FINANCIAL EXCLUSION IN KENYA
AN ANALYSIS OF FINANCIAL SERVICE USE

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finaccess

FSD Kenya
Financial Sector Deepening

A Report prepared for the Decentralised Financial Services Project, Kenya and Financial Sector Deepening, Kenya
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Table of Contents

Tables and Figures

Abbreviations

ASCA	Accumulating Savings and Credit Association
CIDR	Centre For International Development And Research
DFS	Decentralised Financial Services
FAS	Financial Access Survey
IFAD	International Fund for Agricultural Development
MFI	Micro-Finance Institution
ROSCA	Rotating Savings and Credit Association
SACCO	Saving and Credit Cooperative
SPSS	Statistical Package for the Social Sciences
UPE	Universal Primary Education
WCG	Welfare Clan Groups
VSLA	Village Savings and Loan Associations

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 FinAccess Survey 2006 to analyse these influences on inclusion and exclusion.

Key findings

1. Employment - or main source of income - is a very important influence on which services are used and overall inclusion. Being a government employee was one of the strongest influences on use of banks and SACCOs and significantly reduced the likelihood of being excluded. The second most influential main income source which increased the use of banks and SACCOs was being employed in the private sector.

   Main source of income is in part related to income poverty but not entirely. The nature of employment is an important factor since those working in the formal sector are more likely to receive their pay through formal sector service providers. Those whose main income source or employment was domestic chores; dependence on pensions or transfers from others; and farm work for others were much more likely to be excluded than those who earned their income from farming, livestock and fishing.

2. Older people, those with more education and men are more likely to use formal financial services, while women are more likely to use informal services. Being older strongly and positively influenced the use of formal and semi-formal services. The youngest age groups are more likely to be excluded. Education has a similar effect with the most educated being the least likely to be excluded.

   While women are significantly less likely to use banks and SACCOs, they are more likely to use MFIs and group-based informal mechanisms than men. Because they are much more likely to use group-based informal systems they are less likely than men to be excluded from all services.

3. How near people are to a bank is *not* a significant influence on whether people use it. Proximity defined in terms of being located in a rural rather than an urban area, or being near or far from a bank did not influence whether people used it. Nor did it matter which province they were in. But geographic factors are important in influencing the use of SACCOs as rural people were much more likely to use them.

SACCOs and group-based informal systems such as ROSCAs have a strong pattern of use by province. People living in Central, Nyanza and Eastern are much more likely to use them compared to those living in Nairobi, while those living in Western, Rift Valley, Coast and North Eastern are less likely to use them.

It is the use of SACCOs and group-based informal systems in some provinces which strongly reduces the likelihood of exclusion in these provinces. There was no significant influence of location (rural/urban) or Province on the use of MFIs.

4. Owning a car, TV or mobile phone increases the likelihood of using formal services but is less important than age, gender and education in driving use. Indicators of wealth in the form of key assets (car, TV, radio, bicycle) and other proxy indicators for poverty (eg. sanitation facilities) had predictable influences on access but overall were not as important as socio-economic factors of age, education and gender.

   For example, owning a car, TV or mobile phone reduced the likelihood that someone was excluded and increased the likelihood of being included in the formal sector. On the other hand owning a radio reduces the likelihood of exclusion by significantly increasing the likelihood of being included through both the formal and informal sectors. Owning a bicycle also reduces the likelihood of exclusion and increases the likelihood of being informally included.

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.

6. Informal financial services are the proverbial "elephant in the room" and they are the single category through which most people are included (35%). Approximately Kshs1.2bn (US$19m) is mobilised by informal groups monthly. Over half of these funds are mobilised through ROSCAs (Kshs690m; US$10m), but while ROSCAs are the most used informal servies they are also the least well organised of the informal group systems in use.

Policy implications

The evidence demonstrates the huge challenge of extending access and demonstrates the limited success of the formal sector in meeting it so far.

- Policy-makers must take a pluralist approach to strategies for extending access. Formal sector institutions must continue to be encouraged to move downmarket to serve poorer clients. The capacity of the semi-formal and informal sectors to provide appropriate financial services must also be built up because they too have an important role in extending access to financial services. This can best be done through strategies for capacity building in these sectors that improve the effectiveness of these institutions in intermediating the savings they are already collecting.

- 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 age, 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.

- Likewise; to overcome gender constraints requires an understanding of how product design differentially impacts women and men and whether delivery systems are accessible by both genders. Policy-makers might consider how to promote approaches to product development that carefully consider: the different financial service needs of men and women; how underlying terms and conditions impact differently on them; and whether delivery systems are accessible by both genders

- Policy-makers need to consider how to promote positive role models and examples of women using financial services and systematically identify and tackle the societal norms constraining this. While legally women may have the same rights as men in property ownership and so on, practice is rarely in line with policy so such action is imperative.

Chapter 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 poor and low income people. The FinAccess Kenya survey carried out in 2006 by Steadman International on behalf of FSD Kenya, 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).

Use of SACCOs related to cash crops such as tea, coffee and dairy may also be more extensive amongst men given historically gendered patterns of control over these agricultural activities. 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[1]. Moreover, the extent to which ROSCAs and group-based mechanisms are used differs among 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 FinAccess 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, Province or region) variables.

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. This analysis enables the factors that most influence exclusion in particular to be identified.

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. For financial service providers this is certainly the most fruitful approach.

The second part of the analysis therefore uses various techniques of ranking and clustering to segment the population along a spectrum of access. Whereas the first part of the analysis looks at the effect of particular socio-economic characteristics on the use of particular financial services, this analysis attempts to identify all of the socio-economic characteristics that those using services in particular access strands.

It does this, first, by looking at the socio-economic characteristics of those using financial services according to the financial access strands; and, second, by looking at groups with similar socio-economic characteristics and then reviewing their use of services in different access strands.

The analysis allows us to identify the socio-economic characteristics most highly associated with those who use the different access strands and hence the combined characteristics of those who are formally included to excluded along the spectrum of 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:

Income or consumption poverty – the dataset did not collect data on levels of income or expenditure this means that it is not possible to directly relate access to an income or consumption poverty measure. The influence of income level is therefore likely to be 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.

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[1] See Johnson, S. (2004). "Gender norms in financial markets: evidence from Kenya." World Development 32(8): 1355-1374

Main income source - this is not a substitute for having a direct income measure but provides useful information as it relates to the way this factor affects access to services.

Wealth/poverty proxies – the dataset contained 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 been combined into a composite poverty proxy but used individually in the analysis, where they are used they are therefore operating as proxies for poverty rather than as direct explanations of barriers to financial service use.

Wealth/poverty proxies – the dataset also contained questions which used *subjective* assessments. These included assessment of distances from trading centres, banks and other infrastructure in terms of "near / not so far / far / very far" along with questions about frequencies of going without particular items such as cash income, good shelter, or "enough" food to eat rated as "often, sometimes, rarely and never".

Use of these data is done with caution as these assessments are relative to people's own experience, hence what is "not so far" for some people in a particular context (especially less densely populated areas) might be "very far" for others in a different context. Similarly with the food security question of "enough" food to eat.

The analysis uses cross-tabulations to examine the percentage of the population in particular sub-groups that are using a particular service. This differs from an analysis of the data which looks, for example, at the distribution of people using a bank account between men and women, or different educational levels. Instead we are looking at the relative frequency with which men or women, or people of different educational levels use a bank account.

Hence, for example, FinAccess results show that the proportion of the banked who are male is 61% and female is 39%. However, relative frequencies give the results that 24% of all men in the sample have a bank account while 14% of women have one. Approaching the analysis in this way enables to start to understand the overall extent of access in relation to underlying socio-economic characteristics.

The analysis then uses regression techniques to establish which socio-economic, geographic and demographic characteristics most influence people's access to services[2]. 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 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 someone with the base characteristic[3].

The strength of regression techniques is that they enable 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.

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.

The analysis has been written prioritising the variables which were statistically significant in the regression results. This identifies the variables that were least likely to have occurred by chance and hence suggests that these variables are having a key influence on the likelihood that the service is being used.

Where one variable in a category (such as gender, age, education etc) is statistically significant and hence appears to be influential in increasing or reducing the likelihood that a service is used, for example being over 55 years in the age variables, we discuss the influence of all the categories of that variable whether even though the other variables in the category are not significant. This is done in order to identify the patterns of influence that variables such as age, education etc have on access.

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[2] See Annex 1 for more details.
[3] The selection of the base case is usually undertaken on the basis of a sufficiently sized sub-sample (ie avoiding the smallest sub-samples) and for logical coherence (eg the youngest age group, or least educated). It does not affect the significance of the results relative to each other, however the interpretation is relative to the base case and this must be born in mind at all times.

Chapter 2

SOCIO-ECONOMIC DETERMINANTS OF 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.

2.1 banks

13.7% use a bank savings account whereas only 2.1% use bank credit. Figure 2.2 shows the most important socio-economic factors which influence use of a bank savings account. Interestingly, geographic factors of location (rural or urban), region or proximity to a bank do not play a significant role in affecting the likelihood that someone uses a bank account.

Age is a particularly important influence. As people get older the likelihood that they use a bank account, increases significantly compared to the youngest age group of 18-24. Being 55+ is the factor that most increases the odds of using a bank account. Source of income is also a key influence. 64% of government employees use a bank account and they are five times more likely that those whose main income is farming and fishing (8% of whom have a bank account), making this one of the most important factors in increasing the likelihood someone has a bank account.

Those who are in the private sector[4] are twice as likely to have a bank account, while those employed on domestic chores are ten times less likely and those who are farm employees or who rely on pensions/transfers from others are three times less likely.

Education is also an important influence, 28% of those with a secondary education have a bank account and this increases the likelihood of having a bank account almost fivefold compared to those with no formal education.

Figure 2.1: Use of financial services (% currently using)
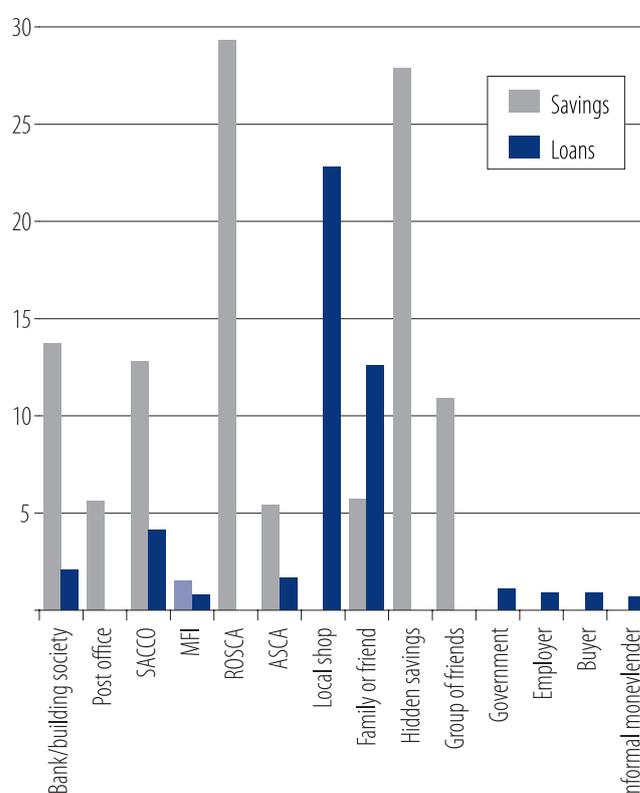
Having a primary education doubles the likelihood.10% of women compared to 18% of men have a bank account and women are 1.3 times less likely to have a bank savings account.

When it comes to taking a loan from a bank, main income source is again a key factor. Being a government employee significantly increases the likelihood and being dependent on pension or transfers from others reduces the likelihood tenfold compared to those whose main income is farming or fishing. Having a car more than doubles the likelihood compared to not owning a car but this may also reflect taking a loan to buy a car. Being a woman lowers the likelihood by a factor of 1.6 and being single lowers the likelihood more than twofold.

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

	Savings	Loans
Bank/building society	13.7	2.1
PostBank	5.6	--
SACCO	12.8	4.1
MFI	1.5	0.8
ROSCA	29.3	--
ASCA	5.4	1.7
Local shop	--	22.8
Family or friend	5.7	12.6
Hidden savings	27.9	--
Group of friends	10.9	--
Government	--	1.1
Employer	--	0.9
Buyer	--	0.9
Informal moneylender	--	0.7

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4   The data set does not enable us to breakdown this employment into formal and informal employment.

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

« Decreasing Likelihood   Increasing Likelihood »

Age
- 55+
- 45-54
- 35-44
- 25-34
- 18-24 (Base)

Main income
- Government
- Private sector
- Subletting etc
- Farming etc (Base)
- Business
- Pension/transfer
- Farmwork
- Income Domestic chores

Main income

Education
- Secondary +
- Primary
- No formal education (Base)

Assets
- Car
- Radio
- Television
- Bicycle
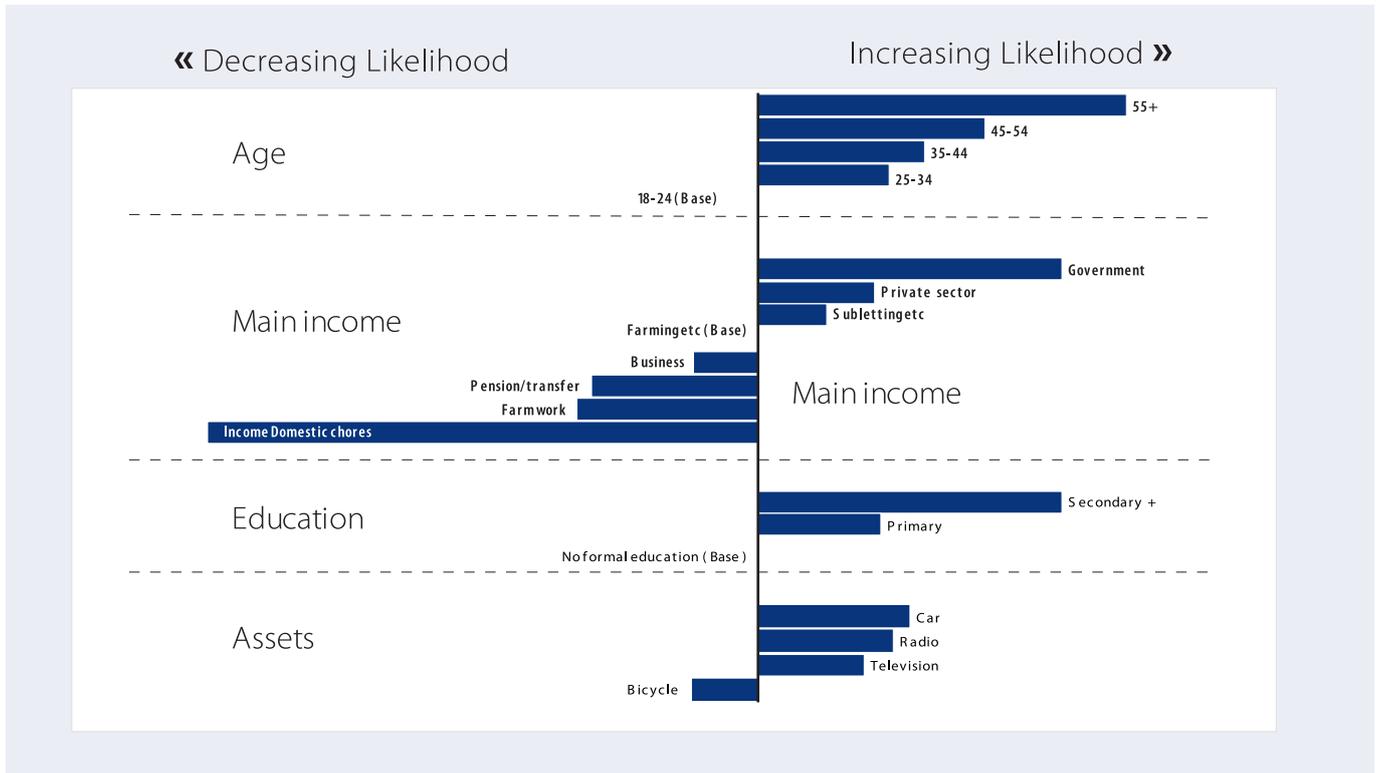
2.2 SACCOs

Overall 12.8% save with SACCOs and 4.1% borrow from them. Geographic factors are important in determining access to SACCOs. 14% of the rural population use them compared to 10% of the urban population and rural people are twice as likely to save in them and three times as likely to borrow from them.

Regions are also important: being in Central Region more than doubles the likelihood compared to Nairobi whereas living in Coast Region reduces it fourfold. The key influences on using SACCOs to save are similar to those for banks – main income source is again a key factor. Being a government employee most increases the likelihood followed by being in the private sector – both compared to having a main income from farming or fishing (of whom 16% use a SACCO savings account). Being employed on domestic chores; dependent on pension or transfers from others and employed on another's farm all significantly reduce the likelihood of using a SACCO.

In contrast to bank use, running your own business significantly reduces the likelihood of using a SACCO compared to farming and fishing - but this is not surprising given that SACCOs in Kenya are primarily either based on common bonds of farming or employment. These results therefore suggest that while being rural increases the likelihood of using a SACCO; employment influences the likelihood more.

Age again increases the likelihood of using SACCO services: being older consistently increases the likelihood. Education is also key - 18% of those with secondary education use SACCOs and this raises the likelihood more than twofold compared to no formal education whereas a primary education raises the likelihood almost twofold.

Being a woman reduces the likelihood of using a SACCO by a factor of 1.3 compare to men; being single reduces the likelihood by a factor of almost two compared to being married/cohabiting. In terms of taking loans from SACCOs, main source of income is again key - being a government employee is again the factor that most significantly increases the likelihood of getting credit from a SACCO. Again being dependent on pension/transfers significantly reduces the likelihood. The effects of age and marital status are similar to those on the savings side.

However, even though those in Central are significantly more likely to have SACCO savings than those in Nairobi, they are not significantly more likely to have SACCO credit. Those on the Coast are again significantly less likely to have SACCO credit than those in Nairobi.

Education and gender are not significant in changing the likelihood of borrowing from a SACCO. Having your own mobile phone significantly

increased the likelihood of borrowing from a SACCO compared to not using one at all, although it did not increase the likelihood of savings with a SACCO.

2.3 Micro-finance institutions

Overall 1.5% used MFIs for savings and 0.8% for loans. Geographically, the proportion of urban residents using MFIs (2.2%) is higher than that of rural residents (1.3%). However this is not reflected in a significantly lower likelihood that a rural resident uses an MFI once the influence of other factors is removed, so that location alone is not influential.

Interestingly, region does not significantly affect either saving or borrowing from an MFI, suggesting that at the low level of penetration of these services geographic difference is not overall playing a differentiating role in access.

The factors most important in influencing access to MFI services are prioritised differently to those for banks and SACCOs. First is age. Those over 35 are more than three times more likely than those who are 18-24 to save with an MFI; however of all the age groups only those in the 35-44 age group are significantly more likely to borrow from an MFI than 18-24 year olds.

Toilet facilities come out as an influence and this is obviously acting as a proxy poverty indicator in this instance. Those who share a flush toilet or have a latrine are significantly more likely to have a savings account with an MFI than those who have their own toilet.

Only those with a latrine are significantly more likely to borrow from an MFI. This result suggests that MFIs are reasonably successful at targeting loans to exclude the better off as reflected by sanitation facilities.

Owning a mobile phone more than doubles the likelihood of both saving and borrowing from an MFI compared to not using one at all. Given that many MFI services have been targeted to women we would expect to find that gender is a significant variable and women are indeed almost twice as likely to save with an MFI as men and more than twice as likely to borrow from one.

Source of income is a much less important determinant of access to MFIs than to banks and SACCOs. The only source of income that significantly influences use - lowering it tenfold - is being dependent on pension/transfers from others compared to being in farming and fishing.

Figure 2.3: SACCO savings – socio-economic factors influencing use
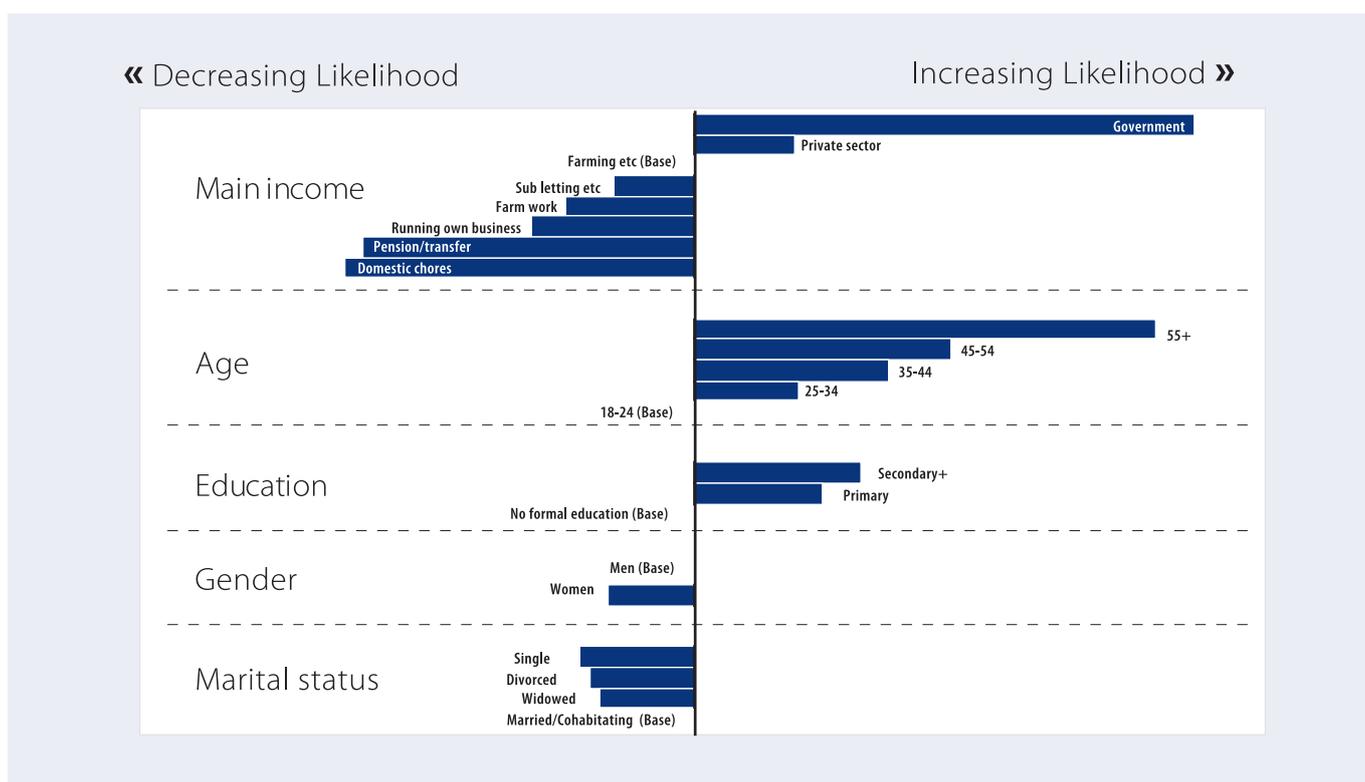
It is interesting to note that while running your own business raises the odds of using an MFI relative to farming and fishing it does not do this significantly. This is likely to reflect the fact that MFI customers are as likely to be engaged in farming and fishing as those with a business and vice versa, and the fact that for many MFI users business activities represent the means through which livelihoods are diversified rather than substituted.

These results contrast to those for banks and SACCOs and suggest that MFIs do reverse some of the key factors that contribute to exclusion from those services. However, their relatively low overall market penetration to date means that they have some way to go if they are to reverse these influences across the market as a whole.

2.4 ROSCAs

Overall ROSCAs are the most used savings (and credit service) with 29.3% of the population using them. Geographically, while rural residents use ROSCAs more than urban residents (30% compared to 26%) it does not significantly influence the likelihood. Region however is important.

Those in Central Region are 1.5 times more likely to use ROSCAs than those in Nairobi, while those in Coast Region are two times less likely and those in North Eastern are 33 times less likely to use them. Reflecting the long known prevalence of informal groups with women, the data indicates that women are more than two times more likely as men to use them. Main source of income is

also important with those running their own business significantly more likely to use a ROSCA compared to being in farming and fishing but the factor is relatively low at 1.3.

Again those employed in domestic chores and those dependent on pensions/transfers are two times less likely. In fact what is interesting about ROSCAs is their relatively ubiquitous use across all income sources - even among government and private sector employees who are not significantly less likely to use them as we might expect given their significantly greater use of more formal services.

Owning a radio or bicycle and using your own mobile phone all significantly increase the likelihood of using a ROSCA compared to not having them. While owning a TV reduces this likelihood, this is not a significant result. Toilet facilities acting as a poverty proxy are again important as an indicator. Sharing a flush toilet raises the likelihood that someone uses a ROSCA compared to someone having their own flush toilet, but use of latrines is not significant.

Age presents an interesting influence on use with those who are 25-44 being are more likely to use ROSCAs compared to 18-24 year olds, but older people above 44 are not more likely and this contrasts with the use of banks and SACCOs discussed above. Education has no significant influence at all and this again contrasts strongly with formal services – not least because we might

Figure 2.4: MFI credit – socio-economic factors influencing use

Increasing Likelihood »

- Own flush toilet (Base)
- Shared flush toilet
- Latrine

Toilet

- 18-24 (Base)
- 25-34
- 35-44
- 45-54
- 55+

Age

- Use own mobile phone
- Use somebody else's mobile
- Mobile Do not use at all (Base)

Mobile phone usage
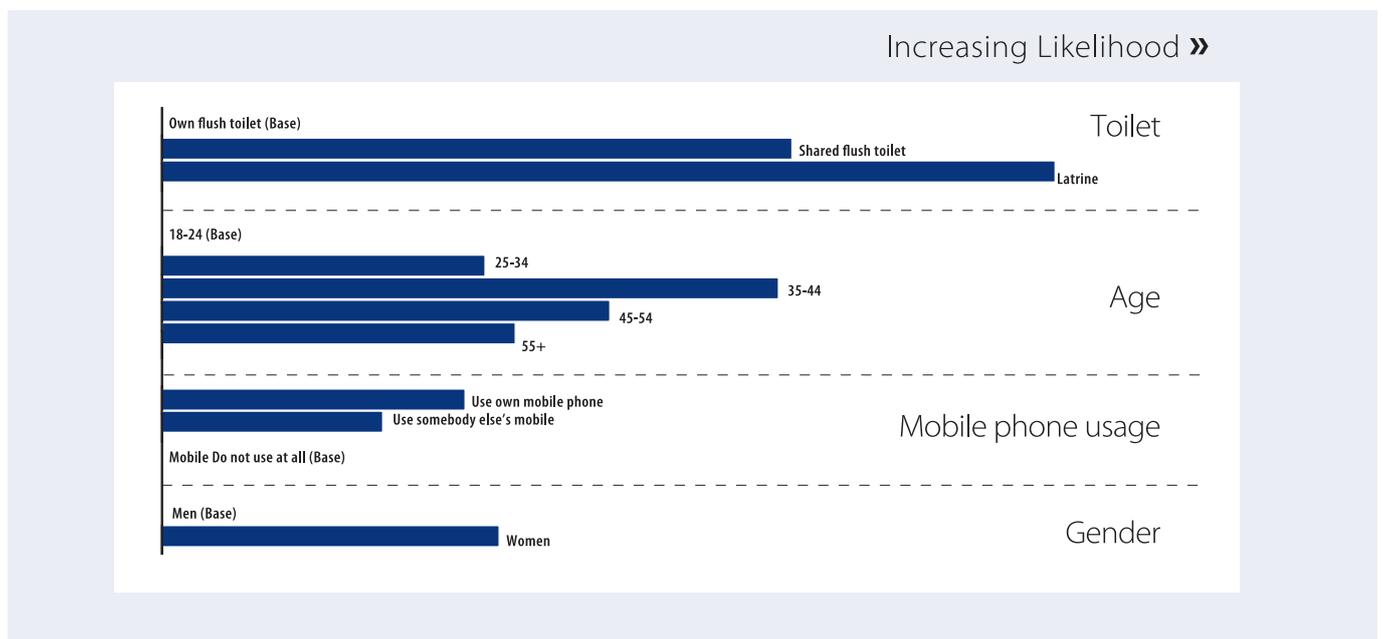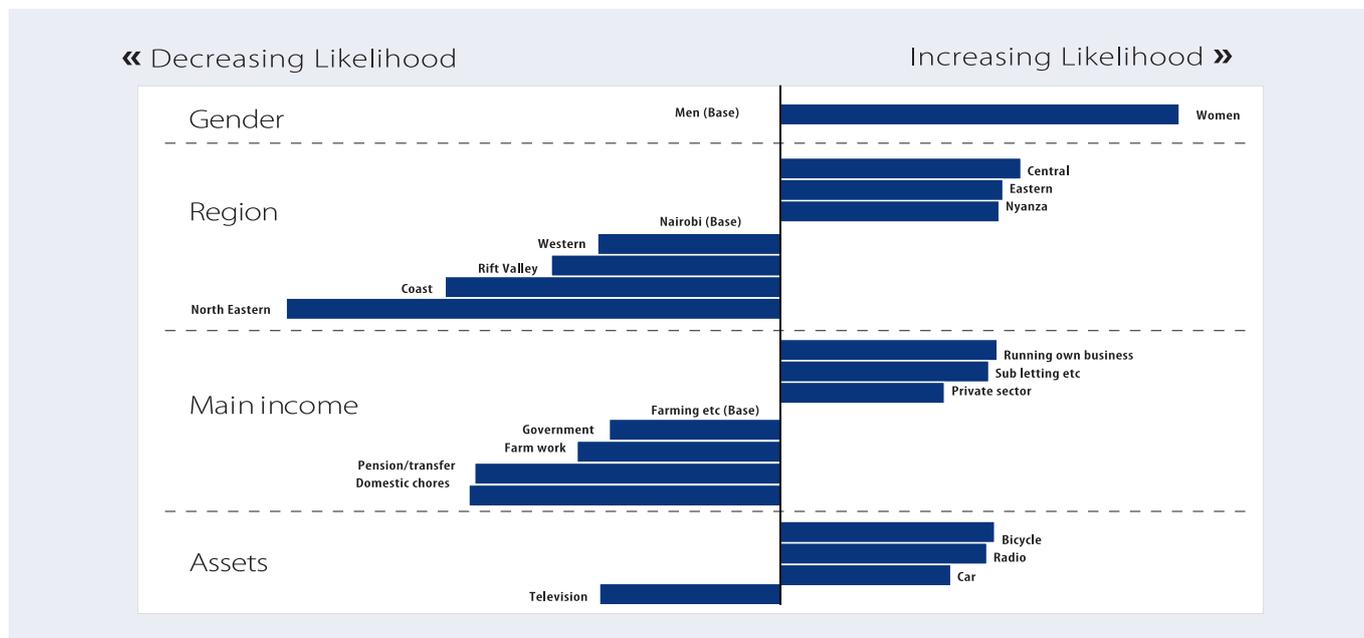
- Men (Base)
- Women

Gender

Figure 2.5: ROSCAs – socio-economic factors influencing use

again expect the better educated to use these services much less. When it comes to marital status, being single significantly reduces the likelihood of being in a ROSCA by a factor of 1.5.

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 22.8%.

Geographically, 24% of rural residents use this source and 18% of urban residents but location is not a significant factor in determining this. Living in Rift Valley or Central Region significantly increases access to this source while those in Coast Region and Western are five times less likely to use it compared to those in Nairobi.

Source of income is also influential - being employed in domestic chores significantly lowers the likelihood of using this source of credit, but no other source of income significantly affects it relative to farming and fishing. This again suggests the relative ubiquity of this source of credit. Housing conditions appear an influential factor - relative to a temporary dwelling, having a traditional, permanent or semi-permanent dwelling significantly raises the likelihood of using the source and would seem to reflect a degree of stability in a location.

Further food security as subjectively assessed by respondents was also an influential factor, indicating that people whose families 'often' lack food are significantly less likely to borrow from local shops compared to those whose families 'never' lack food.

2.6 Borrowing from family or friend

Overall this is the second most used source of credit at 12.6%, while 5.7% reported saving with a family or friend.

Geographically, while there is little difference in the incidence of use between rural and urban areas, region does affect it. The regions where the incidence of this is highest are, Rift Valley, Central and Nyanza and being in these regions raises the likelihood significantly of using this source.

On the other hand in North Eastern none reported borrowing from family/friends. The likelihood of borrowing from this source was significantly lower in Western, Coast and Eastern compared to Nairobi.

Source of income: interestingly it is only being dependent on pension/transfers that significantly affects the likelihood of using this source of credit – lowering it by a factor of 1.5.

The data indicates that the source is used similarly across other main income sources again suggesting the relative ubiquity of use. Similarly ownership of assets such as car, radio, bicycle, TV and even mobile phone do not affect the likelihood of use.

Marital status affects the likelihood of borrowing from friends and family, with being divorced significantly increasing the likelihood of using this source by almost twice compared to being married/cohabiting. Similarly being widowed or single also increases the likelihood and this is likely to reflect the greater difficulty of managing finances alone compared to in a married couple.

Figure 2.6: Local shop credit – socio-economic factors influencing use

« Decreasing Likelihood   **Increasing Likelihood »**

Region
- Rift Valley
- Central
- Nyanza
- Eastern
- Nairobi (Base)
- North Eastern
- Western
- Coast

Main income
- Private sector
- Sub letting etc
- Running own business
- Farm work
- Farming etc (Base)
- Government
- Pension/transfer
- Domestic chores

Dwelling
- Semi-permanent
- Traditional
- Permanent
- Temporary (Base)

Food security
- Rarely
- Sometimes
- Never (Base)
- Often
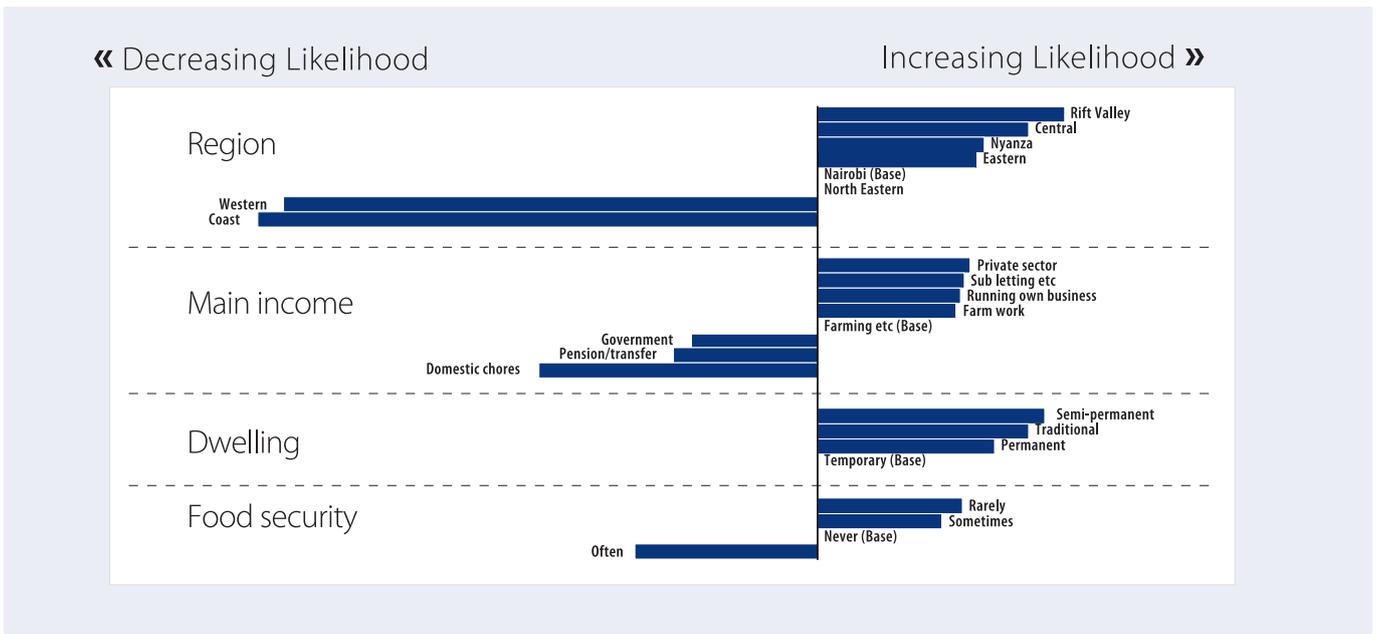
Figure 2.7: Borrowing from friends and family – socio-economic factors influencing use

« Decreasing Likelihood   **Increasing Likelihood »**

Region
- Nyanza
- Rift Valley
- Central
- Nairobi (Base)
- North Eastern
- Eastern
- Coast
- Western

Main income
- Running own business
- Government
- Sub letting etc
- Private sector
- Farming etc (Base)
- Farm work
- Pension/transfer
- Domestic chores

Marital status
- Divorced
- Widowed
- Single
- Married/Cohabitating (Base)
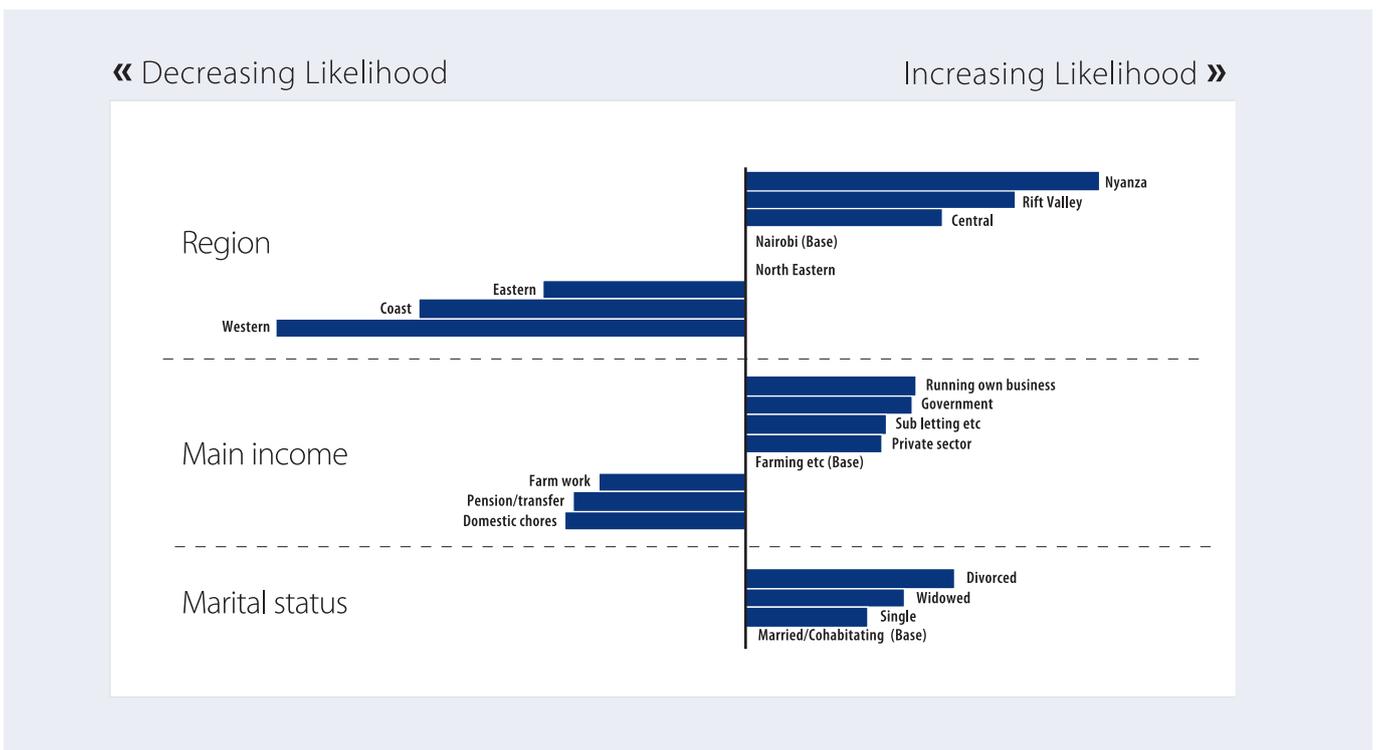
Chapter 3

FINANCIAL ACCESS STRANDS

The previous section analysed characteristics of users of a range of different financial services. The concept of the financial access strand is to place each user in 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 Kenya the access strands have been defined as follows:

- Formal: banks, building society, Post Office, insurance company

- Semi-formal: SACCOs, MFI, Government institutions

- Informal: ROSCAs, ASCAs, group of friends, employer, moneylender, hire purchase / shop/ buyer

- Excluded: none of the above financial services

The definition of the informal sector used here only involves use of ROSCAs and ASCAs. These are the two most used forms of informal service and represent intermediation involving more than one other person. The dataset did collect information on a range of other informal services such as local shops as a source of credit, or borrowing from family and friends (as discussed in the previous chapter), "hidden savings". However, in the financial access strand analysis, people who only use these services are treated as excluded based on the view that their financial activity did not involve interacting with more than one other person[5].

Looking at the proportions in each category – see table 3.1: 38.3% are defined as excluded. 35% are included via the informal sector in the form of ROSCAs/ASCAs. The semi-formal sector includes a further 8.1%, but only 3% of these only use semi-formal services, and a further 5.2% also use informal services. 18.5% use formal services, but the majority use a combination of formal services and those of the semi-formal and informal sector so that only 4.9% only use formal services.

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 and in each case we start by discussing the impact on exclusion then working across the strands to discuss the influence of the factor on inclusion in each strand.

3.1 Source of income

The main source of income is the factor that has the most influence on exclusion. Government employees are seven times less likely to be completely excluded from financial services compared to someone whose main livelihood is farming and fishing. They are also four times less likely to only use informal services, half as likely to only use semi-formal services and nine times more likely to use formal services.

**Table 3.1: Multiple use of services across access strands**

Access strands (weighted)	%	
Formally Included (Bank & Post office)	**18.5**	
Of whom: Formal only		4.9
Formal & semi-formal		3.2
Formal and informal		5.5
Formal & semi-formal & informal		5.0
Semi-formally included (SACCO & MFI)	**8.1**	
Of whom: Semi-formal only		3.0
Semi-formal and informal		5.2
Informally included (ASCA & ROSCA)	**35.0**	
Excluded	**38.3**	
Total	**100.0**	

Private sector employees are two times less likely to be excluded, and more than twice as likely to be formally included. Those employed on domestic chores are more than twice as likely to be totally excluded and this is reflected in significantly lower likelihoods of being formally included. Those dependent on pension/transfers show a similar pattern – they are twice as likely to be excluded as those in farming and fishing and this is matched by being significantly less likely to be formally or semi-formally included. Those employed on people's farm in full time/seasonal work are also more likely to be excluded than those in farming and fishing. They are also significantly less likely to be semi-formally included.

Those whose main income is running their own business are less likely to be excluded, but more likely to be informally or formally included and less likely to be semi-formally included. This reflects the fact that SACCOs tend to cater to farmers and employees and that MFIs who are targeting this market have made limited impact so far. On the other hand since those who run their own business span a huge spectrum of formal to informal businesses they are therefore likely to use ROSCAs/ASCAs and formal services.

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5   However, the category "saving with a group of friends" which is 11.1% of the sample was also excluded from the informal access strand

Figure 3.1: Influences on inclusion - main income source
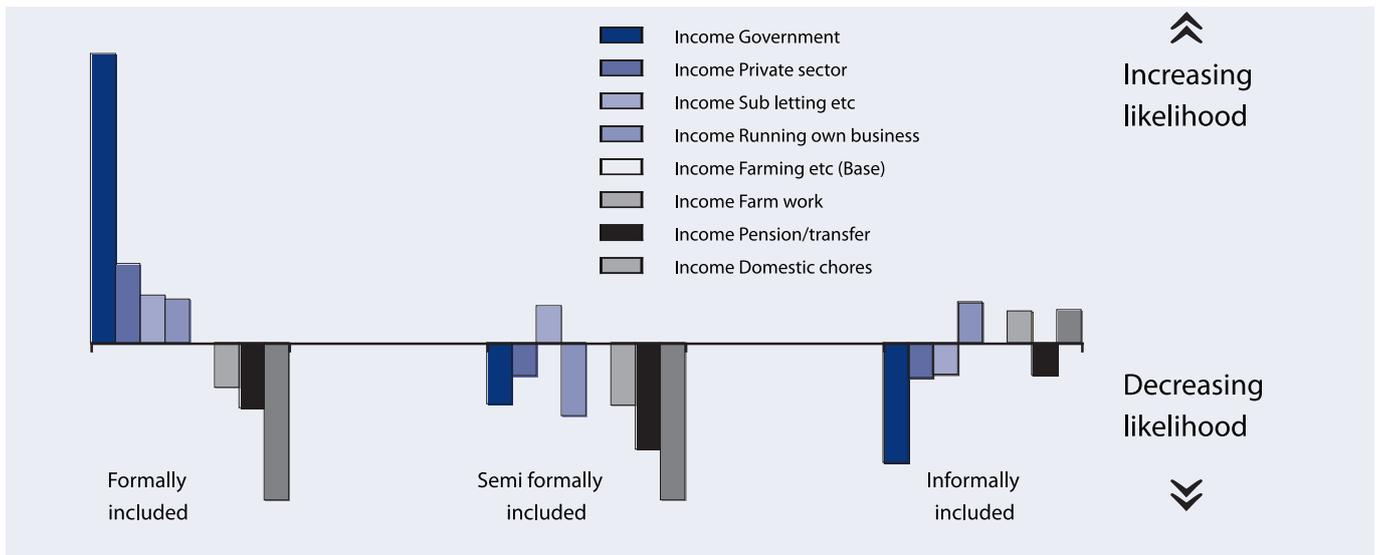
3.2 Age

The effect of age is consistent in terms of its effect on exclusion and its effect on use of other services. Older age groups are much less likely to be excluded than 18-24 year olds. The oldest age groups are much more likely to be formally or semi-formally included and less likely to be only informally included.

This data also demonstrates that for younger people, ROSCAs/ASCAs do not provide services to fill the gap between exclusion and more formal services.

This can be understood in relation to the higher levels of mobility and weaker social networks that these groups are likely to have.

Given the proportion of the population in this younger category (21% unweighted) this suggests a policy priority is to consider the means through which the younger age groups – in particular 18-24 year olds, but also 25-34 year olds can gain improved access to services.

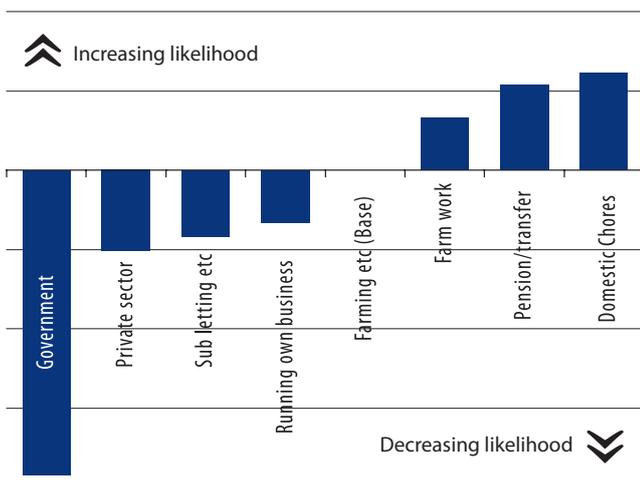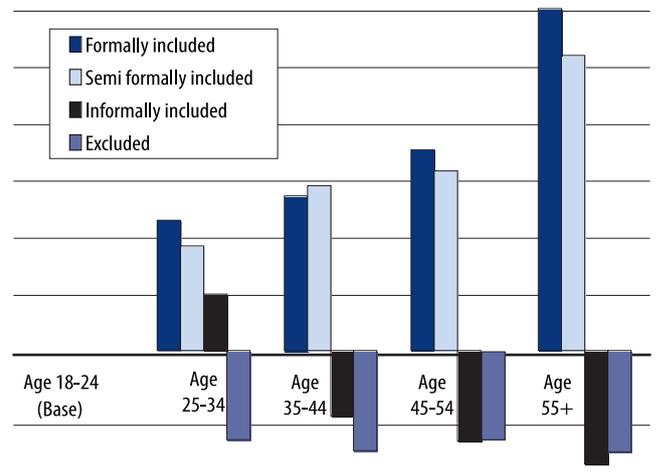**Figure 3.2: Influences on exclusion – main income source**

Figure 3.3: Influences on inclusion - age

3.3 Province

The influence of location in terms of Province demonstrates a considerable influence on the likelihood of exclusion. Since this analysis holds other factors constant – in particular the various wealth and poverty proxies used – this is not simply picking up the relative poverty of different provinces.

Those living in North-Eastern Province are 69 times more likely to be excluded compared to those living in Nairobi. This exclusion is not moderated by the informal sector in this province as people are also 100 times less likely to use informal services.

Levels of access to formal and semi-formal services were zero to so the regression could not produce results. Those living in Coast Province are three times as likely to be excluded as those in Nairobi.

This is mainly explained by the deficit of informal and semi-formal services, since while they are not significantly less likely to have a bank account they are almost three times less likely to be informally included and nearly six times less likely to be semi-formally included.

While those in Rift Valley and Western are less likely to be excluded than those in Nairobi, this is not significant and they do not appear to differ significantly in profile from those in Nairobi for any strand.

On the other hand, those in Nyanza and Eastern are more than twice less likely to be excluded and more likely to be informally included –the informal sector is helping fill the gap. Although they are more likely to be formally or semi-formally included than those in Nairobi, this is not a significant result.

Those in Central Province are more than two times less likely to be excluded - ie this is where inclusion is highest by comparison to Nairobi. However, it appears that in comparison to Nairobi the sector that primarily fills the gap is the semi-formal sector, with people being nearly three times more likely to be included through this sector.

It is important to note that formal inclusion is not significantly affected by Province. This suggests that for those who are able to access them the regional factor is not important and hence that there is no obvious bias in formal inclusion once other factors are controlled for.

This analysis therefore gives us a very strong regional picture of the strength of coverage and the way in which the informal sector reduces that exclusion, especially in Nyanza and Eastern, while the semi-formal sector makes a significant impact on exclusion in Central (relative to Nairobi) - and according to the service by service analysis this is most likely to be contributed through the role of the SACCOs rather than the MFIs, which is understandable from the prevalence of rural SACCOs related to coffee and dairy in that Province.

This suggests that policy priorities for financial service development – especially in the semi-formal and informal sectors - could be more Province specific. The nature of capacity building needed to expand the semi-formal and informal sectors where they currently exist will be different to that needed to start to develop these sectors where they currently have very limited presence.

3.4 Education

Education also presents a relatively clear influence on the spectrum of access. Educated people are significantly less likely to be excluded than those without formal education.

Figure 3.4: Influences on inclusion – province
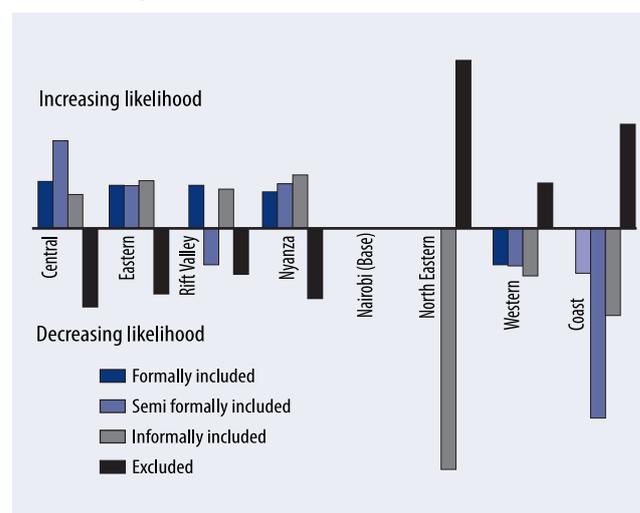
Those with secondary education are significantly less likely to be only included through the informal sector. Being educated at primary or secondary level significantly raises the likelihood of being semi-formally included.

Having a primary education doubles the likelihood of formal inclusion and having a secondary education increases it by a factor of four. These results demonstrate the importance of education for financial service access, again holding other factors constant. They underline the importance of Universal Primary Education policies for improving financial service access over the long run.

However, given that almost half of the sample (46%) of over 18 year old only had primary education (and 26% had only 'some primary'), it suggests an important need to tackle what might be understood to be constraints of communication and accessible information in both formal and semi-formal services. There is also important scope for considering how financial literacy and numeracy skills could be developed in the educational environment and this may work in tandem with the need to consider how to improve access for younger people.

Figure 3.5: Influences on inclusion – education and gender
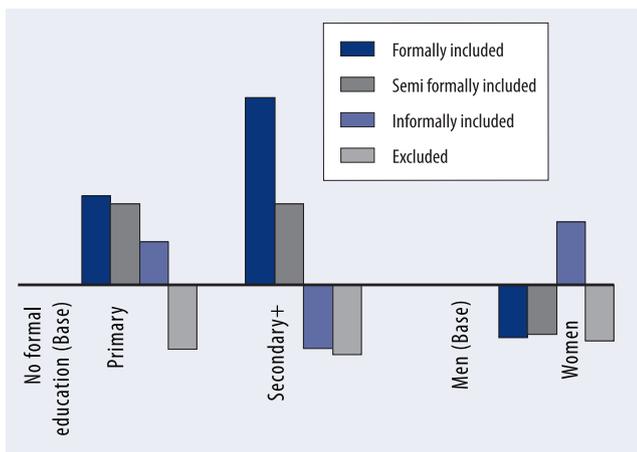
3.5 Gender

Being a woman significantly lowers the likelihood of exclusion from financial services, and this is reflected in the fact that it significantly raises the likelihood of inclusion through informal services (see figure 3.5). It lowers access to formal and semi-formal services but not significantly.

However, the services by service analysis shows that gender is significant in affecting access to different types of service: the analysis of bank services on their own does indicate that women are significantly less likely to have a bank account, while this is not the case for the Post Office – combining these in the access strand of formal inclusion therefore ameliorates the gender effect of bank access.

This happens similarly in the semi-formal access strand: SACCO and MFI services independently showed that women were significantly less likely to use SACCOs but significantly more likely to use MFIs. Given therefore that in each of these access strands banks and SACCOs are the more important services overall than the Post office and MFIs, it is still important to consider how women's access to banks and SACCOs can be improved, or whether MFIs in particular are the only route to greater inclusion.

This result confirms the understanding that women use ROSCAs/ASCAs more than men. Relative to men it is therefore a factor that ameliorates their total exclusion from services. There is potential for groups to work better for men where the arrangements can be more formalised and some evidence from the survey (see section 5 below) that men seek to do this where they are involved in groups.

However, promotion of groups is perhaps unlikely to adequately to cater to men's demands for financial services. Men's demand for financial services tends to be lumpier than women and is more likely to occur at the same time eg. to fund school fees, agricultural inputs and this makes ROSCAs unable to

cater to these needs. Given that informal group services are however important and that some 30% of the population overall use them, strategies to ensure their effective and improved ability to provide services are important.

3.6 Asset ownership

The analysis looked at the influence of four particular assets: car, TV, radio, bicycle and mobile phone, which also act as poverty proxies in the analysis. They present a fairly consistent and expected pattern of influence on use. Owning a car is the most influential asset indicator in reducing exclusion and increasing formal inclusion.

Owning a TV does not significantly reduce the likelihood of exclusion but significantly increases the likelihood of being included via formal services. Owning a radio reduces the likelihood of exclusion and significantly increases the likelihood of formal inclusion. Owning a bicycle significantly reduces the likelihood of exclusion but this is matched by it significantly increasing the likelihood of only being included in the informal sector.

Mobile phone ownershp demonstrates a similar influence on inclusion to that of cars. Owning your own means you are twice less likely to be excluded but more than two times more likely to be formally included, while not affecting use of informal and semi-formal services. Using somebody else's mobile phone compared to not using one at all has no influence on use.

Food security as an indicator also had an understandable pattern. Those who 'often' go without enough food are more likely to be excluded and significantly less likely to be included in the semi-formal and formal sectors.

Figure 3.6: Influences on inclusion – assets
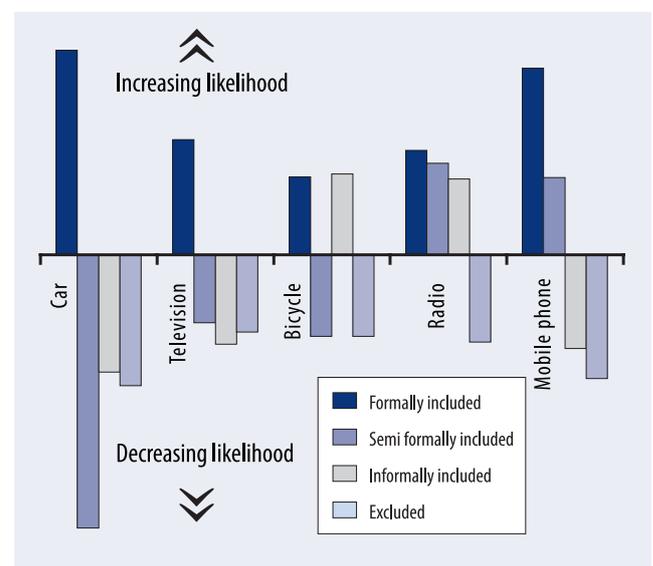
On the other hand, only 'sometimes' going without enough food significantly reduces the likelihood of formal inclusion but does not significantly increase the likelihood of exclusion. It is interesting to note that the food security indicator is not as important in explaining use as might be expected.

This is likely to be because it is a subjective assessment and therefore the relative assessment of 'rarely', 'sometimes' or 'often' for those who experience food insecurity may differ between areas.

Chapter 4

MARKET SEGMENTS

The section[6] uses the data to attempt 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 formal ones. 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 along the spectrum of the access strands analysed in the last section.

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 to create an "excluded" score for each respondent and then sort the sample according to these scores, segment them into deciles and analyse 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 (>200% of the average) as the mean proportion for the sample as a whole and those that occur 1.5 to 2 times as often (150-200% of the average).

Table 4.1: Access strands described

Strand	>200% of average score	150-200%
Formal	Government income • Fridge • Cook with gas/electricity • Car • Motorcycle • Own toilet • Electric lighting • Nairobi • TV • Own mobile • Private sector employment • Shared toilet • Permanent dwelling • Never gone without cash income • Cook with kerosene	• Secondary education • Urban • Never gone without medical care • House rented • Never gone without food • Piped water • Main income from rent/investment • Rarely gone without cash income • Bank building is near
Semi-formal	• Central	• Divorced • Age 55+ • Main income from rent/investment
Informal		
Excluded	• North Eastern • Lighting – wood	• Traditional dwelling • Coast • Main income - domestic chores • No education • Western • Often gone without good shelter • Often gone without medical care

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Table 4.2: Distribution across access strands by decile predicted by regression scores

Decile	Overall	1	2	3	4	5	6	7	8	9	10
Formal	19.9	76.2	45.1	24.4	16.4	11.6	9.5	9.0	5.0	0.7	1.4
Semi-formal	7.5	9.0	13.8	16.6	10.4	9.7	5.5	4.8	3.1	1.9	0.2
Informal	35.0	9.0	28.7	41.5	50.2	45.1	46.0	40.9	38.0	32.5	18.5
Excluded	37.5	5.7	12.4	17.5	23.0	33.5	39.1	45.4	53.9	64.9	79.8

This reveals key features of those who have access to formal services and those that are particularly distinctive: having a government income; cooking with gas or electricity; owning a car or fridge.

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 Central Province as the average proportion across the sample who are semi-formally included. In the semi-formal those who earn their income from farming and fishing or are over 55+ are also over-represented.

However, the characteristics of those using the informal sector do not have features that are particularly distinct from the average while those in the excluded strand are particularly likely to be in North Eastern and/or live in a traditional dwelling and/or use candle and firewood for lighting.

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 relatively hard to distinguish as they little different from the average profile of the sample. The three further exercises confirmed this.

4.1 Using multivariate scores to produce deciles

This approach made use of the regression equation estimated for the "excluded" category in the above analysis. The analysis above used the data to estimate the coefficients of the logistic regression equation for those who were excluded from financial service use. The equation was then used in reverse to predict an "excluded score" for each of the sample respondents.

These results offered a means through which the respondents in the sample could then be ranked in terms of this "exclusion score": from the least excluded according to the score to the most excluded.

Once they had been ranked they could be divided into deciles and the socio-economic characteristics of each decile could be examined.

Table 4.2 describes the deciles again in terms of key characteristics that stand out relative to the average for the population as a whole. This produces many similar characteristics for the least excluded categories as in Table 4.1.

It also produces some greater distinctiveness among the bottom two deciles but few strong features among deciles 3 to 8, where there is no feature that occurs more than twice as often in the decile as in the underlying population.

Because even features that occurred more than 1.5 times as often were also few, we have added a column of 1.3-1.5 times as often which produced three characteristics for decile 6 where there were previously none.

The strongest factor that comes out here is region – with a gradation of access from Nairobi, to Central to Nyanza and Eastern then Western, Rift Valley, Coast and N Eastern. The influence of age is strongest in the lowest three deciles, which picks up the exclusion of the youngest group of 18-24 year olds.

The incfluence of main source of income as farm employment, domestic chores and dependents on pensions/transfers also starts to appear. To use this as a means of producing a smaller number of market segments we can look for breaks in the spectrum of access.

Table 4.2 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 - a halving of the proportion using the formal sector; the highest proportion using the semi-formal sector and the proportion using the informal sector increasing to almost a peak level.

- Moving from decile 3 to 4 shows a further drop in 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 5 to 6 shows a rise in the proportion using the informal sector along with falls in proportions using formal and semi-formal services.

- moving from decile 9 to 10 shows a halving of use in informal services.

Table 4.3: Characteristics by decile

Decile	>200% of average score	150-200%	130-150%
1	• Government income • Car • Fridge • Cook with gas/electricity • Own toilet • Own mobile • TV • Motorcycle • Electric lighting • Never gone without cash • Main income from private sector • Secondary education (plus) • Permanent dwelling • Never gone without medical care • Never gone without food	• Central • Piped water • Bicycle • Mait income – rent/investment • Shared toilet • Nairobi • Bank building is near • Age 35-44 • Urban • Rarely gone without cash • Age 45-54	• Rented house • House occupied w/out payment • Never gone without fuel • Cook with kerosene • Cook with charcoal • Never gone without good shelter • Never gone without water • Married / cohabiting • Radio
2	• Motrocycle • Own mobile • Main income – private sector • Central	• TV • Cook with gas/electricity • Nairobi • Main income rent/investment • Fridge • Car • Electric light • Cook with kerosene • Shared toilet • Secondary (plus) education • Never gone without food • Permanent dwelling • Rarely gone without cash income • Ox/donkey • Never gone without cash income	• Piped water • Never gone without medical care • Bank building near • Bicycle • House occupied w/out payment • Main income – business • House rented • Urban
3		• Central • Cook with kerosene	• Often felt unsafe in home • Nyanza • Own mobile • Main income – private sector • Main income – business • Age 55+ • Shared toilet
4		• Nyanza	• Widowed • Eastern • Main income - business
5		• Ox/plough	• Nyanza • Main income - sale of produce • Semi permanent dwelling • Use other's mobile • Primary education
6			• Widowed • Western • Temporary dwelling

Table 4.3: Characteristics by decile

Decile	>200% of average score	150-200%	130-150%
7		• Western • Main income – farm employment	• Main income – pension/family • Oxc/donkey • Often gone without good shelter • Main income – domestic chores • Often gone without enough food • Age 18-24 • Often gone without medical care
8		• Often gone without shelter • Main income – farm employment • Main income –pension/family • Traditional dwelling • Age 18-24 • Divorced • Coast	• Western • Often gone without enough food • Often gone without medical care • Ox/donkey • Main income - Domestic chores • No mobile use • Single • No education • Rift Valley
9	• Main income – domestic chores • Main income – farm employment • Age 18-24 • Coast	• Traditional dwelling • Main income – pension/family • Lighting - wood • Single • Temporary dwelling • Often gone without enough food • Often gone without good shelter • Trading centre – far	• Divorced • Sometimes gone without good shelter • Western • No education • No mobile use • Rift Valley
10	• North eastern • Lighting - wood • Traditional dwelling • Coast • No education • Often gone without safe water • Often gone without good shelter • Trading centre – far • Sometimes gone without good shelter • Main income – domestic chores	• Often gone without enough food • Often gone without medical care • Age 18-24 • Often gone without fuel • Single • No mobile use • Main income pension/family • Sometimes gone without enough food • Temporary dwelling	• Water source – well • Sometimes gone without safe water • Sometimes gone without fuel • Often gone without cash income • Sometimes gone without medical care • HH size ^+

This would suggest five segments as follows:

Segment 1: Deciles 1 & 2 = 20%
Segment 2: Decile   3 = 10%
Segment 3: Deciles 4 & 5 = 20%
Segment 4: Deciles 6 – 9 = 40%
Segment 5: Decile   10 = 10%

Again this segmentation produces a large rather undifferentiated group containing some 40% of the population.

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 information on financial service use 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.

Table 4.4: Distribution of natural clusters across access strands

Cluster	Overall	1	2	3	4	5	6	7	8
% of sample	100.0	7.2	0.8	15.8	1.8	38.3	18.4	10.0	7.7
Formal	19.9	68.2	59.4	36.0	25.0	16.7	7.6	4.8	1.5
Semi-formal	7.5	1.0	0.0	5.3	13.2	11.0	8.6	5.5	0.3
Informal	35.0	9.8	9.4	27.2	30.3	40.6	42.0	43.9	22.8
Excluded	37.5	21.0	31.3	31.5	31.6	31.7	41.8	45.8	75.4

This natural clustering produced a set of 8 clusters which are ordered in terms of their relative access in Table 4.4 and present a clear gradient from most formally included to most excluded although again semi-formal and informal inclusion rise and then fall in the middle clusters. The clusters are very uneven in terms of the proportions of the population they represent with the smallest cluster only reflecting 0.76% of the total sample (cluster 2) while cluster 5 represents 38.3%. The characteristics thrown up by the clusters are given in Table 4.5.

The interesting finding of this exercise is that the cluster 1 produces a set of characteristics very similar to those of the formal access strand but of the people it allocates to this cluster (7% of the sample) some 21% are in fact excluded. This proportion rises in cluster 2 and cluster 3 to 31%. This is showing therefore that quite a significant proportion of people with these characteristics are not in fact using any type of financial service.

This again reflects the low overall use of formal services but also indicates that between a quarter and a third of those who have characteristics of the 'top' 24% of the population are not in fact using formal services. The data does not tell us clearly why, however there are some interesting findings from the above table:

- Cluster 1 and 2 includes representation of those doing domestic chores, although this has consistently been a group who are most likely to be excluded through all other analysis, this analysis suggests they have many features very similar to those who do use formal services. This may represent a group of those employed in this category who live in Nairobi, are relatively well paid and live in premises that come with their work and have assets such as TVs, however they are likely to be among the 27% who are not using formal services.

- Cluster 2 is very small and the most important feature of this group is owning a motorcycle. The overall features of this group are very similar to group 1 and their access profile is also very similar.

- Cluster 4 is also very small but very interestingly those in North Eastern and those having rent/investment as their main income source are over-represented in this group. Perhaps reflecting that some in North Eastern are likely to have access to formal services, though the proportion of excluded in this cluster also reaches 40%.

- Cluster 5 representing 38% of the population again has few distinctive features relative to the average for the population – suggesting they are strongly representative of the majority of Kenyans.

- Clusters 6 – 8 again produce many similar features to deciles 9-10 but with differences also – eg. the youngest age group is not highlighted.

- The overall ordering of the regions across the clusters is very similar to that across the deciles, although Nyanza occurs in cluster 6 & 7 compared to appearing in deciles 4 & 5; and Coast appears in cluster 6 but in deciles 8-10.

This second clustering approach uses the actual information on access strands to find clusters of characteristics and then allocates people in the sample to those clusters. 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).

This approach has done quite well at predicting those in the excluded category (82%) and in the informal category (76%) followed by the formal category (70%) but done rather less well at predicting those in the semi-formal category (40%) again suggesting that it is difficult to typify those who have access to semi-formal services.

4.3 Conclusions

The overall implications of this investigation of segmentation of the population therefore are that the characteristics of those who are formally and semi-formally included are relatively easy to identify. However there is also around a third of people who have characteristics very similar to the formally included who are in fact excluded – overall they represent some 8% of the population

The reasons for their exclusion are not clear from this analysis and require further investigation to find out whether they can be targeted for formal inclusion. They may have similar characteristics to the formally included because they live in households with the included - for example young people who are still dependent on parents.

This would also explain why those who undertake domestic chores are over-represented in this category. The group that are most strongly excluded can

Table 4.5: Characteristics of natural clusters

Cluster	>200%	150-200%
1 (n=305)	• Fridge • Cook with gas/electricity • Own toilet • Car • Nairobi • Electric lighting • Domestic chores • TV • Never gone without cash income • Permanent dwelling • Own mobile • Urban • Private sector employment • Piped water • Never gone without medical care • House occupied • Government income • Secondary education • Never gone without food • Bank is near • House rented	• Bank near • Bank not so far • Single • Rarely gone without cash income • Bicycle • Never gone without fuel • Never gone without water
2 (n=32)	• Motorcycle • Car • Cook with gas/electricity • Fridge • Own toilet • Government income • Own mobile • Electric lighting • TV • Never gone without medical care • Secondary education • Never gone without cash income • Bicycle	• Never gone without enough food • Urban • Permananent dwelling • Often gone without water • Domestic chores • Near a bank • Male • Private sector employment • Piped water
3 (n=666)	• Shared toilet • Cook with kerosene • Rented house • Nairobi • Electric lighting • Private sector employment • Urban • Near a bank • Government income • Cook with charcoal • Own mobile • Piped water • Permanent dwelling	• TV • Near a bank • Secondary education • More than 3 in hh • Single • Rarely gone without cash income • Never gone without medical care • Never gone without enough food • Bank not so far • Age – 25-34
4 (n=76)	• Income from rent/ invesment • North Eastern	• Often gone without adequate shelter • Widowed • Shared toilet

Table 4.5: Characteristics of natural clusters

Cluster	>200%	150-200%
5 (n=1613)		• Central • Ox/plough • Never gone without water • Semi-permanent dwelling
6 (n=776)	• Divorced • Temporary dwelling • Farm employment • Sometimes gone without adequate shelter • Rarely gone without adequate shelter • Sometimes gone without water • Owner Occupied House • Coast	• Soemtimes gone without fuel • Sometimes gone without enough food • Sometimes gone without medical care • Sometimes felt unsafe • Rarely gone without fuel • Nyanza
7 (n=421)	• Often gone without fuel • Often gone without adequate shelter • Often gone without enough food • Often gone without medical care • Often gone without water • Widowed • Often gone without cash income • Often felt unsafe • Age: 55+	• Western • Bank very far • Nyanza • Domestic chores • Ox/plough • No mobile • Sometimes gone without adequate shelter • Surface water sources
8 (n=325)	• North Eastern • Lighting – wood etc • Traditional dwelling • No education • Far from trading centre • Sometimes gone without adequate shelter • Often gone without water • Bank very far • Ox/donkey • No mobile phone	• Sometimes gone without enough food • Sometimes gone without water • Sell products for income • Sometimes gone without medical care • Use surface water sources • More than 6 hh members • Sometimes gone without fuel • Bank is far • Often gone without enough food • Cook with wood

Table 4.6: Distribution of supervised clusters across access strands

Cluster	Overall	1	2	3	4
Actual % of sample	100.0	19.9	7.5	35.0	37.5
Predicted % of sample	100.0	20.7	18.4	29.8	31.2
Formal	19.9	69.7	14.9	6.3	3.0
Semi-formal	7.5	0.0	40.8	0.0	0.0
Informal	35.0	13.4	26.5	76.2	15.2
Excluded	37.5	16.9	17.8	17.5	81.8

also be identified relatively clearly and unsurprisingly have characteristics we would associate with the deepest poverty – living in a traditional or temporary dwelling, having no education; income sources of domestic or farm employment or dependence on pensions/transfers, being in the youngest age group. There is a clear gradation of segments across regions which is in the main consistent across all the exercises as follows: Nairobi; Central; Nyanza; Eastern; Western; Rift Valley; Coast; North Eastern.

However, the 60% of the Kenyan population in the middle of the distribution are quite difficult to segment very clearly - there are few features of this data set which strongly characterise them. While we have highlighted certain characteristics that occur more often than the average for the sample, these are rarely occurring more than twice as often as in the underlying population so illustrate tendencies rather than strongly defined market segments.

This may also be because we lack good information on income poverty levels and are using poverty proxies in the form of assets, whereas access may be more directly related to income poverty levels. However it may also be because the factors that affect access are multiple (as was seen in the last section) and interact in complex ways so making it difficult to identify specific drivers or groups of drivers.

Chapter 5

INFORMAL GROUPS

The report explores the characteristics of informal groups and their use using data from general questions and from a detailed section of the survey questionnaire.

5.1 Membership

39% (1647) of the overall sample reported belonging to at least one informal group. Of these 30.7% had only one group, 6.4% reported having two groups and 2% reported having 3 groups. ROSCAs are the most used type of group (27.1%[7]); welfare/clan groups (WCGs) are used by 9%; individual ASCAs by 4.9%; investment clubs by 3% and managed ASCAs by 1.1%.

Exploring the socio-economic characteristics of those using groups, ROSCAs are more used by rural than urban people; women than men; the 35-44 year old age group and those with primary education. WCGs are more used by rural than urban and by older than younger people but no difference was found by gender or education.

ASCAs are more used by rural than urban people and by the 35-44 year old age group compared to others, again no significant differences in use were found by gender or education.

The proportion using managed ASCAs was so low that the differences in use by socio-economic characteristic were not significant.

5.2 Contributions

The median average[8] contribution is highest in managed ASCAs[9] (Kshs 459) followed by independent ASCAs (Kshs 277); investment clubs (Kshs197), followed by ROSCAs (Kshs 149) and WCGs (Kshs100). ROSCA mean average contributions were significantly higher for men (Kshs 683) compared to women (Kshs 411).

However data on the frequency of contributions was not available, it is possible therefore that ROSCA contributions may be made more frequently (as these often meet weekly or even daily in some contexts) compared to investment clubs and WCGs, so it is likely that the amounts actually saved in ROSCAs are in fact much higher overall.

Aggregating group contributions to the whole population suggests that ROSCAs are mobilising some Kshs 690m (US$10.3m), followed by independent ASCAs mobilising Kshs 229m (US$ 3.4m); WCGs (Kshs 158m; US$ 2.4m) and investment clubs (Kshs 102m or US$ 1.5m); managed ASCAs mobilise Kshs 76m (US$ 1.1m). This suggests a total volume of some Kshs 1.2bn (US$18.8m) being intermediated through these mechanisms.

Although we do not know the frequency of these contributions, it is not unreasonable to suggest that the average frequency of these groups is monthly - some will be more frequent – many ROSCAs meet weekly, while WCGs may meet as infrequently as 6 monthly or annually.

5.3 Reasons for belonging to informal groups

The findings demonstrate that key reasons for belonging to them extend beyond the key financial features of getting lump sums from ROSCAs and ASCAS to the fact that they enable people to obtain funds in emergencies and also provide friends and social networks (including for business). The ways in which the groups provide for emergencies are not fully detailed, though for ASCAs can obviously operate straightforwardly through the quick provision of loans.

Research elsewhere indicates that ROSCAs are able to respond to emergencies through a range of ways: people swapping turns in ROSCAs in order to get money when they need it either with agreement from the whole group or just between individuals; social welfare funds that the group also contribute to for such cases; and spontaneous contributions from members in response to crises. It is this flexibility to respond to emergencies that is therefore highly important.

5.4 Main experiences in groups

Because groups serve many who have little money to save, people often pull out of them or do not pay their contributions and these were the most common experiences of groups cited by 40% and 35% of those reporting membership. However, what this data set does not fully capture is how this affects the operation of the group. Previous research undertaken by the Decentralised Financial Services project shows that the delays people experience in receiving their ROSCA payouts or loans are not regarded as losing money but simply as others delaying payment.

People often recognize the problems others face in paying - and indeed this data demonstrates that not having enough money to save was the most frequently cited reason people are no longer using them or stopped using them. This is perhaps also mirrored by a concern about losing property or assets in the groups as it at the same time implies a concern about one's ability to repay the money taken.

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[7]   This figure is slightly lower than the 29.3% reported above and is either due to non-responses to this more detailed section of the questionnaire or mis-classification of groups in the earlier section where welfare/clan groups and investment clubs were not included and may in some cases have been classified as ROSCAs.

[8]   The median average (i.e. the contribution at the 50th percentile) is used instead of the mean as the mean tends to be skewed by small numbers of very high contributions.

[9]   These are ASCAs which have an external organization that assists the group to manage its operations for which the organization takes a fee.

5.5 Losing money in groups

The questions in the data set tend to see losses as arising from money being taken, stolen or lost through fraud. Among those reporting they had lost money in groups (6% of total sample) approximately two-thirds indicated that they had lost it through theft or fraud.

While these losses clearly occur with some frequency, they are not the most frequently cited experiences in groups which are people pulling out or not paying contributions as already mentioned (approximately 16% of total sample).

However, losses rate second most highly among reasons why people stopped using them. This suggests that while many do experience and fear losses through using these groups, there is also a high tolerance for non-payment of contributions that result in delays in others getting their money, but the key issue is that this does not mean that people do not trust each other or withdraw from the groups. Rather it underlines the inter-dependence of people in the group in seeking to create a financial mechanism that can cater to their needs when few other options are available.

5.6 Internal organisation of informal groups

The most important features of organisation for all informal groups are: first, holding meetings on a regular basis; second, electing officials; third, having a constitution; and fourth having a certificate of registration and keeping account records.

Overall investment clubs are the most well organised if the least used, and this is perhaps not surprising as the data shows that the are more likely to be used by men and older people and they deal with larger amounts of money (investment groups had the highest mean contributions although not the highest median contributions).

On the other hand ROSCAs are by far the most numerous type of group, but this data shows that they tend to be the least well organised. Moreover, it is clear that although they appear to have more organised features in the rural areas, they are also likely to be more organised where used by men than women although women are more likely to use them.

This may reflect lower literacy and education levels among women but it may also reflect the fact that men contribute larger amounts to them and are less likely to trust each other and hence more likely to seek more formalised arrangements. ASCAs and Investment clubs on the other hand demonstrate greater sophistication in urban rather than rural areas, but these features are more likely to occur in groups to which men rather than women belong.

Given the prevalence of these groups and the volume of funds being intermediated through them, there is clear scope for improvements in their organisation, which may assist in enabling them to function better. Enabling groups to better manage and govern themselves, in particular to monitor and enforce payment which both reduces losses and delays would improve their ability to intermediate funds.

However, in order to serve their member's needs effectively their ability to respond to emergencies is critical to their usefulness and hence improvements in their organisation mean that it is necessary to retain this flexibility and responsiveness while making operations more systematic and transparent.

Chapter 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 Kenya. 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 clearly demonstrated the importance of the informal financial service sector in the form of ROSCAs and ASCAs in overall access to financial services in Kenya. It is the single largest sector through which inclusion takes place (35%) and the analysis clearly demonstrates how its use improves access in some regions of the country compared to others, and especially for women.

The importance of these group-based informal systems has long been known in Kenya but data has not previously been available to clearly demonstrate the extent of their use. The strengths and weaknesses of these systems have also been well-researched and are again evidenced in this survey.

First, women tend to use them more than men. 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. Second, this gender bias also reflects patterns of demand by gender.

Since men often require larger lump-sums of credit than these can provide and may also need these amounts at the same time as other men in the group 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 means that not all the members of the group can meet their needs through such mechanisms. This characteristic of demand is often different for women who may require small lump sums on a periodic basis but not all at the same time.

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 of credit in response to their needs, and the evidence here and elsewhere further confirms the importance of being able to access funds when they are needed – especially in response to emergencies.

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. The fact that over half of those who use formal sector services also use informal groups demonstrates that they clearly have added-value even to those who have formal access.

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. It is generally found that groups that are exclusively male often perform poorly, whereas women are more able to manage these dynamics.

It is important to consider therefore what the implications for policy in seeking to extend and improve access to financial services are. First, given their importance in overall access and the evidence that while mobilising large amounts of money, ROSCAs are the least well organised, it is appropriate to consider how their services might be improved. Experience has shown that injecting funds into informal groups rarely leads to their expansion and growth.

Rather it is usually seen by members as a one-off injection of funds that does not need to be repaid, and rarely revolves around the group or is sustained as a long-term resource. Indeed, the experience of microfinance institutions themselves with these groups was poor and it is partly because of this that stricter group methodologies were developed by them along with strong management systems to ensure repayment through persistent follow up.

Alternative approaches involve working to develop the capacity of the groups to manage their own operations independently and more effectively based on their own savings pool. Projects such as the Decentralised Financial Services Project have been developing participatory tools to work with groups to achieve this. Moreover, approaches such as the Village Savings and Credit Associations[10] devise a very simple model based on member's own savings which can be easily replicated and demonstrates strong evidence of sustainability[11].

Research is being undertaken into the success of these approaches in improving the viability of groups and means to provide ongoing training and support to groutps that is also done on a fee for service basis that can enable ongoing commercial provision of the service. Policy should therefore consider how to further expand or support the development of these approaches.

6.2 The role of the semi-formal sector

The analysis also demonstrated the importance of the semi-formal sector comprised of SACCOs and MFIs in improving access. However, it is mainly SACCOs that produced this effect as their overall coverage is 12% while MFI coverage is still low (1.8%).

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[10] These were initiated by CARE in Mali in the MMD programme and are variously known as Village Savings and Loan Associations (VSLAs), SLAs, Savings and Credit Associations (SCAs).

[11] See "Village Savings and Loan Associations: experience from Zanzibar" Ezra Anyango, Ezekiel Esipisu, Susan Johnson, Markku Malkamaki, Chris Musoke and Lydia Opoku, Small Enterprise Development Journal, 2007, March. Volume 18, No 1.

The contribution to inclusion is particularly clear in provinces where rural SACCOs based on cash-crop production have long been present, in particular Central Province where 25% use them, but also Eastern, Nyanza and Rift Valley (where 11-12% use them).

While people in rural areas are more likely to use SACCOs than those in urban areas, MFIs have not clearly succeeded in overcoming the barriers to rural outreach. However, MFIs have succeeded in overcoming the bias of banks and SACCOs towards men as women are significantly more likely to use them. For this reason alone there is a case for continuing the expansion of MFI provision as a means of overcoming the gender barrier to inclusion.

However, since the SACCOs are a significant player, policy should also therefore consider how best to support the sector in extending its service delivery. This includes capacity building of systems to deliver services more efficiently and at lower cost, and to find methodologies to reach further into rural areas and to support a wider range of agriculturally-based livelihoods. Finding means of their working with informal groups is also an option which would overcome gender barriers, but also requires innovation regarding the nature of services to be offered. The DFS Project, IFAD, CIDR and others are also experimenting to identify and develop such approaches. Issues of product design are discussed further below.

6.3 The role of the formal sector

Policy has generally emphasised the importance of the formal sector in extending access. This evidence underlines the huge challenge that it faces. The analysis demonstrates that it is not easy even 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 must be an important factor in any discussion of extending access. Finding ways to lower transactions costs of delivery and provide cheaper products will inevitably be important.

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 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 services could most easily be extended.

6.4 Tackling underlying barriers to access

The analysis has demonstrated key barriers that need to be addressed in the form of socio-demographic factors of age, education and gender.

First, the findings demonstrate that age is a key factor and the youngest age groups are the most excluded. While this is in part due to life-cycle effects as young people may be at different stages of financial and economic independence, it raises the question of what can be done to improve young people's understanding of services and hence the transition they make into willingness and ability to use them.

Second, 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 both numeracy skills and general life skills development. So introducing children at a young age to the design of different savings and loan products in banks, SACCOs and other insituttions, 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 significant proportion of the adult population for whom education will still be a barrier — 18% of the sample had 'no' education and 26% had only 'some primary'. This suggests a critical need to find simple and accessible ways to communicate information about services offered by a range of providers.

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 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 or semi-formal services than men. While MFIs do reverse this pattern, their overall coverage is extremely low. On the other hand, women are significantly more likely to be included via the informal groups sector. Significant efforts therefore still need to be made to improve women's access to banks and SACCOs in particular. 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/SACCO 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.

On the other hand, men are much less likely to use informal groups and this is a constraint to their access. In strengthening informal groups through methodologies that make them more transparent and easier to operate, this is also likely to have the effect of making them more useful to men, as they will be prepared to work together to mediate larger volumes of funds. While this may not fully address the seasonality of much demand for finance, especially in rural areas, it can assist in closing the gap of provision.

Finally, while overall access is low, the findings demonstrated a clear pattern of relative access across provinces, as follows: Nairobi; Central; Nyanza; Eastern; Western; Rift Valley; Coast; North Eastern. This was predominantly a result of different patterns of use of semi-formal and informal service use across provinces rather than differences in use of formal services.

This suggests that policy towards extending use - particularly for these two sectors - will need to take account of the particular characteristics of existing semi-formal and informal provision and consider how they can best be developed.

6.5 Lessons for future FinAccess surveys

In undertaking this analysis we have learned about the strengths and weaknesses of the survey instrument used in 2006 and offer the following suggestions for future surveys. First, the survey lacks an income, consumption or expenditure measure. While the difficulties of these estimates are well understood, even a relatively crude measure might help the analysis considerably. Currently it is likely that the effects of income are being picked up in other categorical variables (such as main income source or gender).

It has not therefore been possible to understand how the amounts of funds that people might be handling help determine their inclusion and choice of service use. The Uganda survey has used an extremely crude income variable and we will be assessing what effect this has on the analysis, this will be instructive for the Kenya survey.

Second, where possible indicators which seek subjective judgements should be replaced by more objective indicators. So whether or not someone has "enough food to eat" rarely, often etc can be replaced with alternative indicators such as meal frequencies or types of food eaten.

It is important that as far as possible such indicators that are chosen are compatible with other poverty proxies in use in Kenyan Statistical Surveys.

This is similarly the case with distances from trading centres or banks – it would be better to have estimates of distance, time taken, or cost of travel than subjective assessments of near, very near, far, not so far, since in a country with the geographical characteristics of Kenya these mean very different things in different parts of the country. Third, the frequency with which contributions were made to groups was missed out of the current survey and should be added in future surveys.

Finally, this analysis by no means utilises all the data available in the survey, and much further analysis can be undertaken to explore some of the issues raised here. For example, material on psychographics can be used to explore attitudes to formal financial services and further investigate the validity of the above proposals regarding financial literacy and simple product design.

Annex

METHODOLOGY

This study used the Financial Access Survey (FAS) undertaken by the Steadman Group in 2006. The FAS comprises a nationally representative sample of 4418 observations of which 4214 were used in the analysis which represents those respondents aged 18+ years old. The study used the SPSS data file provided by the Steadman Group, Kenya.

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 Kenya.

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[12].

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.

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[12] The logistic regression model was defined as follows:

$$\log \hat{Z}_i = \log \frac{\Pr ob(servicesuse)}{1 - \Pr ob(servicesuse)} = \beta_1 + \beta_2 X_2 + \ldots + \beta_j X_j$$

where X2,…, Xj represent the socio-economic characteristics of financial services users and Prob (service use) represents the likelihood of an individual using a financial service.

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 Financial Access 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, except for bank savings and credit where the "location" variable was replaced by the "proximity" variable.

The same sample size was used in all regression models (i.e. 4214 observations). Nevertheless, for some 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.

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