

THE SEARCH FOR INCLUSION IN KENYA'S FINANCIAL LANDSCAPE

ANNEX 2: DEMAND-SIDE SURVEY

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THE SEARCH FOR INCLUSION IN KENYA'S FINANCIAL LANDSCAPE : THE RIFT REVEALED

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The Kenya Financial Sector Deepening (FSD) programme was established in early 2005 to support the development of financial markets in Kenya as a means to stimulate wealth creation and reduce poverty. Working in partnership with the financial services industry, the programme's goal is to expand access to financial services among lower income households and smaller enterprises. It operates as an independent trust under the supervision of professional trustees, KPMG Kenya, with policy guidance from a Programme Investment Committee (PIC). In addition to the Government of Kenya, funders include the UK's Department for International Development (DFID), the World Bank, the Swedish International Development Agency (SIDA), Agence Française de Développement (AFD) and the Bill and Melinda Gates Foundation.



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INTRODUCTION

This annex reports more detailed findings from the demand side survey than are contained in the main report. First, the methodology of the survey is explained before proceeding to two further sections. The second section, reports more detailed descriptive data on a service by service basis. It aims to ensure

that detailed findings are available which are only summarised in the main report. The third section reports the findings of the multivariate analysis which were summarised in narrative form in the main report.

Chapter 1

METHODOLOGY

1.1 RESEARCH SITES

The research sites were chosen to represent districts in each tercile of the poverty ranking of districts in Kenya according to the report “Wellbeing in Kenya” (GOK, 2005). They were Karatina in Nyeri District, Central Province (top tercile); Nyamira in Nyanza Province (middle tercile) and Kitui in Eastern Province (bottom tercile). Additional reasons for their choice were (i) that a similar study had been carried out in Karatina in 1999 and 2004; (ii) that FSD had particular interests in the financial markets of Nyamira and Kitui since it has funded the implementation of GSLs by CARE in Nyamira and FSAs by K-REP Fedha Services in Kitui. Located in the higher potential agro-ecological zones, Karatina and Nyamira offer insight into access and use where population densities and food security are not primary problems, while Kitui represents the semi-arid spatial frontier of delivery and a context of chronic food insecurity. The contrast between Karatina and Nyamira is additionally insightful since, despite both having tea and coffee sectors, patterns of access clearly differ between them and the contrast helps to shed light on the factors that encourage access and use.

At each research site, the survey was undertaken in three sub-areas. The three sub-areas consisted of: (i) residential neighbourhoods of the town itself; (ii) a sub-location with relatively easy access to the town and (iii) a sub-location that was further away and more difficult to get to. This selection was intended to ensure that areas with different ease of access to financial institutions in towns were covered with intended distances of 10-15km and 20-25km. Where these sub-locations had large populations, it was then necessary to again select sub-areas. This was done to ensure representation of socio-economic status by using local key informants to inform us of key wealth differences and then purposeful selection of sub-areas to ensure appropriate representation. The choice of sub-locations in Karatina followed an earlier study and because of this the nearer sub-location was more or less adjacent to the town. In Karatina and Nyamira district, additional considerations were taken into account such

as ensuring that respondents were likely to use the town identified rather than other towns for accessing services. Hence the farthest distance from these two towns within the catchment of the towns was approximately 20km.

1.2 SAMPLING

In the out of town sites, household sampling was undertaken from village lists provided by local administration officials. A random sample was drawn using interval sampling from the lists provided. A sample of 20 households was targeted though in a couple of locations this was exceeded and the data has been used. In the towns it is rare that administration officials have such lists, but they existed in Nyamira. Hence in these latter sites, the buildings were numbered in the sub-areas and a sampling interval used to select the building. Within each building which was usually a compound in itself containing a number of rooms or houses, a numbering strategy was used to identify a particular house to visit. Where there was repeated failure to make contact, the house was substituted with a neighbour.

Both husbands and wives in the same household were interviewed as far as possible, and additional interviews were carried out with young people (under 30)¹ who were income earning in order to explore their routes to access and use of financial services. This resulted in 337 respondents in 194 households.

1.3 SURVEY INSTRUMENT

The instrument gathered household data on age, sex, education, and main economic activities of members. It proceeded to business and agricultural activities, housing, assets, social networks, livelihood shocks and good fortunes. The second main area concerned intra-household discussion of financial arrangements and data on expenditure responsibilities. The final sections reported the details of financial service use. These latter sections used many questions from the FinAccess surveys in order to ensure comparability, while adding data on usage.

Table 1: Research sub-areas

| | Karatina Town, Mathira District | Nyamira Town, Nyamira District | Kitui Town, Kitui District |
|-------------------|---------------------------------|---------------------------------|----------------------------|
| Town sub-areas | Town | Town | Town |
| Near sub-location | Gatundu – 3-5km | Bokurati II - Ekerenyo District | Kalatine – 17km |
| Far sub-location | Chehe – 17km | Bombabacho/Bokiambori 17km | Mosa – 25km |

¹ The total sample under 30 was 90 since some of the main household respondents were under 30.

Table 2: Sample characteristics

| | | Financial landscapes | | FinAccess 2009 |
|---------------------------|---|----------------------|----|----------------|
| | | N | % | % |
| | n=337 | | | |
| Sex | Male | 148 | 44 | 48 |
| | Female | 189 | 56 | 53 |
| Age (mean years): | | 42 | | |
| Marital status | Married | 258 | 77 | 59 |
| | Single | 41 | 12 | 28 |
| | Separated/Div | 14 | 4 | 4 |
| | Widowed | 24 | 7 | 9 |
| Education | None | 34 | 10 | 14 |
| | Primary | 177 | 53 | 49 |
| | Secondary | 86 | 26 | 30 |
| | More than secondary | 39 | 12 | 7 |
| Location | Karatina | 109 | 32 | n/a |
| | Nyamira | 115 | 34 | n/a |
| | Kitui | 113 | 34 | n/a |
| Poverty | <\$1.25 p.d | 72 | 20 | n/a |
| | \$1.25-2.50 | 130 | 36 | n/a |
| | >\$2.50 p.d | 131 | 44 | n/a |
| Main income source | Pensions/transfers | 36 | 11 | 21 |
| | Own agriculture, fishing, livestock | 118 | 35 | 35 |
| | Employed on farms, domestic chores or casual labour | 71 | 21 | 11 |
| | Employed in government | 12 | 4 | 2 |
| | Employed in private sector | 23 | 7 | 9 |
| | Own business | 66 | 20 | 20 |
| | Other | 10 | 3 | 1 |
| Assets | | | | |
| | Radio | 266 | 79 | 82 |
| | Sofaset | 193 | 57 | 43 |
| | Bicycle | 109 | 32 | 32 |
| | Colour TV | 77 | 23 | 18 |

Source: Own data and FinAccess 2009 dataset.

NB. FinAccess data is weighted to be representative of the national adult population

Table 3: Survey sample by area and household type

| | Karatina | | Nyamira | | Kitui | | Overall | |
|-------------------------------|-----------|--------------|-----------|--------------|----------|--------------|-----------|--------------|
| | Total hhs | Total indivs | Total hhs | Total indivs | Total hh | Total indivs | Total hhs | Total indivs |
| Married hhs | 33 | 66 | 49 | 98 | 34 | 68 | 116 | 232 |
| Married hh incomplete | 11 | 11 | 1 | 1 | 10 | 10 | 22 | 22 |
| FHHH single | 11 | 11 | 11 | 11 | 17 | 17 | 39 | 39 |
| FHHH with other | 3 | 6 | 0 | 0 | 3 | 6 | 6 | 12 |
| MHHHs single | 2 | 2 | 1 | 1 | 5 | 5 | 8 | 8 |
| MHHH with other | 3 | 6 | 0 | 0 | 0 | 0 | 3 | 6 |
| Other person in hh | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Total HHS | 63 | | 62 | | 69 | | 194 | |
| Total indivs | | 102 | | 111 | | 107 | | 320 |
| Additional young people (<30) | | 7 | | 4 | | 6 | | 17 |
| Total sample | | 109 | | 115 | | 113 | | 337 |

Poverty estimates

This study has used the USAID Poverty Assessment Tool for Kenya to predict the income levels of our sample. The PAT indicators for Kenya were incorporated into the survey tool and the regression equation² that the tool uses to predict poverty status at the \$1.25 per day poverty line used. In this case we used it in two ways. It was used both to provide an estimate of income which was incorporated in the multi-variate analysis and also to create poverty categories relative to the \$1.25 per day poverty line. The \$1.25 per person per day poverty line in 2005 was equivalent to KShs 1,323 per month in 2005 purchasing power terms. The \$2.50 per day PL was therefore taken as double this.

² The equation used is in Table 3, page 5 of the document Poverty Assessment Tool Accuracy Submission for the USAID/IRIS Tool for Kenya. July 20, 2010 Available at www.povertytools.org. While there is also an equation for estimating relative to the \$2.50 per day line, the equation for \$1.25 was used and then incomes over double this were estimated. This will lose some accuracy relative to the \$2.50 line

Sample overview

The key descriptive statistics for the sample are provided in Table 2. This establishes the strong rural and indeed agricultural dependence of the sample with 35% dependent on own agriculture, while 21% are employed in agriculture, casual labour or on domestic chores. The casual labour work was largely also agricultural hence some 50% of the sample are dependent on agriculture. Meanwhile some 20% are in own business and 11% in employment in the government or private sectors.

Table 4: Access profile by service and socio-economic characteristics

| | N | Bank | SACCO | MFI | With a person | Secret hiding place | Any group | Financial group | Welfare only group | Welfare Function | ROSCA Function | ASCA Function | Savings Function | Investment function | Money transfer |
|--|-------|-------------|-------------|------------|---------------|---------------------|-------------|-----------------|--------------------|------------------|----------------|---------------|------------------|---------------------|----------------|
| Overall | N=337 | 120 | 77 | 15 | 10 | 39 | 246 | 171 | 74 | 177 | 128 | 92 | 11 | 11 | 205 |
| Sex | | 35.6 | 22.8 | 4.5 | 3.0 | 11.6 | 73.0 | 50.7 | 22.0 | 52.5 | 38.0 | 27.3 | 3.3 | 3.3 | 60.8 |
| Male | 148 | 43.9 | 33.1 | 0.7 | 4.1 | 9.5 | 67.6 | 33.1 | 34.5 | 53.4 | 20.9 | 17.6 | 4.1 | 4.7 | 72.3 |
| Female | 189 | 29.1 | 14.8 | 7.4 | 2.1 | 13.2 | 77.8 | 64.6 | 12.2 | 51.9 | 51.3 | 34.9 | 2.6 | 2.1 | 51.9 |
| Age (mean) | 42.0 | 39.8 | 51.2 | 27.6 | 34.5 | 40.1 | 41.8 | 39.0 | 48.0 | 43.2 | 39.4 | 39.3 | 41.0 | 40.2 | 40.8 |
| Marital status | | | | | | | | | | | | | | | |
| Married | 258 | 35.3 | 24.8 | 3.9 | 2.7 | 9.7 | 76.4 | 53.9 | 22.5 | 55.8 | 39.5 | 30.2 | 3.5 | 3.5 | 59.3 |
| Single | 41 | 39 | 9.8 | 7.3 | 7.3 | 14.6 | 58.5 | 41.5 | 12.2 | 26.8 | 34.1 | 9.8 | 4.9 | 2.4 | 70.7 |
| Separated/Div | 14 | 21.4 | 21.4 | 0 | 0 | 28.6 | 64.3 | 35.7 | 28.6 | 42.9 | 35.7 | 14.3 | 0 | 7.1 | 64.3 |
| Widowed | 24 | 41.7 | 25.0 | 8.3 | 0 | 16.7 | 70.8 | 41.7 | 29.2 | 66.7 | 20.8 | 33.3 | 0 | 0 | 58.3 |
| Education | | | | | | | | | | | | | | | |
| None | 34 | 5.9 | 14.7 | 2.9 | 5.9 | 17.6 | 67.6 | 35.3 | 32.4 | 55.9 | 29.4 | 23.5 | 0 | 0 | 17.6 |
| Primary | 177 | 20.3 | 23.7 | 4.0 | 3.4 | 11.9 | 74.6 | 50.8 | 23.2 | 57.1 | 39.0 | 29.4 | 1.7 | 2.8 | 53.7 |
| 2y | 86 | 61.6 | 22.1 | 5.8 | 1.2 | 12.8 | 69.8 | 55.8 | 12.8 | 38.4 | 37.2 | 24.4 | 7.0 | 3.5 | 77.9 |
| 2y+ | 39 | 71.8 | 28.2 | 5.1 | 2.6 | 2.6 | 79.5 | 51.3 | 28.2 | 61.5 | 35.9 | 25.6 | 5.1 | 7.7 | 92.3 |
| Location | | | | | | | | | | | | | | | |
| Karatina | 109 | 53.2 | 46.8 | 7.3 | 2.8 | 7.3 | 71.6 | 50.5 | 20.2 | 56.0 | 42.2 | 14.7 | 5.5 | 7.3 | 72.5 |
| Nyamira | 115 | 33.0 | 20.9 | 2.6 | 1.7 | 13.9 | 73.0 | 53.9 | 18.3 | 40.9 | 41.7 | 29.6 | 2.6 | 1.7 | 49.6 |
| Kitui | 113 | 21.2 | 1.8 | 3.5 | 4.4 | 13.3 | 75.2 | 47.8 | 27.4 | 61.1 | 28.3 | 37.2 | 1.8 | 0.9 | 61.1 |
| Poverty | | | | | | | | | | | | | | | |
| <\$1.25 p.d | 72 | 8.3 | 11.1 | 1.4 | 4.2 | 15.3 | 76.4 | 38.9 | 34.7 | 56.9 | 25.0 | 23.6 | 1.4 | 0 | 37.5 |
| \$1.25-2.50 | 130 | 29.2 | 20.0 | 2.3 | 1.5 | 12.3 | 71.5 | 56.2 | 16.2 | 48.5 | 41.5 | 33.8 | 1.5 | 2.3 | 55.4 |
| >\$2.50 p.d | 131 | 56.5 | 33.6 | 7.6 | 3.8 | 9.2 | 74.0 | 51.9 | 21.4 | 54.2 | 41.2 | 22.9 | 6.1 | 6.1 | 79.4 |
| Main income source: | | | | | | | | | | | | | | | |
| Pensions/transfers | 36 | 16.7 | 19.4 | 5.6 | 11.1 | 11.1 | 72.2 | 50.0 | 22.2 | 58.3 | 41.7 | 30.6 | 2.8 | 2.8 | 38.9 |
| Own agriculture, fishing, livestock | 118 | 34.7 | 33.9 | 3.4 | 14.4 | 14.4 | 72.9 | 53.4 | 18.6 | 50.8 | 40.7 | 30.5 | 2.5 | 4.2 | 55.9 |
| Employed on farms, domestic chores and casual labour | 71 | 12.7 | 8.5 | 0 | 16.9 | 18.3 | 71.8 | 47.9 | 23.9 | 52.1 | 35.2 | 25.4 | 2.8 | 4.2 | 42.3 |
| Employed in government | 12 | 83.3 | 83.3 | 0 | 0 | 0 | 83.3 | 41.7 | 41.7 | 75.0 | 33.3 | 16.7 | 0 | 8.3 | 91.7 |
| Employed in private sector | 23 | 56.5 | 13 | 4.3 | 4.3 | 4.3 | 65.2 | 56.5 | 8.7 | 30.4 | 39.1 | 21.7 | 8.7 | 0 | 91.3 |
| Own business | 66 | 53.0 | 16.7 | 10.6 | 4.5 | 3.0 | 77.3 | 50.0 | 25.8 | 57.6 | 37.9 | 25.8 | 4.5 | 1.5 | 83.3 |
| Other | 10 | 50.0 | 20.0 | 0 | 20.0 | 20.0 | 70.0 | 40.0 | 30.0 | 50.0 | 10.0 | 30.0 | 0 | 0 | 70.0 |

Chapter 2

SERVICE LEVEL ANALYSIS

2.1 OVERVIEW

Table 4 shows the access profile by service and socio-economic characteristics. Where the number using the service is small – below 10 – breakdowns have not been given. These data are referred to in the service level discussions.

Since many groups have multiple functions the data on groups is organised as

follows. The proportion who have any group with either or both of a financial or welfare function is given. Then those which have financial and welfare functions are given and those with only a welfare function. Then the particular functions of ROSCAs and ASCAs. Hence the proportions with financial groups (50.7%) and welfare only groups (22%) add up to the proportion with a group of (73%).

Table 5: Acces to loans – loans currently outstanding

| | N | Bank | SACCO | ASCA | From a person | Shop-keeper | MFI | Other | Employer | Money-lender |
|--|-------|------|-------|------|---------------|-------------|-----|-------|----------|--------------|
| | N=337 | 13 | 24 | 47 | 17 | 31 | 7 | 4 | 2 | 1 |
| % | | 3.9 | 7.1 | 13.9 | 5.0 | 9.2 | 2.0 | 1.2 | 0.6 | 0.3 |
| Sex | | | | | | | | | | |
| Male | 148 | 4.7 | 10.1 | 8.1 | 6.8 | 12.8 | | | | |
| Female | 189 | 3.2 | 4.8 | 18.5 | 3.7 | 6.3 | | | | |
| Age (mean) | 42.0 | 43.3 | 52.0 | 37.5 | 38.8 | 48.1 | | | | |
| Marital status | | | | | | | | | | |
| Married | 258 | 3.5 | 7.8 | 16.3 | 4.7 | 9.7 | | | | |
| Single | 41 | 4.9 | 4.9 | 4.9 | 4.9 | 7.3 | | | | |
| Div | 14 | 0 | 7.1 | 0 | 14.3 | 14.3 | | | | |
| Widowed | 24 | 8.3 | 4.2 | 12.5 | 4.2 | 4.2 | | | | |
| Education | | | | | | | | | | |
| None | 34 | 0 | 2.9 | 20.6 | 2.9 | 8.8 | | | | |
| Primary | 177 | 2.3 | 5.6 | 14.1 | 5.1 | 7.9 | | | | |
| 2y | 86 | 5.8 | 7.0 | 14.0 | 5.8 | 11.6 | | | | |
| 2y+ | 39 | 7.7 | 17.9 | 7.7 | 5.1 | 10.3 | | | | |
| Location | | | | | | | | | | |
| Karatina | 109 | 6.4 | 16.5 | 4.6 | 1.8 | 7.3 | | | | |
| Nyamira | 115 | 2.6 | 3.5 | 16.5 | 4.3 | 7.8 | | | | |
| Kitui | 113 | 2.7 | 1.8 | 20.4 | 8.8 | 12.4 | | | | |
| Poverty | | | | | | | | | | |
| <\$1.25 | | 0 | 1.4 | 12.5 | 5.6 | 16.7 | | | | |
| \$1.25-\$2.5 | | 2.3 | 5.4 | 20.8 | 7.7 | 6.9 | | | | |
| >\$2.5 | | 7.6 | 11.5 | 8.4 | 2.3 | 7.6 | | | | |
| Main income source: | | | | | | | | | | |
| Pensions/transfers | 36 | 0 | 2.8 | 16.7 | 5.6 | 8.3 | | | | |
| Own agriculture, fishing, livestock | 118 | 1.7 | 8.5 | 19.5 | 0.8 | 8.5 | | | | |
| Employed on farms, domestic chores and casual labour | 71 | 0 | 4.2 | 9.9 | 9.9 | 9.9 | | | | |
| Employed in government | 12 | 8.3 | 66.7 | 0 | 0 | 0 | | | | |
| Employed in private sector | 23 | 13 | 0 | 4.3 | 8.7 | 13 | | | | |
| Own business | 66 | 7.6 | 3.0 | 12.1 | 4.5 | 7.6 | | | | |
| Other | 10 | 10 | 0 | 20.0 | 20.0 | 30.0 | | | | |

2.2 BANKS

2.2.1 Bank access

120 or 35.6% of the total sample held a bank account, but this differed considerably between locations with over a half of respondents in Karatina but only 21% in Kitui. A higher proportion of men than women, those educated to secondary level and above compared to those with primary and below. Table 5 shows the higher proportion held by those living in town sites.

97 (28.8%) had only one bank account while 23 (6.8%) had more than one; 18 had two; 4 had three and one had four – the latter being a business man in Kitui. The mean number across the population is 0.44 but among those who hold them the mean number of bank accounts per person is 1.24.

The majority used the banks in their nearest town. For those with only one

account, 10 used banks other than the town and for those with more than one account this number fell to 1 – indicating that the majority of those who had more than one account were in fact using them locally.

Travel to the bank was predominantly by public transport (43%) or walking (41%). Where people had more than one account a number (16) reported travelling to the second bank with their second highest balance in their own vehicle. Only a few (<10) used their own bicycle or motorcycle.

The high maximum distance travelled to second accounts is likely due to re-creating a bank account in another location when someone has moved away. What is evident from this is that only those who are very close to banks tend to hold more than two accounts. For the second accounts the mean has risen but the median has fallen, probably a result of the outlier at 360 other than which the highest is 60 minutes.

Table 6: Bank account access in relation to site location

| | Karatina (n=109) | Nyamira (n=115) | Kitui (n=113) | Overall (n=337) |
|------------------------------|------------------|-----------------|---------------|-----------------|
| Site 1 (near) (n=117) | 19 (50%) | 13 (33%) | 4 (10%) | 36 (31%) |
| Site 2 (far) (n=116) | 18 (40%) | 8 (22%) | 2 (6%) | 28 (24%) |
| Site 3 - Town (n=104) | 21 (81%) | 17 (43%) | 18 (47%) | 56 (54%) |
| Total | 58 (53%) | 38 (33%) | 24 (21%) | 120 (36%) |

Table 7: Travel time in minutes to bank.

| Minutes | First or only bank account (n=113) | Second bank account (n=23) | Third bank account (n=5) | Fourth bank account (n=1) |
|---------------|------------------------------------|----------------------------|--------------------------|---------------------------|
| Mean | 23 | 27 | 4 | 5 |
| Median | 15 | 10 | 5 | 5 |
| Min | 0 | 0 | 0 | 5 |
| Max | 120 | 360 | 10 | 5 |

NB: Accounts are designated first, second, third based on the highest balance

Table 8: Travel cost to access bank accounts

| KShs | First or only bank account (n=60) | Second bank account (n=5) | First or only bank account (n=60) | | |
|---------------------|-----------------------------------|---------------------------|-----------------------------------|----------------|-------------|
| | | | Karatina (n=32) | Nyamira (n=24) | Kitui (n=4) |
| Mean: | 108 | 218 | 108 | 92 | 200 |
| Min | 20 | 50 | 20 | 20 | 100 |
| Max | 800 | 600 | 800 | 240 | 300 |
| Quartiles: | | | | | |
| 25% | 40 | 85 | 40 | 40 | 100 |
| 50% (median) | 100 | 120 | 100 | 80 | 200 |
| 75% | 120 | 400 | 120 | 135 | 300 |

NB: Cost if for a round trip.

For those who paid for transport the results are given in the above table. The effect of the distance is evident in Kitui and this in turn results in only 4 people reporting travel costs to bank accounts, underlining the fact that most of those using them were in fact in town.

Where people were able to report a date of opening (111), the earliest dated back to 1984 in Karatina, 2000 in Nyamira and 1997 in Kitui. 87 or 78% had been opened since 2005, with a much higher rate of opening since 2005. While Karatina shows a more even pattern of opening up to 2005, there was a step change in numbers opening each year after this point. In Nyamira the boom year was 2007 when a number of new banks arrived in the town – with 13 out of a total of 35 being opened and another boom year in 2010 when 10 were. Prior to 2005 only three people in our sample had an open bank account in Nyamira. In Kitui only 5 reported accounts prior to 2005 and 19 have opened since them but the pattern did not reflect such a surge as in Nyamira.

The three most cited reasons for using the banks were: charges are low/reasonable; I heard good things about it from others; and it is convenient to get to with 'other' reasons cited often including "employment/salary" suggesting the requirements of employers to hold an account. Further reasons that were more frequent were "I trust them with my money", having many branches and access to loans.

2.2.2 Bank use

Respondents were asked both how often they use the account and the last time they put money in the account – this was in part to test whether there was a difference between perceptions of use and actual use.

For the 116 of those 120 with bank accounts who responded to this question³ the response was monthly and a regular monthly automatic payment at 37.9% (Table 7); this was followed by "irregularly" and more than once a year at 35.4%; the proportion reporting that they use more frequently than monthly was 25.9% with 11.2% reporting more than once a week.

Across sites, there are some interesting differences. In Karatina use is reported as primarily monthly tending to reflect both salaries and tea payments. Nyamira has the highest proportion of irregular use but Kitui town has the highest level of use more than once a month. This is likely to reflect the higher proportion of business rather than employment in the small town based sample of users.

The last time a deposit was made is reported in Table 9 – again the most recent for those with more than one account. This matches reasonably well the "how frequently" question if we compare the proportion saying they use the account monthly or more often. On the basis of the timing of the last deposit this is 66.4% compared to 63.8% reporting monthly or more frequent use in Table 9.

However, at the level of sub-categories there appears to be a tendency for people to report less frequent use compared to an analysis of the last time a deposit was made. Table 10 again shows Kitui as having more respondents who have used the account more frequently. This table also suggests that their actual use may be more frequent than they tend to think since only 21.7% report not having deposited in the last month whereas less than monthly use is 29.2% in the above table. Similarly for Nyamira where 58.4% have used it in the last month, whereas only 51.3% report this regularity of use above. For Karatina the proportion reporting having actually deposited in the last month is about the same overall but 29.7% report having deposited in the last week, where only 21.9% reported this frequency of use above.

In terms of the last withdrawal, there was a much higher proportion not sure when they last withdrew funds. However the general pattern is consistent with deposits and suggests relatively frequent withdrawals. Over 60% have withdrawn funds in the last month in Karatina and Kitui and 48% in Nyamira. Over 20% in each site were not sure or had only done this in the last year. The survey also collected data on amounts deposited and withdrawn and balances held. The amounts held in Nyamira have the lowest mean and median. And interestingly the amounts held in Kitui have a fairly high mean but a lower

Table 9: Reported frequency of putting money in a bank account

| % | Karatina | Nyamira | Kitui | Overall |
|--|----------|---------|-------|---------|
| More than once/week | 14.6 | 5.4 | 12.5 | 11.2 |
| More that once/mth | 7.3 | 13.5 | 33.3 | 14.7 |
| Monthly | 47.3 | 32.4 | 25.0 | 37.9 |
| Irregularly/more than once a year | 30.9 | 45.9 | 29.2 | 35.4 |
| other | 0 | 2.7 | 0 | 0.9 |
| | 100 | 100 | 100 | 100 |

³ For those with more than one account, the most frequent use cited for any account is analysed.

Table 10: Last time a deposit was made in a bank account

| | Karatina | Nyamira | Kitui | Overall |
|-------------------------|----------|---------|-------|---------|
| Yesterday | 13.0 | 2.8 | 8.7 | 8.8 |
| In last week | 16.7 | 13.9 | 34.8 | 19.5 |
| In last month | 37.0 | 41.7 | 34.8 | 38.1 |
| In last 6 months | 13.0 | 30.6 | 17.4 | 19.5 |
| In last year | 16.7 | 8.3 | 4.3 | 11.5 |
| Not since opened | 1.9 | 0 | 0 | 0.9 |
| Other/not sure | 1.9 | 2.8 | 0 | 1.8 |
| | 100 | 100 | 100 | 100 |

Table 11: Last time a withdrawal was made from a bank account

| | Karatina | Nyamira | Kitui | Overall |
|-----------------------------|----------|---------|-------|---------|
| In last week | 25.9 | 18.9 | 29.2 | 24.3 |
| In last month | 35.2 | 29.7 | 33.3 | 33.0 |
| In the last 6 months | 16.7 | 27.0 | 16.7 | 20.0 |
| In last year | 9.3 | 2.7 | 4.2 | 6.1 |
| Other/not sure | 13.1 | 21.6 | 16.7 | 16.6 |
| | 100 | 100 | 100 | 100 |

maximum than Karatina suggesting that account holders have higher balances and we saw above that they transact more often. This is likely to reflect a stronger profile of salaried and business people and fewer farmers than in the other two sites. Overall the difference between the mean balance and the medians is very striking and underlines the importance of considering the distribution.

For those with more than one account the highest amount deposited is analysed (regardless of how recently) and the lowest withdrawn. Again the dif-

ferences between means and medians are striking demonstrating that some half of transactions are of only a few thousand shillings. These tables show medians of deposits and withdrawals that are reasonable similar while deposit means are higher in Karatina and Kitui than withdrawals. This seems again likely to reflect the higher level of use for business and salaried in Karatina and Kitui compared to Nyamira.

The reported uses for the last withdrawal (n=106) were: day to day expenses at 17% followed by education expenses 16% and "other" at 14%. Then to pay

Table 14: Bank accounts – balances held

| | Karatina (N=50) | Nyamira (N=35) | Kitui (N=22) | Overall (N=107) |
|---------------|--------------------|-------------------|-----------------|--------------------|
| Mean | 39,570 | 14,149 | 39,685 | 31,278 |
| Median | 5,000 | 2,000 | 11,000 | 4,000 |
| Min | 0 | 0 | 0 | 0 |
| Max | 530,000 | 210,000 | 200,000 | 530,000 |

Note: Data is for those with bank accounts

Table 15: Bank accounts – amount of last deposit - (largest amount selected)

| | Karatina (N=50) | Nyamira (N=35) | Kitui (N=22) | Overall (N=107) |
|---------------|--------------------|-------------------|-----------------|--------------------|
| Mean | 17,759 | 8,002 | 35,978 | 18,359 |
| Median | 5,500 | 4,500 | 10,000 | 5,000 |
| Min | 100 | 200 | 800 | 100 |
| Max | 200,000 | 60,000 | 560,000 | 56,000 |

Table 12: Bank accounts: amount of last withdrawal: (lowest where more than one account)

| | Karatina (N=46) | Nyamira (N=32) | Kitui (N=22) | Overall (N=107) |
|---------------|-----------------|----------------|--------------|-----------------|
| Mean | 6,523 | 10,212 | 20,572 | 10,797 |
| Median | 4,000 | 5,000 | 4,000 | 4,000 |
| Min | 500 | 300 | 1,000 | 300 |
| Max | 3,500 | 80,000 | 220,000 | 220,000 |

Table 13: Who else knows about or has access to a bank account

| | Knows about the account: | | Has access to the account: | |
|--------|--------------------------|---------------------|----------------------------|---------------------|
| | First/only bank account | Second bank Account | First/only bank account | Second bank Account |
| No-one | 25 (22%) | 6 (30%) | 90 (79%) | 16 (76%) |
| Spouse | 73 (65%) | 14 (70%) | 23 (20%) | 3 (14%) |
| Other | 14 (13%) | 0 | 1 (1%) | 2 (10%) |
| | 112 | 20 | 114 | 21 |

off debts 10%, expand your business 9%, followed by personal expenditure (shoes, travel, clothing etc) (7%) and agricultural inputs (4%). Since research spanned the period November to April across the three sites, this has probably prevented a bunching of responses around education or agricultural inputs but hence all uses were not co-incident in terms of timing.

Respondents were also asked who knows about or has access to the account. The picture here is that while spouses know about accounts they are much less likely to have access to them. Joint bank accounts were an unusual phenomenon. Some women reported that they had access to an account because the husband would give her the ATM card and PIN to use.

Finally, only three respondents reported that they had lost savings in their bank accounts and seven that they had experienced unexpected charges.

2.2.3 Bank loans

19 bank loans were reported but only 13 were reported with balances outstanding – no-one had more than one loan outstanding. This puts a current borrowing rate compared to bank account ownership at 11%, ie only 11% of those with a bank account currently have a loan from a bank.

Seven in Karatina and three in each of Nyamira and Kitui. Split 7 with men and 6 with women. Their reported use covered expanding a business (4); emergency; improving a house; purchasing a car/motorbike; purchase land; purchase/build house to rent; agricultural improvements and education. Ten loans had been primarily used for the purpose for which they were taken, although one had also been used to pay school fees; in one case the purported use had become the second use after repaying debts; two further did not report an initial purpose for the loan. Ten of them had been taken in 2010,

one in 2009 and one in 2003. This suggests that these are relatively short term loans of 1–2 years apart from the latter loan. This was taken by a woman when her husband was sick and he later died, she has since had difficulties clearing the loan though she liked the bank because she commented that if she had taken money from an individual, that individual would be coming to her doorstep every day. "Thank God I got money from Equity. No one ever comes to my doorstep even though I have to work extra hard to settle the loan." She had herself also been sick and as a result unable to finish repaying.

The amounts borrowed on those outstanding ranged from KShs 7,000 to KShs 500,000 with a mean of KShs 78,384. Balances outstanding ranged from KShs 3,000 to 64,000 with a mean of KShs 21,815 and median of KShs 15,000. All of these were from banks that identify themselves with the microfinance market

In taking the loan only 8 reported having consulted another member of the household before taking the loan, 5 men and three women. Two women had consulted their husbands and one had consulted a child; the 5 men had all consulted their spouses. Leaving 3 women having not consulted only one of these was married; and of the 2 men one was married. Of the women one of three had made her own decision having not agreed with her spouse while the other two had agreed; of the men one had only informed his wife while the other 4 all reported discussing and agreeing. Of course this is now more important given that most banks take mortgages on chattels and hence the spouse has to be involved.

9 of the 13 loans were repaid monthly, 9 reported interest rates ranging from 3% and unclear whether this was monthly or annually to 18% per annum. In general there was little clarity over what interest rates were being charged.

Additional charges made for the loans ranged from KShs 100 to KShs 4,000. Respondents had made between one and four visits to the lender to get the loan with a mean of 2.4. The cost of those visits ranged from zero to KShs 1,080 in transport charges with a mean of KShs 330. Respondents reported that it took anywhere between 1 day and 5 months to get the loan. For 3 it took 1-2 days; 2 at 1 week; 3 at 2 weeks; 3 at 1 month and 1 at 5 months. Some of these are reasonably quick with 5 at a week or less.

Loans were taken against land/building (2); household assets (2); savings in their accounts (4) (this would apply to two KREP loans); and regular salary/income (4). Cost of charging collateral was reported two cases of KShs 3,000 and KShs 24,000, this latter the cost of charging against a building.

Four reported problems in repayment split evenly between men and women and between Karatina and Nyamira. Two reported incurring additional charges as a result and none reported having lost collateral.

2.2.4 Bank account closure

32 people reported bank account closures closing 37 accounts in total. 22 still had a bank account and 10 did not. Of the 10, four now used a SACCO account and groups; three had no accounts at all and three used groups. Six of the ten were in Karatina, with 2 in each of Nyamira and Kitui; evenly split men and women; 6 had primary education or less and 4 had secondary education or more.

This suggests quite a high level of churn – ie that of the 120 people who have a bank account, 22 (18 %) had closed an account, though we did not ask for dates as people often find past dates difficult to recall. Though we did not specify a time frame for this, a number of these were into and out of Equity. Some moved their when the bank opened in their area, and some left having opened their because of their concern for queuing due to its busy-ness. This could be regarded as a one time shake up in the market due to the branch expansion of the late 2000s but on the other hand, one bank manager reported that customers were now much more willing and able to shop around between banks to see which one would best meet their needs, so it is quite likely that this is an ongoing feature of bank account use now.

Of those closing bank accounts but still having accounts (we can't definitively say that they moved from one to the other), 11 were in Karatina, 3 in Nyamira and 8 in Kitui. Here the split was 16 male and 6 female; while 16 had secondary education or more while 6 had primary or less, suggesting that moving between banks is more of an educated and male phenomenon.

Reasons for closing bank accounts captured those which were client focused and those that were institution focussed:

Client focussed reasons included retirement (1); moving away (1) and having

used all your money and not having enough to put there or too little flow (3). While institution focused reasons focused on high charges (7)– including some unexpected ones (2); the account being closed due to non-use (1); queues and it being too much time and effort to transact (4); found a better offer elsewhere (2); not given an overdraft or loan (1); low interest rates on savings(1); funds lost(1).

2.3 SACCOS

2.3.1 SACCO access

79 people held SACCO accounts (23%). This is much higher than the FA09 figure of 8% and is not surprising given that two of our areas were cash crop growing areas for tea and coffee. 68 had one account and 11 had two SACCO accounts. Of the 11 having two accounts 8 were in Karatina and 3 in Nyamira.

The proportion of men holding a SACCO account is more than twice that of women. Mean age is also much higher than for bank accounts rising to 51 years from 40 years. Single people are much less likely to have a SACCO account – indeed one young man explained that these were for people with cash crops and since he hadn't any yet he could not have such an account. By education the distribution is much more even than for bank accounts though those with no education are less likely to have one.

The proportion having a SACCO account among farmers etc is 34% and forms the bulk of the users. However government employees – although only 10 of them – have a high likelihood of use at 83%. Interestingly those dependent on pensions and transfers were the third most likely to use them with 19% – this is likely due to the fact that they are retirees who have returned to their tea or coffee farms.

Users reported the date of opening. The earliest date a SACCO account was reported to be opened (of the 73 cases who responded – respondents sometimes could not remember) was 1963 in Karatina. The earliest opened in Nyamira was 1975. Since the beginning of 2005 14 had been opened in Karatina and 6 in Nyamira and one in Kitui.

The most common reasons for opening was in order to receive a tea, coffee or milk payment along with inheritance of accounts or introduction by parents and being a shareholder in the institution or it belonging to the farmers. The next most frequently cited reason was provision of access to loans followed by convenience and hearing good things about it.

Table 15 indicates access by site proximity – the near site was slightly more likely to use than the farther site, but town-based respondents were not a lot less likely. As can be seen this is in part due to Nyamira where the township area includes a lot of tea farmers since the farms run right up to the commercial strip. 21 or 29% of those reporting a date had opened in the last five years.

Table 16: SACCO account access in relation to site location

| %s by research site | Karatina (n=109) | Nyamira (n=115) | Kitui (n=113) | Overall (n=337) |
|------------------------------|------------------|-----------------|---------------|-----------------|
| Site 1 (near) (n=117) | 25 (23%) | 9 (8%) | 1 (1%) | 35 (10%)/(29%) |
| Site 2 (far) (n=116) | 21 (19%) | 4 (3%) | 0 | 25 (7%)/(22%) |
| Site 3 - Town (n=104) | 7 (6%) | 11 (10%) | 1 (1%) | 19 (6%)/(18%) |
| Total | 53 (49%) | 24 (21%) | 2 (2%) | 79 (23%) |

The SACCOs to which users belonged were mostly in their nearest town although neither of the Kitui users reported using local SACCOs. In Karatina a few respondents were using a SACCO in Kirinyaga District and in Nyamira branches of local SACCOs were also in local markets of Kebirigo and Nyamaiya. It was mainly people who were current or past employees who had SACCO accounts outside of the area.

51 (67%) of those reporting and have a first or only SACCO account, used public transport followed by (20%) walking all the way. Only 8% used their own vehicle. Of those with second accounts the majority also used public transport.

Travel time (Table 17) shows that mean and median times taken are comparable in Karatina and Nyamira. In both of these sites, public transport was good for those areas growing tea and coffee. These distances involved median costs of KShs60 for a return journey and just under KShs100 at the mean. In Kitui – the sole user who reported was using a SACCO that was not in Kitui town.

2.3.2 SACCO Use

Frequency of use is mostly monthly and the majority of these are regular monthly automatic payments which reflects tea payments and salary receipts. It is clear that these accounts are therefore used much less frequently than

banks. The bias found above towards under-reporting of frequency of use in banks is not evident in the same way here where a similar proportion overall report at least monthly use of the account at 66% and 68% for the last time they deposited and very small proportions are reporting more frequent than monthly use. This would seem related to the frequency of payments as monthly for tea and salaries and hence greater clarity over this frequency. So that where accounts are used more frequently but perhaps irregularly people tend to under-report that frequency.

The timing of withdrawals (Table 21) suggests a higher level of use than the previous two tables. It is not clear that the research was undertaken at times which were coincident with tea payments which were then to be collected although the tea bonus had been paid in November around the time of our research in Karatina. But this was not the case in Nyamira where a high proportion report having visited in the last week, although we were undertaking the research as schools were opening.

Overall the mean balance held in SACCO accounts is within 10% of that for bank accounts. The means for Karatina and Nyamira are also similar to the amounts held in bank accounts in those sites. What more clearly differs is the medians. The maximum balances for Nyamira is also similar to bank accounts in Nyamira but for SACCOs in Karatina is lower than for banks. This tends

Table 17: Travel time in minutes to SACCO

| Minutes | First or only SACCO account (n=77) | Second SACCO account (n=11) | First or only SACCO account (n=77) | | |
|---------------|------------------------------------|-----------------------------|------------------------------------|----------------|-------------|
| | | | Karatina (n=51) | Nyamira (n=24) | Kitui (n=2) |
| Mean | 36 | 32 | 36 | 32 | 85 |
| Median | 30 | 30 | 30 | 25 | 85 |
| Min | 0 | 10 | 5 | 0 | 20 |
| Max | 420 | 99 | 420 | 120 | 150 |

Table 18: Travel cost to SACCOs

| KShs | First or only SACCO account (n=55) | Second SACCO account (n=11) | First or only SACCO account (n=77) | | |
|---------------|------------------------------------|-----------------------------|------------------------------------|----------------|-------------|
| | | | Karatina (n=39) | Nyamira (n=15) | Kitui (n=1) |
| Mean | 94 | 136 | 82 | 67 | 1,000 |
| Median | 60 | 120 | 80 | 40 | 1,000 |
| Min | 20 | 40 | 20 | 20 | 1,000 |
| Max | 1000 | 400 | 200 | 200 | 1,000 |

Table 19: Reported frequency of putting money in a SACCO account

| % | Karatina (n=51) | Nyamira (n=24) | Kitui (n=2) | Overall (n=77) |
|-----------------------------------|-----------------|----------------|-------------|----------------|
| More than once/week | 2 | 0 | | 1 |
| More that once/mth | 2 | 0 | | 1 |
| Monthly | 58 | 71 | 100 | 64 |
| Irregularly/more than once a year | 28 | 21 | | 25 |
| Other | 10 | 8 | | 9 |
| | 100 | 100 | 100 | 100 |

Table 20: Last time a deposit was made in a SACCO account

| % | Karatina | Nyamira | Kitui | Overall |
|------------------|----------|---------|-------|---------|
| Yesterday | 4 | 0 | 0 | 3 |
| In last week | 0 | 8 | 0 | 3 |
| In last month | 53 | 79 | 100 | 62 |
| In last 6 months | 33 | 4 | 0 | 23 |
| In last year | 4 | 8 | 0 | 5 |
| Not since opened | 2 | 0 | 0 | 1 |
| Other/not sure | 4 | 0 | 0 | 3 |
| | 100 | 100 | 100 | 100 |

to suggest less differentiation of bank and SACCO account users in Nyamira and perhaps reflects the greater penetration of the banks into the tea sector and the less strong performance of the SACCOs in that area. The median for Karatina which has the most users is much lower at KShs1000 compared to KShs5000 for banks, suggesting that the SACCOs do tend to gain outreach to a lower income segment in Karatina compared to the banks. This may reflect the historic role of the co-operatives in that area. Overall 75% of the balances held by respondents in SACCO accounts is less than KShs10,000, the 75th percentile for Karatina is KShs17525 whereas in Nyamira it is KShs4000.

Here we start to see the range of transactions sizes with minimums of KShs100 for both deposits and withdrawals, and medians ranging from KShs1500 for deposits in Nyamira to KShs 14000 for deposits in Karatina. These deposits contrast with the minimum withdrawal for bank accounts at KShs300 although the smallest deposit recorded was also KShs100.

The main uses to which withdrawals were reported as first to meet day to day needs, followed by education and agricultural inputs.

Table 21: Last time a withdrawal was made from a SACCO account

| % | Karatina | Nyamira | Kitui | Overall |
|----------------------|----------|---------|-------|---------|
| In last week | 24 | 29 | 0 | 25 |
| In last month | 32 | 38 | 50 | 34 |
| In the last 6 months | 26 | 25 | 50 | 26 |
| In last year | 6 | 4 | 0 | 5 |
| Other/not sure | 12 | 4 | 0 | 9 |
| | 100 | 100 | 100 | 100 |

Table 22: SACCO accounts –balances held

| | Karatina (N=46) | Nyamira (N=22) | Kitui (N=2) | Overall (N=70) |
|---------------|-----------------|----------------|-------------|----------------|
| Mean | 32,050 | 14,102 | 103,500 | 28,451 |
| Median | 1,000 | 2,250 | 103,500 | 1,750 |
| Min | 0 | 0 | 7,000 | 0 |
| Max | 310,000 | 250,000 | 200,000 | 310,000 |

Table 23: SACCO accounts: amount of last deposit

| | Karatina (N=49) | Nyamira (N=24) | Kitui (N=2) | Overall (N=75) |
|---------------|-----------------|----------------|-------------|----------------|
| Mean | 31,751 | 5,897 | 1,600 | 22,673 |
| Median | 14,000 | 1,500 | 1,600 | 6,000 |
| Min | 500 | 100 | 200 | 100 |
| Max | 200,000 | 42,000 | 3,000 | 200,000 |

Table 24: SACCO accounts: amount of last withdrawal

| | Karatina (N=44) | Nyamira (N=22) | Kitui (N=2) | Overall (N=68) |
|---------------|-----------------|----------------|-------------|----------------|
| Mean | 107,86 | 2,182 | 13,000 | 8,067 |
| Median | 4,500 | 1,750 | 13,000 | 3,000 |
| Min | 300 | 100 | 1,000 | 100 |
| Max | 98,000 | 6,000 | 25,000 | 98,000 |

Table 25 table shows higher levels of both knowledge and access of spouses to accounts although the figures are still of the same broad order. The higher levels of knowledge of SACCO accounts relates SACCOs often requiring wives to be co-signatories on accounts. Additionally since these are also linked to cash crop incomes then wives are likely to know about them although the extent to which they actually have access varies. We found that wives often collected monthly tea payments in Nyamira as these were quite small (eg <KShs 1,000) and used them for household expenses whereas the bonus was more likely to be collected by the husband.

Finally, five people reported that they had lost savings in a SACCO and ten reported having unexpected charges. The main complaint we heard was deductions that people had not heard about. In discussions with the SACCOs it appeared that AGMs might for example decide to impose fees for particular purposes which the wider clientele would not necessarily find out about until they queried it when they went to withdraw funds. While this was only usually eg KShs 200 per year, this amount was significant to those receiving very small incomes from tea.

Table 25: Who else Knows about or has access to a SACCO account

| % | Knows about the account: | | Has access to the account: | |
|---------------|---------------------------------|-----------------------------|---------------------------------|-----------------------------|
| | First/only SACCO account (n=77) | Second SACCO Account (n=11) | First/only SACCO account (n=77) | Second SACCO Account (n=11) |
| No-one | 7 | 18 | 64 | 64 |
| Spouse | 77 | 82 | 36 | 36 |
| Other | 17 | 0 | 0 | 0 |
| | 100 | 100 | 100 | 100 |

2.3.3 SACCO loans

28 respondents reported loans (one reporting two) of which 24 loans had outstanding balances. 15 (63%) with men and 9 (37%) with women – a less even split than for banks.

Moreover, 18 of these were in Karatina compared to 4 in Nyamira and 2 in Kitui. The small number of loans in Nyamira is very interesting given that there were 51 with SACCO accounts in Karatina and 24 in Nyamira – so that some 35% of SACCO account holders had loans for Karatina but only 17% in Nyamira. This may be because of smaller tea farms and lower payments leading to less incentives to borrow through this channel. Indeed there were complaints about the difficulty of getting loans from SACCOs in Nyamira whereas it seemed that SACCOs in Karatina were falling over themselves to lend very quickly as a competitive strategy.

In terms of decisions to borrow, 21 out of the 24 had consulted another household member, only two reported not having done this. In most cases (13) this was the household head consulting their spouse or partner, while in 7 it was the spouse or partner consulting the household head, and in one case the consulting of a son or daughter.

Accessing the loans: costs of visits ranged from KShs 40 to KShs1,000 with a mean of KShs 205. 11 reported that it took only one visit to the SACCO to get the loan; 8 reported two. Repayment schedules were mainly monthly (12) or annually (11). The latter is often the case with loans against tea income as they are recouped from the annual tea bonus payment, although the Nyamira loans did not indicate this.

Only 5 respondents were able to report an interest rate and these ranged from 2% to 15% – suggesting that users often do not understand interest rates or take much notice of them in their borrowing decisions. Six respondents reported charges related to borrowing ranging from KShs30 to KShs1700. These means that often people did not report costs of eg application forms and fees and charges. This is sometimes because these fees are added to the loan and not paid up-front.

Loans ranged from KShs 5,000 to KShs 700,000 with a mean of KShs 127,096 and a median of KShs 33,500. A range of purposes were reported, with agriculture inputs (5 cases); education and building house (4 each) being the most frequent, but emergency and daily household use was also reported. Loans taken dated back to 2007. Amounts outstanding ranged from KShs 933 to KShs 500,000 with a mean of KShs 81,880. Only two people reported repayment problems and these were both by men in Karatina.

3.3.4 SACCO account closure

Against a current use of SACCOs by 77 people, 16 reported having closed an account and 13 reported no longer having a SACCO account. These 13 were split almost evenly 7:6 between Karatina and Nyamira and similarly evenly by

women and men 6:7. 9 had secondary education or above, while only 4 had primary education or below. 11 were using a bank account while two were not. Suggesting a shift away by more educated people and a greater level of exit from these institutions.

Of the 16, 11 now had only a bank account only, 2 held a SACCO account only, one had a bank account and a SACCO account; of the 2 who didn't have any accounts, one was in groups and the other was completely excluded. Of the 16, 11 had groups, 4 of these being welfare only groups. Of the 14 who had other types of accounts, 9 also had groups.

Reasons for closing – only 3 were client related while the pattern of reasons 4 were related to SACCO collapse or loss of funds while another reported fear of losing his money and another high and erroneous charges, while another involved a loan escalating after a woman's husband died. These reasons tend therefore to be more serious and involve more losses than more choices over quality of service delivery reported in banks.

2.4 MFIS

At 4.5% outreach of MFIs is comparable to national levels of the FinAccess 2009 survey at 3.5%. 15 people were members of MFIs, 12 had one account and 3 had two accounts. 8 in Karatina, 3 in Nyamira and 4 in Kitui. The multiple users were in Karatina and Kitui. Seven reported that their main income source was their own business, while the others were spread across private sector employment, pensions and transfers and agriculture. This suggests a more diversified profile of microfinance users than might be expected but since with expansion its concentration on microenterprise has reduced.

No-one who currently has an MFI account has reported having previously closed one, and none of those who reported closing one were currently using one. 11 reported closing accounts of whom 6 were in Karatina (which is less surprising as it is the area in which MFIs have been operating the longest). Eight of the 11 now had a bank account and all of them were in groups. Reasons cited – two were client focused in not having funds; four involved group problems of collapse, disagreement and non-payment; two involved high charges; one delay in repaying savings. Given that only 12 of the whole sample are actually currently using MFIs, this churn effect is one of the highest and represents a high level of exit and the hazards of group-based finance.

2.5 Mobile money transfer services

205 or 61% of respondents were registered customers with a mobile money transfer service. The majority by far of these were registered with M-PESA, only one was registered solely for ZAP and none for Yu or Iko. However, 71.5% reported having ever used a mobile money transfer service since this can include asking others to send or receive money on one's behalf. However, the majority did use their own phone – 53.7% of all respondents and 18.2% had used the phone of a family member or friend.

A much higher proportion of men than women are registered, the level of use for those with no education is very low. The age range was 19 to 85 with a mean of 40.8 years. This mean is interesting because it compares with the FA09 dataset for registered users where the mean was 32.5 years against a sample weighted average of 35.8 years and suggests both our sample was on average older but also that the mean is not as far off the mean for the sample, that since 2009 adoption has strongly spread to older age groups although younger people may have been more likely to be early adopters. By education rates of use differ a lot, with as few as 18% of those with no education rising to over 90% of those with more than secondary education.

Between sites Karatina has the highest registered use level at 72% while Nyamira has the lowest at 50%. This runs slightly counter to the ordering of these sites in terms of wealth levels but seems to respond to the economic orientation of the areas in terms of external links. In Kitui many husbands or family members were working away from their farms in Kitui itself or had migrated to Nairobi or Mombasa to find work, whereas Nyamira had fewer instances of this.

In terms of the distance of respondents from local towns, this would be expected to be less important due to the existence of M-PESA agents in most local market centres. However distance still matters and those in town are more likely to use them though this may instead be related to wealth which the regression analysis will address.

27.3% had sent money for business purposes in the last 12 months and 21.1% had used a mobile transfer service to do this.

54% had sent money to friends or family in the last 12 months (using any method) and 47% reported having used a mobile transfer service to do this. The difference between town and out of town sites is considerable though with 83% of those in town sites having sent funds but only 47% of all respondents in the out of town sites having sent funds.

For receiving funds 64% of the whole sample reported having received funds in the last 12 months (using any method) and 59% of the total having done this via M-PESA. Again the contrast between town and out of town sites is evident but much smaller than the sending pattern. 78% of those in towns had received funds while 66% of those out of town had received funds. The expectation that rural dwellers are more likely to receive than send funds is supported for out of town sites, although the balance for sending and receiving from town-based respondents is much more even (83% and 78% respectively).

When it comes to the destination and origin of transfers, the "send money home" tag seems to be evident when we look at the origin of transfers. Indeed receivers are more numerous than senders in our sample. However while this is particularly strong in the rural sites, it is by no means an over-whelming pattern with some 30% of transfers being sent to other relatives and friends.

Table 26: Money transfer service registration by location

| %s | Karatina (n=109) | Nyamira (n=115) | Kitui (n=113) | Overall (n=337) |
|------------------------------|------------------|-----------------|---------------|-----------------|
| Site 1 (near) (n=117) | 68.4 | 53.8 | 55.0 | 59.0 |
| Site 2 (far) (n=116) | 62.2 | 50.0 | 40.0 | 51.7 |
| Site 3 - Town (n=104) | 96.2 | 47.5 | 86.8 | 74.0 |
| Total | | | | |

Table 27: Destination of last money transfer transaction by site

| N=220 | % | Rural (n=142) | Town (n=78) |
|--|-----|---------------|-------------|
| Family/hh member | 37 | 42 | 30 |
| Other relative | 30 | 29 | 32 |
| Friend | 14 | 11 | 18 |
| From customer/purchase/business related | 16 | 14 | 19 |
| Other | 3 | 4 | 1 |
| | 100 | 100 | 100 |

Table 28: Destination of last money transfer transaction by site

| N=176 | % | Rural (n=95) | Town (n=81) |
|-------------------------------------|-----|--------------|-------------|
| Family/hh member | 18 | 23 | 12 |
| Other relative | 53 | 59 | 47 |
| Friend | 15 | 13 | 17 |
| I bought goods | 1 | 0 | 1 |
| Paid utility bill | 1 | 0 | 1 |
| Paid school fees | 3 | 0 | 7 |
| Business related transaction | 7 | 4 | 11 |
| Other | 2 | 1 | 2 |
| | 100 | | |

The destination of senders transfers is interestingly primarily to other relatives, followed by family/household members and closely be friends. This is somewhat surprising as it does not appear to fit with the received from data or the “send money home” tag. It suggests that in this sample of more rural dwellers there is some strong sending behaviour which operates within wider social networks than simply within the household and family.

When asked about frequency of use the majority sent funds irregularly with 56% of those reporting giving this response, and 16% reporting using it more than once per year; where 22% reported using it more than once per month and only 5% reporting more than once per week. Frequency of receipt questions indicated that of these, 5% had received in the last week; 20% in the last month and 16% in the last year with 58% citing irregularly. So that under 25% had received in the last month, while 64% had received in the last month or irregularly.

Table 29 reports the actual timing of the last transaction (rather than respondents assessment of the regularity of use) and suggests that some 30% have

sent in the last week, 31% in the last month and 39% in the last 6 months or longer. It suggests that some 50% of users are using it more often than monthly on the whole.

Amounts transacted are given in table 30. The quartiles indicate how low overall these amounts are amongst this sample and underlining the fact that they are small scale inter-personal transfers - 75% of the amounts sent are under KShs 2,500.

There has been some debate over whether users hold balances on their phones. Some 71 or 35% of those registered indicated that they held a balance on the phone. 50% of these were KShs 300 or less. The reasons for these are given in table 31 and suggests common reasons were safety (39%) but this is not necessarily co-terminous with a place to ‘save’ in the sense of building up balances - as the next answer concerning building up a balance to move to another saving place has a low response rate, but seems more related to being able to move around with funds, although a few did report using it as a place to save.

Table 29: Timing of last mobile money transfer transaction

| % | Sent | | | Received | | |
|-------------------------|-----------------|--------------|-------------|------------------|---------------|-------------|
| | Overall (n=178) | Rural (n=98) | Town (n=79) | Received (n=220) | Rural (n=141) | Town (n=78) |
| Today/Yesterday | 13 | 8 | 19 | 6 | 3 | 12 |
| In last week | 17 | 12 | 24 | 24 | 23 | 26 |
| In last month | 31 | 38 | 23 | 36 | 37 | 33 |
| In last 6 months | 25 | 28 | 22 | 24 | 27 | 19 |
| In last year | 10 | 8 | 11 | 9 | 8 | 10 |
| Other/not sure | 4 | 6 | 1 | 2 | 2 | 0 |
| | 100 | 100 | 100 | 100 | 100 | 100 |

Table 30: Money transfer services: last transaction sent and received and balances held

| | N | % | Mean | Min | Max | Quartiles | | |
|---|-----|----|-------|-----|---------|-----------|-------|--------|
| | | | | | | 25% | 50% | 75% |
| Sent | 172 | 51 | 2,257 | 200 | 20,000 | 506 | 1,500 | 2,500 |
| Received | 219 | 65 | 2,934 | 100 | 40,000 | 500 | 1,100 | 3,000 |
| Largest amount sent/received | 239 | | 7,242 | 100 | 100,000 | 1,500 | 3,000 | 10,000 |
| Approximate balance (where balance>0) | 71 | | 1,860 | 5 | 36,229 | 100 | 300 | 1,100 |

Table 31: Reasons for holding funds in money transfer accounts (multiple mentions allowed n=71)

| Number reporting (% of those with a registered service) | Overall | Rural | Town |
|--|---------|-------|------|
| Because it is safer | 39 | 13 | 26 |
| So that I can save there and then transfer to a bank account | 4 | 1 | 3 |
| So that I can keep funds there and then transfer them to another saving place | 6 | 0 | 6 |
| Because it is the only place I have to save money safely | 9 | 4 | 5 |
| In order to have funds to send to family/relatives/friends when they need them | 36 | 14 | 22 |
| In order to run my business easily | 15 | 6 | 9 |
| In order to make loan repayments | 0 | 0 | 0 |
| Other: | 42 | 25 | 17 |
| To buy airtime | 18 | | |
| Balance remaining/ below min withdrawal /avoid withdrawal charges | 6 | | |
| Efficient, gives financial flexibility, available when needed | 10 | | |
| Emergencies/unexpected needs | 9 | | |
| To pay rent | 1 | | |
| Avoid withdrawal charges | 1 | | |
| Other | 1 | | |

These reasons are followed closely by having funds to send to others when needed. If these responses are combined with the categories of unexpected needs and financial flexibility, this indicates a need for funds to be on hand to deal with the unexpected whether for oneself or others and that keeping funds in the phone are therefore a safe and easy way to do this. These reasons underline the many cases of help and assistance – whether to be refunded or not – that were evident in the qualitative interviews.

2.6 GROUPS

73% of the sample were members of a group which had either a welfare or a financial intermediation function such as a ROSCA or ASCA. 22% of the sample were members of groups that only had a welfare function, while 52.5% belonged to a group which had a welfare function, suggesting that some

30.5% belonged to a financial group which had a welfare function alongside a financial intermediation function.

ROSCAs were the most used form of group financial intermediation with 52.5% of the sample using them, while 38% used a group with an ASCA function falling to 3% for savings and investment functions.

91 were not members of any group. 136 were members of one group; 62 of two groups; 39 of three groups; 7 of four and 2 of five groups. This gives a total of 415 group memberships of which there is detailed data on 408 and therefore this is used to analyse types of groups, amounts and frequencies of contributions.

Members reported joining their groups back to as long ago as 1970, of the 360 reporting over 50% of these memberships had started since 2009.

**Table 32: Group functions
(as a % of all group memberships)**

| | Frequency | % |
|---------------------------------|------------|--------------|
| Welfare only | 136 | 33.3 |
| ROSCA only | 108 | 26.5 |
| ASCA only | 59 | 14.5 |
| Investment only | 1 | .2 |
| Savings only | 6 | 1.5 |
| Welfare and ROSCA | 27 | 6.6 |
| Welfare and ASCA | 15 | 3.7 |
| Welfare and investment | 3 | .7 |
| Welfare, ROSCA and ASCA | 25 | 6.1 |
| Welfare, ROSCA and investment | 1 | .2 |
| Welfare, ROSCA and savings | 1 | .2 |
| Welfare, ASCA and investment | 1 | .2 |
| Welfare, savings and investment | 2 | .5 |
| ROSCA and ASCA | 19 | 4.7 |
| ROSCA and investment | 3 | .7 |
| ROSCA and savings | 1 | .2 |
| Total | 408 | 100.0 |

Welfare group functions predominate, and welfare only function represents the majority of sole function groups and is involved in the most multi-function groups. This highlights the importance of this social safety net. People often talked about membership being a “must”. This may reflect a number of dimensions. The fact that costs of funerals and hospital bills are rising and therefore many more groups feel that they need to have a welfare function which helps provide for these. In addition, it is possible that neighbours and communities are less willing now to contribute in a less structured manner and hence that belonging to the local welfare association is a means of ensuring this support.

91% of memberships were in groups that actually meet although this can be irregularly in the case of welfare groups.

43 memberships were in groups affiliated to another organisation of which the largest were CARE (17); KWFT (8) and Equity Bank (7). Where groups have only the function of saving with and accessing loans from a formal institution they are not included – so these are groups where there is an additional function such as an internal ROSCA or ASCA.

89.6% of the 396 memberships were accessed by members walking to the meeting. With 90% of groups being within 30 minutes distance and 52% being within 10 minutes distance. In a few cases people travelled some distance to participate in groups and these were in the main family based groups with monthly or annual meetings which involved the member in travelling.

91% of groups actually meet. Access is very local, 90% of memberships⁴ involved walking to the meeting with 90% of these within 30 minutes walking distance and 52% within 10 minutes. 43 (of these memberships were in groups affiliated to other organisations of which the largest were CARE (17); KWFT (8) and Equity Bank (7)).⁵

The reasons people gave for belong to financial groups are reported in table 8. The responses can be clustered around four main themes. First, is the management of liquidity in terms of the creation of lump sums, which might also be specifically directed towards buying household and farm goods or other investments, and having access to liquidity when it is needed. This is reinforced by responses to a specific question of the purpose for putting funds in groups that were only ROSCAs. These reasons were led by the purchase of household goods (21%); followed by personal reasons such as clothes, shoes and meeting day to day household expenses (each 15%) and the third reason was to expand a business (14%). The purposes of putting funds in ASCA only groups were given as “other” 30% (no details); household needs (20%) followed by expanding a business (14%) and education (12%).

The most frequently reported purpose (n=211) for joining welfare groups is to assist with emergencies such as burials (65%); meeting day to day expenses (7%) and acquiring household goods (6.6%). It is not entirely clear how the latter are facilitated by these but these are likely to reflect cases where a welfare fund but it was able to assist people when there were problems.

⁴ Since people were members of multiple groups, some of the data could not be summarised at the level of the individual so is presented in relation to all groups that respondents were members of i.e. group membership.

⁵ These were MFI groups in which there was also a ROSCA or ASCA function taking place. Where no other financial function than their role as a means of saving and borrowing with the MFI was reported the groups are not included here as they were operating as a delivery channel and not a financial service in themselves.

Table 33: Reasons for belonging, features and problems of groups (all group types)

| | % | Exclusive welfare only grps |
|--|------|-----------------------------|
| 1. To have a lump sum to use when its your turn | 41.5 | 61 |
| 2. To keep money safe | 37.1 | 51 |
| 3. To help when there is a death in the family | 52.7 | 33 |
| 4. To help when there is any other emergency | 51.7 | 54 |
| 5. Because you inherited the position from your parent | 1.2 | 0 |
| 6. It is compulsory for people in your clan/village | 15.0 | 4 |
| 7. To socialize /meet your friends | 47.1 | 57 |
| 8. To exchange ideas about business | 26.0 | 38 |
| 9. To invest in bigger things by pulling money/resources together | 27.4 | 41 |
| 10. The group buys you household goods or farm goods when its your turn | 14.1 | 20 |
| 11. To increase income by lending | 14.8 | 22 |
| 12. Because you could not get money or help anywhere else | 7.5 | 7 |
| 13. You can get money easily when you need it | 20.6 | 29 |
| 14. You find it hard to save alone and get strength from sitting with others | 22.6 | 34 |
| 15. You can't save at home because your spouse will use the money | 3.9 | 6 |
| 16. You can't save at home because your family will use the money | 3.9 | 6 |
| 17. You can't save at home because money gets used on other things | 15.8 | 23 |
| 18. Others (specify) | 1.9 | 3 |
| Problems experienced in the group | | |
| 1. Lost money through theft or fraud from an outside party | 0 | |
| 2. Lost money through theft or fraud from a committee member | 3.2 | |
| 3. Members pulling out | 20.6 | |
| 4. Members not paying contributions | 23.8 | |
| 5. Members not co-operating in many decisions | 9.2 | |
| 6. Death of many members | 9.5 | |
| 7. Officials elected in a manner that was not transparent | 2.9 | |
| 8. Poor administration | 3.6 | |
| 9. Dishonesty by members causing loss of money | 3.6 | |
| 10. Misuse of money by officials | 3.6 | |
| 11. Had to borrow extra money from a lending institution so as to continue operating | 0.2 | |
| 12. Bad investment of funds | 0.7 | |
| 13. Overspending on certain items | 0.7 | |
| 14. Money/cash not available immediately | 3.6 | |
| 15. Poor service with the bank or financial institution which serves the group | 0.2 | |
| Features of the group | | |
| 1. A bank account | 27.2 | |
| 2. A certificate of registration | 41.7 | |
| 3. A receipt book for any money received | 45.9 | |
| 4. Have a constitution | 70.1 | |
| 5. Records and circulates minutes after every meeting | 43.7 | |
| 6. Elect officials through voting | 59.7 | |
| 7. Have a passbook for recording savings or loans for each member | 18.9 | |
| 8. Have a group cheque book | 7.3 | |
| 9. Holds meetings on regular fixed intervals e.g. every month | 62.6 | |
| 10. Keep accounting record | 73.3 | |
| 11. Have accounts checked by an external auditor | 10.7 | |
| 12. Have a treasury/finance person who is not also the chairman | 66.3 | |
| 13. More than one signatory on the cheque book | 9.5 | |
| 14. A lockable money box with more than one key | 2.4 | |
| 15. Someone who is not a member of the group who manages it | 4.1 | |

Contributions and payouts

Contributions to groups are shown in Table 29 and this demonstrates that medians are quite a lot below means except in the case of investment functions. The median ROSCA contribution is KShs250, while for welfare and ASCA functions it is KShs100.

Contribution frequencies are predominantly weekly and monthly, with weekly ASCAs predominating and monthly ROSCAs. The ASCA promoting programmes in two of the three sites were weekly, and this may explain this, though in Karatina the promoted model had involved monthly contributions.

The low rate of payout from welfare groups is unsurprising since these are for emergencies and people therefore do not expect to receive funds except in

cases of severe accidents or death in the family. ROSCA payouts also look low – this is because there were quite a lot of relatively new ROSCA memberships in the sample. We found that in Nyamira when the research was undertaken in January, ROSCAs had often just re-started having stopped in the latter part of the previous year, so seem to run on a seasonal cycle of January to October/November so the relatively high rate of non-payout in that area was explained by this.

Median payouts are under all under KShs4000 for welfare but under KShs2000 for ROSCAs. Men's ROSCA payouts are quite a lot higher than women's in terms of means though we are still talking where a majority are under KShs10000. Median bank withdrawals are little different – around KShs4000 and interestingly median deposits are at about the same level.

Table 34: Group contributions (monthly equivalent)

| KShs | Welfare function | ROSCA function | ASCA function | Investment function | Saving function |
|-------------------|------------------|----------------|---------------|---------------------|-----------------|
| n | 30 | 171 | 104 | 5 | 10 |
| Min | 8 | 20 | 17 | 100 | 20 |
| Max | 5,416 | 9,125 | 21,667 | 500 | 3,042 |
| Mean | 449 | 726 | 686 | 307 | 558 |
| Median | 100 | 250 | 100 | 400 | 68 |
| Quartiles: | | | | | |
| 25 | 48 | 200 | 43 | 100 | 48 |
| 50 | 100 | 250 | 100 | 400 | 68 |
| 75 | 217 | 867 | 433 | 467 | 867 |

Note: Calculated monthly equivalent

Table 35: Contribution frequencies

| % | Welfare function | ROSCA function | ASCA function | Investment function | Saving function |
|---------------------------------|------------------|----------------|---------------|---------------------|-----------------|
| n | 218 | 184 | 118 | 8 | 10.0 |
| Daily | 0 | 4.3 | 0.8 | 0 | 10.0 |
| More than once per week | 0 | 5.4 | 3.4 | 12.5 | 0 |
| Weekly | 2.8 | 31.0 | 42.4 | 12.5 | 30.0 |
| More than once per month | 2.3 | 17.4 | 5.9 | 0 | 10.0 |
| Monthly | 6.9 | 38.0 | 35.6 | 50.0 | 50.0 |
| More than once per year | 0.5 | 2.2 | 0.8 | 0 | 0 |
| Irregularly | 80.3 | 0.5 | 0 | 12.5 | 0 |
| Other | 7.4 | 1 | 11.8 | 12.5 | 0 |
| Total | 100 | 100 | 100 | 100 | 100 |

Table 36: Proportion reporting group payouts

| | No of memberships | No reporting payouts in last year | % |
|------------------|-------------------|-----------------------------------|----|
| Welfare function | 218 | 28 | 13 |
| ROSCA function | 184 | 109 | 59 |
| ASCA function | 118 | 70 | 59 |

Table 37: Payouts from groups by type of group and gender

| | Welfare | | | ROSCAs | | | ASCAs | | |
|-------------------|---------|--------|--------|---------|--------|-------|---------|---------|--------|
| | Overall | Men | Women | Overall | Men | Women | Overall | Men | Women |
| n | 53 | 24 | 29 | 116 | 30 | 86 | 77 | 24 | 53 |
| Mean | 6,886 | 8,083 | 5,894 | 5,839 | 10,347 | 4,267 | 6,230 | 12,234 | 3,512 |
| Min | 200 | 300 | 200 | 200 | 600 | 200 | 100 | 500 | 100 |
| Max | 60,000 | 35,000 | 60,000 | 54,000 | 54,000 | 5,400 | 150,000 | 150,000 | 25,000 |
| Quartiles: | | | | | | | | | |
| 25% | 1,700 | 3,000 | 1,100 | 1,000 | 2,250 | 1,000 | 1,000 | 1,000 | 890 |
| 50% | 4,000 | 4,000 | 4,000 | 2,000 | 6,750 | 1,700 | 2,000 | 2,000 | 2,000 |
| 75% | 7,000 | 9,750 | 6,093 | 7,000 | 13,250 | 5,000 | 6,000 | 10,000 | 4,650 |

Table 38: Group payouts by type of group and research site

| | Welfare | ROSCA | ASCA |
|------------------|---------|-------|--------|
| Karatina: | | | |
| Mean | 9,485 | 6,821 | 19,067 |
| Median | 4,000 | 2,750 | 5,000 |
| Nyamira | | | |
| Mean | 7,727 | 5,831 | 3,899 |
| Median | 3,200 | 2,000 | 2,000 |
| Kitui: | | | |
| Mean | 4,180 | 4,295 | 3,310 |
| Median | 4,000 | 1,950 | 1,250 |

ASCA loans

Some 47 individuals reported having loans outstanding from ASCAs. 13.9% of the sample and 51% of those who had membership of an ASCA. More were taken by women than men reflecting the generally higher membership of groups by women. By education this is the only loan source where the borrowing percentage is higher among those without an education than for other education categories. It is also higher for those dependent on pensions and transfers (which can include married women receiving income from their husbands) and those dependent on agriculture for their income. Taking loans from this source was higher amongst those in Kitui and Nyamira than Karatina and is also highest among those who fall between the two poverty lines of \$1.25 and \$2.5 per day.

Amounts borrowed ranged from KShs150 to 120,000 with a mean of KShs8,288 and a median of KShs2,000. The main purposes reported were meeting day to day expenses (9), education (7), expanding a business (6),

social reasons (4) improving a home (4) and to pay off loans/debts (3). The oldest loan had been taken in 2009 – so up to two years prior to the research.

Some 23 people – ie. just under half – had consulted a member of the household before taking the loan and this was mostly the household head (16) or spouse (7) and this was in the main reported as discussion and agreement over the loan taking.

The time frame of loans taken ranged from one month to three years, with the majority of repayment schedules being monthly (23) or weekly (15). Very few reported an interest rate or its time period. One reported an additional charge of KShs2250 for taking the loan. The majority received the loan in one visit (37) and only two reported actual costs of these which were below KShs50.

Only two reported having repayment problems and one reported having incurred additional charges as a result of repayment problems.

Group exit

The highest level of account closure reported was for informal groups – 48 respondents reported having left 55 groups, but 35 of them were still members of groups. Levels of exit were fairly evenly split across the three sites: 15/18/15. 33 women and 15 men; 32 primary education and below and 16 secondary education and above.

Of the 13 who were no longer members of groups 9 were women and 4 men; while 9 were educated up to primary level and 4 secondary and above. This tends to reflect broadly the pattern of group membership more widely.

Table 39 gives the reasons people gave for leaving groups. These are reasonably evenly split between those that are client-focussed and those that are the result of group dynamics.

Table 39: Reasons for leaving groups

| | | N=48 |
|--------------------------|---|------|
| Client focussed reasons: | Own financial constraints | 18 |
| | Ill health | 1 |
| | Husband's refusal | 1 |
| | Left the area | 1 |
| | Group was too far | 3 |
| | Moved to a bank | 1 |
| | Sub-total | 25 |
| Group focussed reasons: | Group collapse | 7 |
| | Lost money | 3 |
| | Inconsistent contributions and disagreements over contributions | 3 |
| | Poor leadership and failure to repay loans | 4 |
| | Fraud and corruption | 3 |
| | Discrimination in loan allocation | 1 |
| | Fear of losing money | 1 |
| | Fines for non attendance | 1 |
| | Interest rate too high | 1 |
| | Sub-total | 29 |

2.7 SECRET HIDING PLACE

The third most frequently reported place in which funds were kept was secret hiding places. It is likely that there is a degree of under-reporting here. Although prompted for this as a place to save, those who had accounts might have decided not to report these because it is not a primary place for them and they simply keep money somewhere in the house as they move it to and from other uses.

39 reported a secret hiding place of whom this represented the sole financial instrument (but only 33 completed the related questions) used by 11 who had not groups (including welfare groups) or other accounts. 8 (21%) also had a bank or SACCO account while as their most formal service while 20 (51%) had a group as their most formal service.

It is clear from the access profile that women were a little more likely than men to use them, even those with secondary education also used these places. Fewer used them in Karatina than Nyamira and Kitui, and the main income sources related to employment or business were less likely to use them than others.

The earliest reported use of a secret hiding place was 1988, while respondents had also started using them more recently. The reasons for using them were mainly that it was convenient to get to, and that the person had little money to save. This latter phrasing is very interesting because it underlines the fact that people tend to think that saving involves taking large amounts to the bank and keeping it there. Further reasons were the easy of access and no charges.

The location of the secret place was always in the house - no other location was identified. Consequently travel time and travel costs were zero.

52% report having used the secret place in the last month under the "how frequently" question, but 91% actually reported putting funds there in the last month.

The last time funds were deposited (for account used most recently): We do not continue to break down by site due to relatively small numbers

Table 40: Frequency of use of a secret hiding place

| | Karatina (n=4) | Nyamira (n=16) | Kitui (n=14) | Overall (n=34) |
|--|----------------|----------------|--------------|----------------|
| More than once/week | 75 | 25 | 21 | 29 |
| More that once/mth | 25 | 12 | 14 | 14 |
| Monthly | 0 | 6 | 14 | 9 |
| Irregularly/more than once a year | 0 | 50 | 50 | 44 |
| other | 0 | 6 | 0 | 3 |
| | 100 | 100 | 100 | 100 |

Table 41: Timing of last deposit in a secret hiding place

| % | Karatina | Nyamira | Kitui | Overall |
|-------------------------|----------|---------|-------|---------|
| Yesterday | 25 | 25 | 7 | 18 |
| In last week | 25 | 31 | 50 | 38 |
| In last month | 50 | 31 | 36 | 35 |
| In last 6 months | 0 | 13 | 7 | 9 |
| In last year | 0 | 0 | 0 | 0 |
| Not since opened | 0 | 0 | 0 | 0 |
| Other/not sure | 0 | 0 | 0 | 0 |
| | 100 | 100 | 100 | 100 |

Table 42: Timing of last withdrawal from a secret hiding place

| % | Karatina | Nyamira | Kitui | Overall |
|-----------------------------|----------|---------|-------|---------|
| In last week | 50 | 64 | 43 | 53 |
| In last month | 0 | 24 | 29 | 22 |
| In the last 6 months | 25 | 14 | 14 | 16 |
| In last year | 0 | 0 | 14 | 6 |
| Other/not sure | 25 | 0 | 0 | 3 |
| | 100 | 100 | 100 | 100 |

Table 43: Balances held in secret accounts

| | Karatina (N=3) | Nyamira (N=14) | Kitui (N=14) | Overall (N=31) |
|---------------|----------------|----------------|--------------|----------------|
| Mean | 350 | 2,155 | 522 | 1,237 |
| Median | 50 | 375 | 250 | 300 |
| Min | 0 | 0 | 0 | 0 |
| Max | 1,000 | 20,000 | 2,000 | 20,000 |

Table 44: Amount of last deposit - largest amount selected - secret place

| | Karatina (N=4) | Nyamira (N=16) | Kitui (N=14) | Overall (N=34) |
|---------------|----------------|----------------|--------------|----------------|
| Mean | 453 | 553 | 284 | 427 |
| Median | 400 | 200 | 225 | 250 |
| Min | 10 | 20 | 10 | 10 |
| Max | 1,000 | 5,000 | 900 | 5,000 |

Patterns of use are similar to those for bank and SACCO accounts with the majority of transactions being undertaken in the last 6 months. Reported actual deposits and withdrawals are more frequent than the "how often" question responses. More than 50% have deposited or withdrawn in the last week, whereas only 29% reported that this was the frequency of use.

5 reported zero balances at the time of the interview. Medians are all below KShs 500.

What is interesting here is the small size of deposits compared to those in the banks and SACCOs where the minimum was KShs100. Clearly secret places are convenient to put small amounts into on a more regular basis.

Table 45: Amount last withdrawn from a secret hiding place)

| | Karatina (N=3) | Nyamira (N=12) | Kitui (N=12) | Overall (N=27) |
|---------------|----------------|----------------|--------------|----------------|
| Mean | 1,267 | 1,295 | 365 | 879 |
| Median | 200 | 300 | 250 | 300 |
| Min | 100 | 50 | 30 | 30 |
| Max | 3,500 | 12,500 | 1,500 | 12,500 |

The number reporting amounts withdrawn is lower than those reporting saving there. Unsurprisingly these figures are much lower than for banks and SACCOs. The mean and median are a tenth of the size of the mean and median for SACCOs and less than a tenth for banks.

The main use of withdrawals was for meeting day to day expenses (36% of responses), the next most common uses (8% each) were personal expenditure (clothes, shoes etc) and education.

64% (of 33) reported that no-one else knew about their secret place for keeping money, 15% said that their spouse knew and 2 (5%) that someone else knew. 29 or 74% reported that no-one else had access with only 8% reporting that a spouse had access and 1 reporting that another person had access.

One person reported having lost savings though the cause was not reported.

2.8 LOANS FROM A SHOP

As table 5 above shows, prevalence of this borrowing is higher among men, those living in Kitui and those below the poverty line. However, interestingly the pattern by education level suggests that this type of borrowing also occurs amongst the educated.

31 had such loans outstanding ranging in amounts from KShs35 to KShs10,000 with a mean of KShs928 and median of KShs500. Amounts still outstanding ranged from KShs35 to KShs2,500 with a mean of KShs638 and median of KShs380. The majority of these had been taken for meeting day to day needs and usually involve taking goods from the shop in advance of payment.

While most loans had been taken in the last year, one dated back to 2009. Only one loan was reported for a week while 13 loans were reported to be paid between one and six months with most of these – 11 – having a month to pay. But a further 14 reported an open-ended repayment schedule of paying when they had the funds. None of these loans carried an interest rate and the majority were given at the first time of asking. In Kitui we encountered an arrangement where individuals were working in the farm of a shop-keeper to pay off the debt. Six reported having problems repaying the outstanding loan of which 5 were in Kitui and one in Nyamira.

Approximately half of those borrowing reported that they had consulted another member of the household before taking the loan and this was usually the wife in the case of men or household head in the case of women. Just under half of the loans involved discussion and agreement (13) while approximately a quarter involved simply informing the other person of the loan.

2.9 LOANS FROM A PERSON

21 loans outstanding amongst 17 individuals.⁶ More were taken by men than women and the 14% of the divorced, the highest of any borrowing source. By education they are spread reasonably equally. The least poor are have a lower frequency of borrowing from this source than other poverty categories.

The amounts borrowed varied from KShs150 to KShs20,000 with a mean of KShs2,750. All loans had been taken since 2009, suggesting that some may last up to two years. All of these loans were outstanding in their entirety suggesting that a one off approach to repayment was being used in all cases. Most of these loans are open ended with no interest and no additional charges reported. Most of them could be secured in one visit but 4 involved 2 visits and two took three visits to achieve, and there were no reported costs of making these visits.

The most frequently mentioned purpose was to meet day to day needs (5) followed by education (3) and emergencies (3), but embracing a range of other purposes and these were the most prominent purposes for which the loan was in fact used.

The majority did not consult another household member before borrowing – only 5 did this, split 3 men and two women and in 4 out of 5 of these they consulted their partner.

Eight respondents reported having problems repaying the loans, 5 men and 3 women and the five of the eight cases were in Kitui.

⁶ This does not include moneylenders.

Chapter 3

REGRESSION ANALYSIS

This section reports analysis of the survey data using regression techniques to establish which socio-economic, demographic and geographic indicators are most associated with access to and use of services.

The analysis uses a number of probit regression techniques. While access and use of each service can be modelled separately, the analysis has also used a multivariate probit specification which models access to each service within a cluster of services for formal services. This approach has been selected since it is sensible to suggest that access to a service may also be correlated to access to another service.

In preliminary analysis it was found that the natural log of income had a linear relationship with the access variables for bank, sacco and money transfer registration, but that income in Kenyan shillings and income squared had significant relationships for ROSCAs, ASCAs and MFI access. This therefore suggests a straight positive relationship for formal services and an inverse 'U' curve for informal services. This is intuitively appealing as it would be expected that informal group services would be more likely to be used by poorer people. Consequently these services have been modelled as two groups: one for the more formal services and one for the informal. It is not surprising that MFIs fit with the informal cluster since they have been primarily grounded in group-based approaches which mimic the informal sector.

In addition, the data from the survey on frequency of service use is utilised to establish whether there are variables associated with usage. The Heckman probit technique has been used to examine this. This model examines frequency of use in the form of a dichotomous variable for more or less frequent use. It is a two stage model that allows for selection bias by first modelling access and then use.

Given that the sample usually involved multiple observations from the same household, allowance has also been made for the clustering of standard errors in all specifications.

In particular a problem arose in the use of both distance and income in the specification for banks – if distance is included then the income variable is not significant, and vice versa. This arises from a strong but not excessively high correlation between income and distance (-0.51). This is interesting in itself because it suggests there is a strong relationship between poverty and distance even in these sites. However, this is potentially also a product of our income estimates which are derived from an estimation equation based on household characteristics and assets. Since this estimation involves three assets (fridge, radio/cd, and electric iron) that are electricity dependent, then it is not surprising that it predicts lower incomes at greater distances which are likely to be affected by no access to electricity, although there is a rural/urban variable which also compensates here.

3.1 Formal services

Table 46 gives the probit results for formal services. The test statistics indicated that the multivariate specification is appropriate as there is a 3% chance that correlation between standard errors is zero. But it is the connection between bank and SACCO that is significant pairwise and implies that people make a decision about whether to join a bank or a SACCO but M-PESA is not affected and this also makes sense given the different nature of the service that it offers. We therefore run a bivariate probit on bank and SACCO and an independent probit for M-PESA – which are reported in table 46.

Gender and education are the most consistently significant predictors of access across services, with both behaving largely as expected. Gender is significant for banks and SACCOs with men being more likely to use them and this is very significant for M-PESA. Education increases access at consecutively higher levels compared to having no education with all accounts except for SACCO, where the effect is only significant at the primary level.

Distance matters significantly for banks and significantly for MPESA, but not for SACCOs. Note that for MPESA, distance is positively associated with access indicating that those further away are more likely to use it. So suggesting that it may be acting as a substitute for other financial services for those living far from towns, although note that the regmpesa variable is positively correlated with bank access.

Income is only mildly associated with access for banks and is more significant for M-PESA although it becomes more significant in specifications that do not include employment type. Employment type is relative to the base of a main income from own agriculture. Being employed on a farm, domestic chores or casual labour significantly lowers the likelihood of use of banks, and mildly so M-PESA. Being in receipt of pensions or transfers significantly reduces the likelihood of access to banks and M-PESA. The latter being a little surprising given the emphasis on its use to receive transfers. Being in government employment significantly raise the likelihood of use of SACCOs and does being in own business for MPesa.

Age is highly significant for banks and SACCOs. The possibility of having cash crops rises with age as this usually goes alongside land inheritance. Additionally the likelihood of having had a job that requires access to a bank account or gives access to a SACCO also increases over time and SACCO membership is rarely given up because shares are bought and borrowing against the is possible.

Location effects are strongest for SACCOs with much lower use in Kitui (reg_eastern) relative to Karatina. Interestingly this is also the case for Nyamira although it has cash crops and a SACCO sector.

Table 46: Multivariate probit – formal services

| | (1) | (2) | (3) |
|-----------------------|--------------------|--------------------|-------------------|
| | Bivariate probit | | Probit |
| VARIABLES | bank | sacco | regmpesa |
| Respage | 0.0155** (0.00676) | 0.0478*** (0.0105) | 0.00705 (0.00665) |
| Respmale | 0.344** (0.166) | 0.429** (0.189) | 0.475*** (0.178) |
| Rprim | 0.797* (0.450) | 0.993** (0.436) | 1.072*** (0.312) |
| Rsec | 1.869*** (0.487) | 0.774 (0.516) | 1.614*** (0.360) |
| Rsecplus | 1.920*** (0.508) | 0.844 (0.617) | 2.168*** (0.490) |
| Respempfarm | -0.644** (0.255) | -0.567 (0.374) | -0.393* (0.229) |
| Respempgovt | 0.296 (0.602) | 1.521** (0.653) | 0.453 (0.522) |
| Respempprivsec | -0.505 (0.375) | -0.754 (0.471) | 0.514 (0.491) |
| Respownbus | 0.0697 (0.262) | -0.357 (0.339) | 0.536** (0.240) |
| Respension | -1.025*** (0.350) | -0.530 (0.402) | -0.600** (0.282) |
| Respothor | -0.100 (0.499) | -0.845 (0.700) | -0.0947 (0.432) |
| reg_eastern | -0.209 (0.241) | -2.127*** (0.344) | 0.186 (0.212) |
| reg_nyanza | -0.129 (0.236) | -0.991*** (0.304) | -0.323 (0.212) |
| newinc125 | 0.310* (0.170) | 0.277 (0.228) | 0.302** (0.152) |
| Ndbank | -0.0388** (0.0172) | | |
| Ndsacco | | -0.0377 (0.0295) | |
| Ndmpesa | | | 0.127** (0.0615) |
| Constant | -4.278*** (1.514) | -4.974** (1.972) | -3.977*** (1.309) |
| Athrho | -0.370*** (0.132) | | |
| Pseudo-R ² | | | 0.241 |
| Observations | 318 | 318 | 318 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Given the major role of education and gender, and the fact that distance is often considered as a key hurdle to access for banks, the graphs below compare the effects of each of these with distance (holding all other variables at their mean values). The effect of gender is equivalent to approximately 10km in distance though reduces at higher distances. That is, for a woman to have the same probability of having a bank account as a man, she needs to live 10km nearer to it. Alternatively, at a given distance the probability that a woman has a bank account is some 14% lower at near distances reducing to 5% lower at the farthest distances in our sample. The impact of education at secondary level and above is much greater still with the probability of having a bank account being absolutely greater regardless of distance (for the distances within our sample).

The relationship between gender, education and access has also been investigated with respect to the recent changes in the profile of bank services to see whether it might have changed. In 2005, Equity introduced an account with transaction based charging in the place of ledger fees and this has subsequently been replicated by a number of other institutions and has been a key shift in the sector's supply side offer.⁷ The data on account opening dates was used to break the sample into those who had opened a bank account before or after 2005. The regression considers only age, gender and education since any of the other variables used above could have changed since the account was opened. In addition the sample was restricted to those now over 25 years of age for regression 1 and restricted to those who had not already opened an account by 2005. Both regressions exclude those who had an account but could not recall what year it was opened (9 observations).

The results indicate that age is highly positively associated with access in regression 1 – table 47. This can be discounted as age is effectively operating as a control, since there were many more years within which to open an account pre-2005 than since 2005. It is the difference in significance between the two regressions for gender and education that is of most interest. The result for education suggests that while previously it was primarily those with an education beyond secondary level that were likely to have opened an account, now secondary education alone is influential.

The result for gender indicates that post 2005 being male is more influential than it was before 2005. This is entirely consistent with previous regression analysis using the 2006 and 2009 FinAccess surveys which showed that in 2006 being a woman had a negative but not significant association with bank access but that it became significantly negative in the 2009 analysis. However, a further test across the two regressions established that the 2009 data confirmed the negative association in the 2006 data rather than suggesting that it had structurally changed.⁸

Table 49: Independent probit regression for those opening bank accounts before and after 2005

| VARIABLES | (1) | (2) |
|--------------|---------------------|--------------------|
| | Bkb | bka |
| | bkb2005 | bka2005 |
| respage | 0.0261*** (0.00966) | -0.00289 (0.00597) |
| respmale | 0.0575 (0.233) | 0.404** (0.160) |
| rprim | 0.601 (0.649) | 0.488 (0.404) |
| rsec | 1.296* (0.701) | 1.557*** (0.435) |
| rsecplus | 2.045*** (0.743) | 1.743*** (0.461) |
| Constant | -3.601*** (1.019) | -1.534*** (0.549) |
| Observations | 283 | 304 |

Robust standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Figure 1: Effect of distance on probability of having a bank account by gender

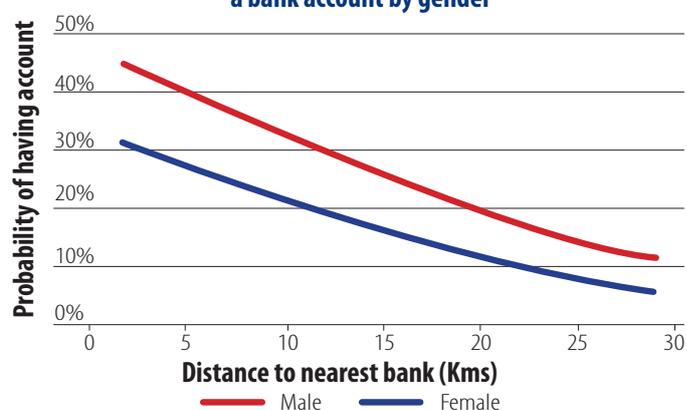
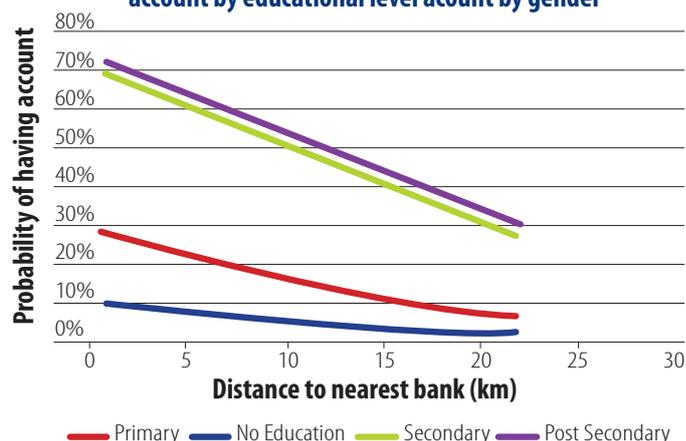


Figure 2: Effect of distance on probability of having a bank account by educational level account by gender



⁷ See Stone, R., S. Johnson, et al. (2010). Financial Sector Deepening Kenya Impact Assessment Nairobi, FSD Kenya for more details.
⁸ See Johnson and Arnold 2011

Table 47: Independent probit regression using split sample under and over 30 years of age

| | (1) | (2) | (3) | (4) |
|---------------|-------------------|-------------------|------------------|--------------------|
| | banky | banko | mpesay | mpesao |
| VARIABLES | bank | bank | regmpesa | regmpesa |
| respage | 0.183** (0.0806) | 0.00797 (0.0106) | 0.119* (0.0616) | -0.00729 (0.00955) |
| respmale | 0.139 (0.472) | 0.361 (0.228) | 2.084*** (0.591) | 0.236 (0.211) |
| rprim | 3.653*** (0.862) | 0.651 (0.458) | 4.084 (5.125) | 0.943*** (0.354) |
| rsec | 5.523*** (0.855) | 1.772*** (0.501) | 5.376 (5.123) | 1.280*** (0.428) |
| rsecplus | 4.549 (0) | 1.830*** (0.583) | 6.689 (5.714) | 1.726*** (0.585) |
| newinc125 | -0.0235 (0.472) | 0.445** (0.211) | 0.0901 (0.550) | 0.395** (0.196) |
| respmpfarm | 0.132 (0.538) | -1.192*** (0.409) | -0.522 (0.531) | -0.363 (0.261) |
| respmpgovt | | 0.209 (0.497) | | 0.367 (0.661) |
| respmpprivsec | -1.244 (1.053) | -0.0905 (0.464) | | 0.0912 (0.488) |
| responbus | -0.159 (0.680) | 0.121 (0.301) | 1.475** (0.630) | 0.561* (0.338) |
| respension | -0.455 (1.040) | -1.002** (0.417) | -0.166 (0.773) | -0.771** (0.317) |
| respothor | | -0.707 (0.707) | | -0.215 (0.642) |
| reg_eastern | 0.152 (0.575) | -0.301 (0.319) | 0.692 (0.644) | 0.0611 (0.288) |
| reg_nyanza | -0.903* (0.526) | 0.0232 (0.284) | -1.315** (0.626) | -0.159 (0.264) |
| ndbank | -0.0968* (0.0534) | -0.0189 (0.0217) | | |
| ndmpesa | | | 0.281 (0.187) | 0.0964 (0.0738) |
| Constant | -8.822* (4.849) | -4.997** (1.941) | -9.736 (0) | -3.549** (1.793) |
| Observations | 83 | 233 | 77 | 233 |

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Further, the sample has been divided into those under and over 30 years of age, in order to examine whether the variables associated with use are different for these age groups.

To examine the age effect further the sample has been split to those over and under 30 years for bank and mpesa access. This renders the age variables significant for the under 30s in both cases with strong positive effects. This is understandable in that it reflects the fact that those who are older in this age group are more likely to have accounts, but interesting that this effect does not

appear in the over 30 age group. The gender effect disappears in this specification for banks. For M-PESA the gender effect is particularly strong among the young, hence young men are much more likely than young women to use it. Intriguingly the effect of education is a little different for the younger group in access to banks with education beyond secondary not being significant but having had a primary education being highly significant so suggesting that banking is penetrating further down into this category. The effect of education disappears completely for the younger group in relation to M-PESA while remaining in the older group as in the regression on the overall sample.

Income is not significant for the younger group in relation to access to either service. This is interesting as it suggests their access is more strongly determined by other more structural factors in their early adulthood. Younger people with their own businesses are much more likely than those whose main income is from agriculture to have M-PESA compared to the older group and the negative effect of those receiving pensions or transfers compared to own agriculture is stronger for the older group. Younger people in Nyamira

are much less likely than those in Karatina to have it. We noted in our sample the presence of more young couples in Nyamira than in Karatina and this suggested they were less likely to have ventured out of the area and therefore were less likely to have developed outside connections that M-PESA and phones could be used to facilitate. Distance appears mildly significant and negative for banks for the younger rather than the older group suggesting that simple proximity improves the likelihood that younger people will open an account.

Table 48: Access and use of formal services – Heckman probit

| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) |
|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|-------------------|
| | Bank | | SACCO | | MPESA | |
| | Use | Access | Use | Access | Use | Access |
| respage | | 0.0165*** (0.00718) | | 0.0465*** (0.0103) | | 0.00725 (0.00555) |
| respmale | -0.00930 (0.294) | 0.366** (0.172) | 0.650* (0.335) | 0.460** (0.195) | 0.00325 (0.172) | 0.0975 (0.153) |
| rprim | 0.222 (1.043) | 0.722 (0.457) | -0.498 (0.801) | 0.882* (0.461) | -0.00839 (0.312) | 0.630** (0.267) |
| rsec | 0.290 (1.159) | 1.812*** (0.501) | -0.341 (0.836) | 0.665 (0.539) | 0.127 (0.334) | 0.653** (0.311) |
| rsecplus | 0.694 (1.150) | 1.866*** (0.530) | 1.036 (0.987) | 0.745 (0.634) | 0.328 | 1.056*** (0.406) |
| newinc125 | 0.665*** (0.227) | 0.369* (0.189) | 0.149 (0.323) | 0.309 (0.234) | 0.124 (0.148) | 0.357** (0.148) |
| respempfarm | | -0.573* (0.300) | | -0.662* (0.384) | | 0.337* (0.195) |
| respempgovt | | 0.153 (0.696) | | 1.320** (0.638) | | -0.292 (0.403) |
| respempprivsec | | -0.615 (0.394) | | -0.938** (0.456) | | 0.394 (0.395) |
| respownbus | | 0.0594 (0.273) | | -0.389 (0.325) | | -0.0556 (0.221) |
| respension | | -1.093*** (0.394) | | -0.417 (0.409) | | 0.0637 (0.239) |
| respothor | | -0.0730 (0.523) | | -0.836 (0.664) | | 0.751 (0.497) |
| reg_eastern | | -0.144 (0.231) | | -2.067*** (0.336) | | 0.337 (0.216) |
| reg_nyanza | | -0.0317 (0.250) | | -0.952*** (0.301) | | 0.310 (0.201) |
| ndbank | -0.0495* (0.0271) | -0.0415** (0.0178) | | | | |
| ndsacco | | | 0.148*** (0.0516) | -0.0406 (0.0298) | | |
| ndmpesa | | | | | -0.00618 (0.0718) | 0.0256 (0.0581) |
| Constant | -5.696** (2.519) | -4.782*** (1.737) | -1.968 (2.796) | -5.089** (2.037) | -2.080* (1.194) | -3.969*** (1.284) |
| Observations | 314 | 314 | 317 | 317 | 318 | 318 |
| Athrho | 0.415 (0.739) | | 0.534 (0.404) | | 2.924** (1.461) | |
| p_c | 0.574 | 0.574 | 0.186 | 0.186 | 0.0453 | 0.0453 |
| p | 0.000748 | 0.000748 | 0.0159 | 0.0159 | 0.688 | 0.688 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The positive relationship of M-PESA with distance does not appear in this split regression.

Finally, the results for the Heckman probit on usage are presented in table 48. Use is a dichotomous variable with more frequent use as monthly or more often compared to less than monthly use. The access regressions closely reflect the multivariate probit results reported above.

For banks the use regression shows that for banks income is strongly associated with monthly or more frequent use. Those with higher incomes are much more likely to use the bank regularly and there is a mild negative effect of distance.

For SACCOs, more frequent use is associated with men and positively related to distance. This is fully consistent with the context of men usually being the recipients of regular cash crop payments and the need to travel to the SACCO to receive them, whatever the distance.

For money transfer, none of the variables are significantly associated with more frequent usage. Even income level does not appear to raise the frequency of use to more than monthly.

3.2 MFIS AND INFORMAL SERVICES

In the regressions for MFIs and informal groups it has not been possible to include distances. This is primarily because it is not possible to establish the closest source of supply for those not using them. Since, even though groups may operate in the locality, it is not possible to suggest that individuals would be free to join them if they wished to.

These regressions are undertaken as separate probits (ie not the multivariate form used above), because the categorisations are not distinct and individuals can be in more than one group with different functions. Financial group refers to any group that has a financial function. ROSCAs and ASCAs refers to someone being in a group with this function.

Table 50: Independent probits for informal groups and ROSCA and ASCA functions

| VARIABLES | (1) pincsgroup group | (2) pincsgrosca rosca | (3) pincsgasca asca | (4) pmfi2 mfaccount2 |
|---------------|----------------------------|-----------------------------|---------------------------|----------------------------|
| respage | -0.0101 (0.00631) | -0.00954 (0.00651) | -0.00666 (0.00719) | -0.00942 (0.0105) |
| respmale | -0.519*** (0.151) | -0.887*** (0.168) | -0.523*** (0.152) | -1.126*** (0.416) |
| rprim | 0.363 (0.281) | 0.0599 (0.302) | 0.00695 (0.324) | 5.481*** (0.432) |
| rsec | 0.320 (0.339) | -0.164 (0.346) | -0.0593 (0.376) | 5.160*** (0.498) |
| rsecplus | 0.650 (0.415) | 0.0392 (0.426) | -0.126 (0.470) | 5.225 (0) |
| respmpfarm | -0.0541 (0.204) | -0.136 (0.216) | -0.368* (0.222) | |
| respmpgovt | -0.365 (0.434) | 0.109 (0.431) | -0.308 (0.440) | |
| respmpprivsec | -0.0658 (0.315) | -0.0605 (0.344) | -0.340 (0.383) | -0.157 (0.543) |
| respownbus | -0.00586 (0.211) | -0.0305 (0.234) | -0.300 (0.250) | 0.683* (0.381) |
| respension | -0.181 (0.233) | -0.0987 (0.251) | -0.356 (0.271) | 0.172 (0.447) |
| respothor | -0.296 (0.472) | -0.961* (0.545) | 0.155 (0.441) | |
| reg_eastern | -0.133 (0.205) | -0.448** (0.213) | 0.935*** (0.244) | -0.278 (0.406) |
| reg_nyanza | 0.120 (0.212) | 0.116 (0.206) | 0.767*** (0.253) | -0.114 (0.439) |
| newincksh | 5.38e-05 (5.94e-05) | 0.000298*** | 0.000121* (6.85e-05) | 0.000296 (0.000180) |
| newincksh2 | -5.16e-09* (2.65e-09) | -2.33e-08*** (7.91e-09) | -5.63e-09* (3.01e-09) | -1.50e-08 (1.08e-08) |
| Constant | 0.404 (0.552) | -0.0355 (0.574) | -0.876 (0.637) | -7.370*** (1.051) |
| Observations | 332 | 332 | 331 | 239 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

For MFIs (column 4 table 50), the key results are again gender and education. The gender result is expected given the focus of many MFIs on women – and the market leader in terms of client numbers being a solely woman-focussed institution (KWFT). The education results suggest that those educated to primary level. Interestingly those having own business rather than agriculture is only mildly significant, which is a little surprising given the focus of these institutions on micro-entrepreneurs. However, it may be explained by the fact that enterprise activities are supplementary to main incomes for many.

For informal groups of any type and ROSCAs and ASCAs, the variables that come out as significantly associated with use are gender, region and income.

In all cases men are less likely to use groups than women. However, for region, it appears that ROSCAs are less likely to be used in Kitui. This is a little surprising given historically strong labour groups in that area, but may be explained by the difficulties of making regular payments. As noted in the supply side analysis, means of making ROSCA payments flexible were evident, but overall low incomes and seasonality reduce their use. However, ASCAs are more likely in both Kitui and Nyamira compared to Karatina. Again it was evident in the supply analysis that there were ASCA promotion agencies in both of these areas. In Kitui the ASCA form being promoted was a very highly flexible model in terms of repayment which could overcome the problems associated with ROSCAs. The income/income squared specification is most significant for ROSCAs, confirming the greater use of these by those on low incomes.

Table 51: Independent probit regressions for informal services using split sample under and over 30 years of age

| VARIABLES | (1) | (2) | (3) | (4) |
|---------------|----------------------|------------------------|----------------------|-------------------------|
| | ASCA | | ROSCA | |
| | Young | Old | Young | Old |
| respage | 0.109** (0.0519) | -0.0230* (0.0118) | 0.0474 (0.0463) | -0.0215** (0.0105) |
| respmale | -1.038*** (0.326) | -0.403** (0.183) | -0.919** (0.369) | -0.986*** (0.197) |
| rprim | 5.951*** (0.780) | -0.416 (0.371) | 6.575*** (0.639) | -0.0797 (0.340) |
| rsec | 6.176*** (0.843) | -0.461 (0.414) | 6.712*** (0.661) | -0.537 (0.404) |
| rsecplus | 5.564 (0) | -0.625 (0.530) | 6.272 (0) | -0.176 (0.504) |
| newincksh | -8.51e-05 (0.000142) | 0.000204** (8.85e-05) | 0.000242 (0.000201) | 0.000369*** (0.000129) |
| newincksh2 | 2.12e-09 (4.82e-09) | -9.31e-09** (4.57e-09) | -1.81e-08 (1.39e-08) | -2.83e-08*** (9.23e-09) |
| respmpfarm | -0.152 (0.408) | -0.376 (0.289) | -0.610 (0.457) | 0.0406 (0.269) |
| respmpgovt | | -0.436 (0.438) | | 0.186 (0.503) |
| respmpprivsec | -0.342 (0.788) | -0.105 (0.450) | -0.517 (0.678) | 0.214 (0.423) |
| responbus | -0.627 (0.531) | -0.177 (0.299) | -0.813* (0.451) | 0.161 (0.290) |
| respension | 0.524 (0.619) | -0.479 (0.309) | 0.111 (0.722) | -0.107 (0.291) |
| respothor | | 0.478 (0.481) | | -0.709 (0.574) |
| reg_eastern | 0.988** (0.462) | 0.873*** (0.281) | -1.107** (0.450) | -0.267 |
| reg_nyanza | 0.336 (0.495) | 0.921*** (0.276) | -0.0740 | 0.186 |
| Constant | -9.107*** (1.808) | -0.0710 (0.863) | -7.438*** (1.755) | 0.494 (0.795) |
| Observations | 87 | 242 | 87 | 243 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Splitting the sample by age (table 51) gives results on gender that are the same for both old and young men. This points again to the difficulty for men of having the social connections to create such groups. Having a primary or secondary education raises the likelihood of using ASCAs for younger people, an effect not seen in the pooled regression and which may suggest that education is a strong factor in joining the newly promoted ASCA programmes. Income/income squared is associated with higher use of ASCAs and ROSCAs for the older category but owning your own business compared to the main income being from own agriculture lowers use of ROSCAs which is not intuitively explicable but only mildly significant. Being in Kitui is associated with a significantly lower likelihood of use of ROSCAs by younger people compared to Karatina, but higher likelihood of use of ASCAs for both age groups.

Finally, while we endeavoured to run Heckman probits to investigate the factors that might be associated with more frequent use of group based services, these did not yield results. We therefore report independent probits for more/less frequent use – table 52. These are not therefore corrected for the selection bias of who uses these groups in the first place.

The results mainly confirm the relationship between ROSCAs and income/income squared, suggesting that there is more frequent use of ROSCAs (by those who are in them) as incomes rise but that this reduces after some level of income is reached.

Table 52: Frequency of use of groups, ROSCAs and ASCAs - independent probits

| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) |
|---------------|-----------------|-----------------|----------------|-------------------------|---------------------------|-------------------------|
| | group | rosca | asca | group2 | rosca2 | asca2 |
| | groupreg | roscareg | ascareg | groupreg | roscareg | ascareg |
| respmale | 0.0166 (0.242) | -0.402 (0.273) | 0.348 (0.319) | 0.0139 (0.242) | -0.485* (0.279) | 0.382 (0.322) |
| rprim | 0.259 (0.408) | 0.514 (0.435) | 0.213 (0.471) | 0.237 (0.409) | 0.371 (0.459) | 0.199 (0.471) |
| rsec | -0.448 (0.436) | 0.220 (0.464) | -0.141 (0.536) | -0.444 (0.439) | 0.0200 (0.498) | -0.107 (0.539) |
| rsecplus | -0.923* (0.534) | -0.0864 (0.535) | 0.126 (0.618) | -0.864 (0.534) | -0.269 (0.584) | 0.165 (0.627) |
| newinc125KShs | | | | 0.000111 (0.000134) | 0.000761*** (0.000274) | -0.000212 (0.000173) |
| newincsh2 | | | | -3.71e-09 (6.19e-09) | -4.65e-08** (1.87e-08) | 7.72e-09 (7.74e-09) |
| newinc125 | 0.245 (0.193) | 0.358 (0.225) | -0.188 (0.247) | | | |
| Constant | -1.790 (1.544) | -2.804 (1.809) | 1.340 (1.990) | -0.113 (0.451) | -1.101* (0.602) | 0.304 (0.548) |
| Observations | 151 | 124 | 89 | 151 | 124 | 89 |

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

