'they can collapse with my money' (13%).

#### **5.4 Main experiences in groups**

The most frequently cited experiences by the 23% of the sample reporting themselves to be in groups were: members pulling out (49%); members not paying (40%) and money not being available immediately (37%). Clearly the reasons are two sides of the same coin in that those who pull out or do not pay create liquidity problems in the groups which result in funds not being available when members need them. Further experiences were the failure of cooperation among members (32%) and death of members (29%). Experiences of losing money through theft or fraud by committee members (15%); dishonesty by members (14%) or misuse by officials (11%) were also reported. This suggests that the key issues concern liquidity and ability to have a functioning group that can keep funds moving rather than a strong focus on theft and fraud.

4% of the overall sample reported losing money in groups and some 52% of these reported it as lost to theft and fraud. Nevertheless, the liquidity problem due to people leaving and not paying also means that members do not get their money on time – but the implication is that this is tolerated and not regarded strongly negatively and the concern of theft/fraud and misuse is overall a smaller problem than keeping funds moving.

#### **5.5 Internal organisation of informal groups**

The most important features of organisation for all informal groups are: first, holding regular meetings (83%); second, electing officials (83%); third having a treasurer/finance person who is not the chair (78%); fourth having a membership fee (71%) and, fifth, receipt books for monies received (67%). More than 50% of groups also reported having passbooks, minutes and accounting records. 49% reported having a constitution; 29% are registered and only 19% have bank accounts and 12% cheque books.

A higher proportion of ROSCAs in rural than urban areas reported electing officials; higher proportions of ROSCAs and investment clubs reported having membership fees. A higher proportion of men than women reported that their ROSCAs kept minutes and a book for money received. More men than women also reported that their Investment clubs elected officials, kept minutes and had a certificate of registration. On the other hand, a higher proportion of women than men reported that their ASCA was registered.

Amongst those who reported having groups, 44% reported that the group was not registered at all; 33% reported being registered at LC1 level; 13% at LC3/sub-county level; 7% at LC2 level and 4% at LC5. A lower proportion of ROSCAs than other types of group were registered; and a much higher proportion of savings clubs were registered – almost double that of other types of groups and these were mostly registered at LC1 level.

ASCAs, welfare funds and investment clubs were on the whole better organised across a range of these aspects than ROSCAs and the least organised were savings clubs. This is despite the higher prevalence of ROSCAs, although between them ASCAs, welfare funds and investment clubs are mobilising similar volumes of funds as ROSCAs. .

There is clearly scope to improve group organisation especially given the low levels of use of constitutions and registration in formalising activities. Approaches to building group capacity which address these issues may operate to improve their functioning and ensure that those using them are better able to retrieve their money.

## 6. Policy implications

This section draws on the analysis presented above to discuss implications for policy. The analysis demonstrates that extending access is a huge challenge for the financial sector in Uganda. While formal sector provision is extremely important and the efforts to encourage banks to move downmarket with their products and services must be maintained, these findings suggest that the informal and semi-formal sectors also require policy consideration.

### 6.1 The role of the informal sector in extending access

The analysis has demonstrated that the informal financial sector contributes access to almost as high a proportion as the formal sector. The importance of informal financial groups has long been known, but this is the first Ugandan study to provide a reliable measure of the extent of their use. The strengths and weaknesses of these systems have also been well documented and are confirmed by this survey. First, women tend to use them more than men – especially ROSCAs. This reflects the fact that these groups have strong social functions of bringing women together and this is also rooted to different degrees in underlying cultural traditions prevalent in different parts of the country. Providing access to financial services to women is important in any country, but perhaps particularly so in Uganda with its high proportion of women-headed households (27%<sup>14</sup>). Second, people often require larger lump-sums of cash than ROSCAs can provide and may also need these amounts at the same time as others since many activities for which funds are required are seasonal, for example, to purchase agricultural inputs, or pay school fees. This concentration of demand at a particular time is better met by some informal structures than others; ROSCAs are particularly poorly adapted to that, while Villages Savings and Loan Associations (VSLAs) distribute all assets after a year of savings, and members can make the distribution at a time when demand for cash is high.

The strengths of informal groups are their flexibility and this was also underlined by the research reported here. Poor people need to be able to access small lump sums through savings or credit. The evidence here and elsewhere confirms that savings and credit are used overwhelmingly for household needs, emergencies and school fees. People also value groups because they also offer social support at times of crisis, and hence it is not solely financial support that they access through them.

Of course, it is these strengths that are also the root of their weaknesses, since social dynamics within groups can be problematic and mean that some individuals are able to access funds more easily than others, while some individuals cannot - or will not - repay and members can therefore lose their money.

Given that the outreach of informal groups, most of which are spontaneously formed, is much greater than that of SACCOs and MFIs, which have received extensive donor support, and given that the survey shows that people have been more likely to lose money in SACCOs and MFIs than in informal groups<sup>15</sup>, the case could be made for government policy measures that would support the expansion of informal groups. Some local and international NGOs are actively promoting the formation of VSLAs, which are purported to be safer and more flexible than other informal groups. However, the government should resist the temptation to intervene in informal structures, and in particular should avoid both promoting lending to them, and federating them. Both actions have proven to be deleterious to the security of savings in other countries, notably recently in Niger.

The case can therefore be made for government policy that facilitates the expansion of informal financial groups. Further research should be undertaken into the performance of informal

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<sup>14</sup> Uganda National Household Survey 2005/2006: Report on the Socio-economic module, Uganda Bureau of Statistics, December 2006

<sup>15</sup> See “Results of a National Survey on access to Financial Services in Uganda: Final Report”, Finscope Uganda, August 2007

structures, especially in Uganda. The FinScope Uganda study was one effort to do so, but only started to investigate the performance of various types of groups.

## **6.2 The role of the semi-formal sector**

The analysis also demonstrated the small contribution of the semi-formal sector to overall access - 3%. While some might see this as a reason to invest more to support this sector, an equally persuasive case could be made that the semi-formal sector simply is not as well adapted to the needs of the rural populations as it sometimes purports to be, and support should be directed elsewhere. The FinScope Uganda study was not designed to look closely at the reasons for the disappointing outreach of SACCOs and MFIs, although other recent studies<sup>16</sup> provide some suggestions about the causes.

## **6.3 The role of the formal sector**

Policy has generally emphasised the importance of the formal sector in extending access. The analysis demonstrates that it is not easy to segment the market to identify clearly the characteristics of groups who might most easily be included. Rather it suggests that efforts need to systemically address significant underlying barriers to access. While the cost of services is not a factor that this analysis has been able to directly investigate, it may be an important factor in any discussion of extending access; it should be noted that the barrier to access is usually *perceived* costs of services, and financial institutions in other countries have found that customers are discouraged by the plethora of small fees and charges. Finding ways to lower real and perceived transactions costs will likely increase outreach.

Product design and financial literacy are two further factors that are of key importance and we address these further below.

The segmentation analysis above suggested that some 6-8% of the population have characteristics of the formally included but are in fact excluded, further analysis and investigation to understand this group needs to be undertaken to understand the causes of their exclusion, as they appear to be a group to whom banking and other formal services could most easily be extended.

## **6.4 Tackling underlying barriers to access**

The analysis has demonstrated barriers to access that exist and could be addressed.

First, the findings show that - as expected - the least educated are the most excluded. In terms of policy, clearly UPE is an important contributor to improving this in the long run but raises the question of what else can be done to overcome these barriers to access. Together these results suggest the importance of both product design and financial literacy.

Financial literacy could be developed in school curricula as a part of and both numeracy skills and general life skills development. Children could also be introduced at a young age to the design of different savings and loan products in banks and other institutions, ways interest and fees are calculated and so on. This could go alongside encouraging experiments with ROSCAs and ASCAs in which students practice these skills for themselves.

This may help address the barriers to access for young people who go through school, but there are a high proportion of the adult population for whom education will still be a barrier – 19% of

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<sup>16</sup> Notably *The Effects of Wholesale Lending to SACCOs in Uganda*, by Alexandra Fiorillo, September 2006, published by FSDU; and, *Status of Missing SACCOs and MFIs from the 2005/200 Census of Tier 4 Institutions*, by Friends Consult, published by AMFIU, February 2007.

the population who have 'no' formal education and significant groups with only a few years education. The Transparency, Negotiation and Trust consumer education campaign carried out by FSDU, AMFIU, the Rural Business Culture programme, and local contractors is one of the very rare financial consumer education programmes in the developing world, perhaps one of only two on the African continent (the other being in South Africa). A priori, this program may be a very cost effective way of increasing access to financial services, and is worth of continuation after the present phase ends in 2007.

The findings also demonstrate that age is a factor influencing use and the younger age groups 25-44 are more likely to use formal services. This is interesting and also suggests a readiness to use formal services amongst young people. With the overall youthful profile of Uganda's population this needs to be built on. Technology is likely to be more easily learnt by the young than the old and hence more adoptable – however it may similarly result in more concerns about access for older people.

Product design is also important since very simply designed products that can be easily understood will also reduce barriers to using products. Drawing from features of the informal sector that people understand in product design may also help. In particular, easy and simple access to savings and loans in the event of emergencies is a key feature of informal group systems that poor people value.

Gender was also identified as a barrier to access by the analysis. Women are less likely to use formal services than men. While MDIs do reverse this pattern, their overall coverage is still low. On the other hand, informal groups, are more used by women than men. Significant efforts therefore still need to be made to improve women's access to Banks and other formal services. This may also be facilitated through simple product design. However, there are often features of product design whose gender bias may not be clear and products should be carefully considered for their gender biases through market research into the design, terms and conditions and delivery systems to understand their implications for both genders. Moreover, these barriers to access also arise from wider norms in society and especially in the household about who owns bank accounts, assets and so on. While legally women may have the same rights as men in property ownership, practice is rarely in fully in line with policy so that policy-makers need to consider also how to promote good role models and examples of women using financial services and systematically identify and tackle the norms that are constraining this.

## **6.5 Further Study**

This study, like many studies in new areas, raises many questions while answering others. Four questions in particular seem worthy of further study.

First, more detailed analysis of the barriers to access to formal institutions. Some of this information may be gained through further analysis of the FinScope Uganda data base which was not possible for this study. Nonetheless, we did detect large numbers of people who according to other characteristics should be using banks, and are not doing so. Two of the major Ugandan banks are sit on the FinScope Uganda Steering Committee and already looking closely at the data and such use of it is to be encouraged.

Second, the disappointing performance of the semi-formal sector, well below people's expectations and its reputation, requires careful investigation.

Third, the robust performance of the informal sector suggests that government and other stakeholders should take steps to know it better. If the claims made for VSLAs are accurate, then they are on their way to solving many of the challenges of extending rural outreach. However, policy makers should not rely on the claims of promoters of any institutional form, rather SACCOs or VSLAs, but should instead seek independent objective information.

Finally, a follow-up study to the 2006 FinScope Uganda survey, likely to take place in two years will provide trend lines in usage of different institutional types. The results will be interesting, as each institutional type is likely to show significant growth: the large banks - led by Centenary and Stanbic - are competing for new markets, and the MDIs are showing signs that they may soon begin to fulfil their promise of significant outreach; the SACCO sector has benefited from the Government's efforts at SACCO creation through *bonna bagagawale*; and the informal sector is receiving intense support, particularly in VSLA creation.

## Annex 1: Methodology

This study used the FinScope Uganda Survey undertaken by the Steadman Group in 2006. The survey comprises a nationally representative sample of 2959 respondents aged 18+ years. The study used the SPSS data file provided by the Steadman Group, Uganda. In most cases we used variables in their raw form; however, where needed we computed or recoded data into new variables from the same data source.

This study used various statistical techniques to analyse the use of financial services in Uganda.

Cross-tabulations and logistic regressions were used to investigate what geographic, demographic and socio-economic factors most influence the likelihood of using each type of financial service. Cross tabulations were a useful bivariate technique to report the proportions of people using financial services given particular characteristics, whereas logistic regressions were a valuable multivariate technique that allowed us to predict the likelihood that an individual with a given set of socio-economic characteristics will use one service rather than an alternative<sup>17</sup>. This analysis used unweighted data as weighted data appeared to be distorting then significance testing in the cross-tabulations, and logistic regressions deal with likelihoods so do not require weighted data.

On the left-hand side of the regression model, the dependent variable represents the financial service which has been actually used; hence taking a dichotomous form: a value of 1 if a financial service has been used and a value of zero otherwise. On the right-hand side of model, the independent or explanatory variables are those geographic, demographic and socio-economic characteristics taken from the Survey and considered as a proxy to people's profiles. As with the dependent variables, the explanatory variables are dichotomous; thus having a value of 1 if a specific socio-economic characteristic corresponds to an individual and a value of zero otherwise. In addition, a best-fit logistic regression model was applied for all savings and credit services, including the access strands.

The same sample size was used in all regression models (i.e. 2959 observations). Nevertheless, in many financial services, people with a particular socio-economic characteristic did not use a particular financial service, thus the regression models predicted failure perfectly in one or more variables, thereby dropping the observations and the respective variable.

In interpreting the regression analysis we discuss the likelihood that differences in the likelihood that a service is used - this is always relative to a base category for each variable. Hence the regression results (called "odds ratios") indicate the increased or decreased likelihood that a person with a particular characteristic uses the service compared to the respective *base variable* (dotted line in each table) that implies a value of one. For example, in the case of gender, the predicted value obtained for the *Women* variable is compared to the base variable *Men*. The regression results therefore indicate the influence of the variable when all other variables in the analysis are held constant.

The technical tables are available on request from [s.z.Johnson@bath.ac.uk](mailto:s.z.Johnson@bath.ac.uk).

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<sup>17</sup> The logistic regression model was defined as follows:

$$\log \hat{Z}_i = \log \frac{\text{Prob}(\text{serviceuse})}{1 - \text{Prob}(\text{serviceuse})} = \beta_1 + \beta_2 X_2 + \dots + \beta_j X_j$$

where  $X_2, \dots, X_j$  represent the socio-economic characteristics of financial services users and  $\text{Prob}(\text{service use})$  represents the likelihood of an individual using a financial service.