KENYA FINANCIAL DIARIES

SHILINGI KWA SHILINGI - THE FINANCIAL LIVES OF THE POOR

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financial DIARIES

FSD Kenya
Financial Sector Deepening

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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). Current funders include the UK's Department for International Development (DFID), the Swedish International Development Agency (SIDA), and the Bill and Melinda Gates Foundation.

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Abbreviations

ASAL	Arid and semi-arid lands
ASCA	Accumulating savings and credit association
BFA	Bankable Frontier Associates
DDD	Digital Divide Data
DFID	Department for International Development
FSD	Financial Sector Deepening
GAFIS	Gateway Financial Innovations for Savings
KSh	Kenya Shillings
MFI	Microfinance institution
NHIF	National Health Insurance Fund
PIC	Programme Investment Committee
ROSCA	Rotating savings and credit association
RR	Resources received
SACCO	Savings and credit cooperative organization
SIDA	Swedish International Development Agency

EXECUTIVE SUMMARY

BACKGROUND

The Kenya Financial Diaries was an ambitious project designed to deepen understanding of the financial lives of low-income Kenyans by capturing all of their transactions over the course of a year, through fortnightly visits. Alongside quantitative records of money flowing into and out from the study households, interviewers recorded respondents' stories, perceptions, and the events happening in their lives.

This project – one of the largest of its kind – covered 300 households about evenly distributed across five areas of the country. It provides a new and deep view of how Kenyans get by on low-incomes and offers new insights into how they use and think about their money. These insights can be quite useful to institutions serving the poor, offering up new perspectives on how the financial barriers to saving, borrowing, health care, education, and investing might be overcome.

KEY FINDINGS

Incomes are pieced together from multiple sources. The median household in our study had 10 separate income sources registered throughout the Diaries year. Many of those income sources were separately registered sources of social support from friends and family, what we call "resources received." If we put those income sources aside, we still find that the median number of income sources in a household is five – a large number. That means typical families are piecing together incomes from many different sources to try and construct a bigger whole. In some cases, it reflects instead frequent shifts in income-earning strategies throughout the project, moving between, for example, running businesses and picking up casual work.

Households face high levels of volatility in both income and consumption spending. Like poor people around the world, our Kenyan respondents face a combination of low-incomes and much uncertainty and volatility in their spending needs and ability to generate income. For the median household, income fluctuated ± 55% from month to month and consumption fluctuated ± 43%. In many cases, to meet new, lumpy expenditure needs, households seek new income – particularly in the form of contributions from friends and relatives – but also by waiting for corresponding lumpy payouts from other income sources.

Resources received – remittances and contributions from the social network – are a very important source of income, particularly for rural households and women. Resources received were not just large in number, but also as a share of total income; this was particularly so in rural areas, where resources received accounted for 25% of income in the median rural household, versus just 6% in urban households. These contributions and remittances appear to target women in particular. Eighty-five per cent of women in our study received income from this source and, for these women, it accounted for 33% of income at the median. Men were less likely to receive this kind of money and, if they did, it was a very small share of income – just 4% at the median.

These contributions help cover basic needs but also enable families to stretch and cover unexpected expenses. As a result, they have a smoothing effect in rural areas, helping to reduce some of the volatility in income that these households otherwise experience. Our data suggest that rural households are subject to greater volatility in both income and consumption but some of that is mediated on the income side through resources received and on the consumption side from consuming agricultural products produced by the household itself.

The financial management strategies of low-income Kenyans place a lot of emphasis on creating possible space for liquidity when unexpected needs arise. Faced with already tight budgets and high levels of uncertainty around their incomes and spending needs, poor households try to create elasticity in their budgets by keeping a bit of liquid savings, keeping lines of credit open, and cultivating relationships that might help provide resources when needed or open new opportunities for earning income – even if short term. However, only a small share of this stretching capacity is derived from liquid savings.

But that doesn't mean they are not saving at all. Kenyans are active money managers and savers. The median study household mediates the equivalent of 128% of its income through financial devices. This figure – that exceeds 100% – indicates that the typical household is constantly moving the same money into and out of financial devices, even short term ones, such as high frequency *chamas* (savings groups) or saving in the house. Some take goods on credit and pay after just a day. The day-to-day strategy is all about juggling obligations and keeping some open space to cater for needs that might arise.

Respondents emphasise savings more than borrowing. At the end of the study, the median household held the equivalent of 129% of their monthly income in financial assets, versus the equivalent of about 53% of their monthly income in liabilities. This financial asset accumulation is higher than we have observed among low-income people in other countries. However, only about 9% of the typical household's savings are held in formal institutions. Instead, this money is mediated informally.

This saving is "active" and not immediately available in liquid form. Our respondents appear averse to leaving money idle. Instead, they want to see their savings working – providing some immediate benefit – whether that is in buying consumption goods or physical assets, producing immediate returns, enabling them to borrow, or enabling a friend or relative to make an investment today. Stemming from this preference, we observe that many households spend as they earn, matching their incomes to immediate

spending, particularly on lumpy expenses. A bonus from work might, for example, immediately translate into the purchase of cushions for the sofa.

Savings are quickly shuffled to financial devices that provide immediate auxiliary benefits, either directly to the saver or to his or her social network. For example, money in a rotating savings and credit association (ROSCA) is immediately put to work helping a neighbour grow her business while the saver waits her turn. Large sums held as shares in a savings and credit cooperative organisation (SACCO) enable the saver to borrow today; but even if he or she does not need to borrow immediately, those savings ensure the possibility of stretch down the road, when the saver is able and ready to buy a piece of land. For money to be working, the benefits should be tangible and visible

The result is that psychologically – and often in actuality – much of the savings that low-income people hold are not liquid in the sense that they are not immediately available for withdrawal. We estimate that the median household keeps only about 10% of their financial assets in a liquid form.

There are trade-offs between the two financial management challenges facing the poor: ensuring short-term liquidity and making long-term investments in the future. Keeping most of their savings in illiquid form enables many households to save in order to invest, even if the total sums remain modest. But it also means that when urgent, unexpected needs arise, there is often no money on hand to navigate the emergency. This causes particular problems when it comes to seeking medical care. We observed important delays – in some cases resulting in death – from respondents' inability to finance emergency health spending. In some cases, the financial barriers were substantial – above KSh 20,000 – but in many cases, important delays in treating things like malaria and other infections stemmed from only very small financial barriers, below KSh 500.

Financing options for longer-term investment are limited. Despite the intentions of respondents to save in order to invest, the sums they access for this purpose tend to be modest. The most widely and successfully used financial device for investment activities is the ROSCA, but the median payout is just KSh1,500 – often not enough to make a large and lasting impact on a person's livelihood. It appears that many households could be underinvesting in livelihoods improvements. Borrowing for investment is fairly limited and concentrated in informal devices.

IMPLICATIONS

This study presents many new insights into how Kenya's poor households manage their money. It highlights the need for more diverse financial service options that help people manage short-term liquidity and long-term investment in the face of tremendous uncertainty in their incomes and consumption needs. We suggest that service providers dedicate more attention to helping their customers feel their savings are working for them, enabling low-income people to invest in the advancement of their livelihoods. Kenyans are already active money managers, willing to experiment with a wide range of financial services. Financial service providers might make their own products more attractive by better fitting the services on offer to the needs of low-income people and by improving the quality of their service experience.

ACKNOWLEDGEMENTS

This project demanded the highest levels of energy and commitment from field researchers who contended with long and strange hours, difficult living and working conditions, and the headaches that come along with implementing troublesome new software. Still, they entered every interview with attention and compassion – evidence of their deep commitment to capture these important stories. Our thanks goes to the entire research team: Michelle Hassan, Anne Gachoka, Duncan Washington, Catherine Wanjala, Perez Otonde, Catherine Muniu, Harrizon Kirui, Hildah Ogeto, Naomi Kiiru, Norman Manthi, Emmanuel Muasya, Nekesa Wekesa, Pauline Munga, Hildah Chao, and Peter Njomo.

We are also grateful for the helpful guidance and wisdom provided by the project advisory group: Lisa Parrot, Angela Wambugu, Shem Ouma, Beth Mwangi, and Ambreena Manji.

Finally, we thank the 350 families who welcomed us into their homes, were so patient with us, and shared with our team the most intimate details of their financial lives. We hope we tell your stories well.

Note: The names of all respondents have been changed to protect their privacy. The average exchange rate of the Kenya Shilling to the US Dollar during the period of the study was about 85 to 1.

Chapter 1

INTRODUCTION AND METHODOLOGY

Figure 1: Kenya Financial Diaries sites

BACKGROUND

How do low-income households manage their money and what does that tell us about their financial services needs? Starting in 2012, FSD Kenya commissioned the Kenya Financial Diaries project to more deeply understand the financial behaviours and needs of low-income Kenyans. The study was ambitious: we would attempt to track all of the cash flows in 300 diverse households across five areas of the country for an entire year. We imagined that this kind of deep and systematic view of money management would complement previous research, helping shed new light on patterns observed in quantitative surveys, like FinAccess 2013, and through deep qualitative projects, including Johnson et al.'s (2012) Financial Landscapes research, supported by FSD Kenya. We expected to be able to view Kenyan's financial behaviours in greater depth, with greater content helping us envision new and better ways to meet their financial needs.

Between June 2012 and October 2013, a team of dedicated researchers visited 300[1] selected study households every two weeks to record the events and transactions of the preceding fortnight on a tablet computer, attempting to capture and balance all of the household's sources of money and all of its uses. Through this process, we obtained a deeper and richer view of money management in low-income households with broad implications for how the financial services industry can better serve low-income Kenyans.

1 We initially oversampled to include 350 households and ended the study with 298. Households left the study for several reasons: by moving outside of study geographies, at their own request, and occasionally by the prompting of the research team due to insecurity or concerns about households' willingness to be forthcoming about important sources of income. This 15% attrition rate is similar to that of the South African Financial Diaries.

SAMPLE

This study included a very diverse set of households to reflect the diversity of Kenya itself. We selected the 300 households from five areas of the country:

1. **Nairobi** – the major urban hub of the country where there was also a significant number of GAFIS product users;
2. **Makueni** – to reflect rural livelihoods in an area with a history of food insecurity, recovering from a serious drought in the preceding year;
3. **Mombasa** – to cover both the urban environment and port economy as well as some of the rural areas where national surveys continuously reveal high incidences of poverty;
4. **Eldoret** – a strong agricultural economy, with nearby tea-producing zones, and which also serves as an important, though smaller, urban trading centre; and
5. **Vihiga** – to allow us to better understand rural livelihoods in Western Kenya and to include households who were members of CARE-trained *chamas*.

KSh2,167

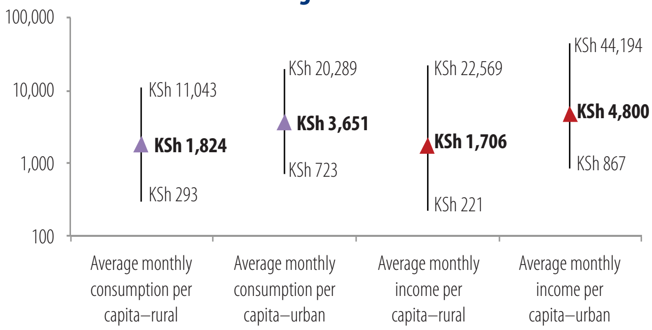
Median monthly per capita income (USD 25.50)

In each area we selected 70 households at the start of the study – 35 per interviewer – expecting some attrition throughout the study. We did not intend to capture a statistically representative sample, but instead selected households to reflect the diversity of livelihood strategies, income levels (within the low-income range), and household structures that exist across Kenya. Our final sample reflects those intentions with 31% of households in urban areas and 69% in rural areas, quite similar to the distribution of 32% and 68% respectively from the 2009 national census. In terms of poverty, 72% of the Financial Diaries households get by on less than the equivalent of USD 2 per day (KSh119 per day). The remainder are still low-income, with 95% falling below a USD5 per day threshold.[2]

Even within this low-income segment there is a tremendous range of incomes and diversity of livelihoods strategies. While median monthly per capita income is just KSh2,167, the highest-income household in the study – which runs two bars in Nairobi – reached up to KSh44,194 per month. Monthly per capita income was as low as KSh221 per month for the lowest earning household – an HIV-positive single mother living with her three children. They experience frequent hunger, barely scraping by on a mix of casual jobs and in-kind food handouts from concerned neighbours and well-wishers.

2 These calculations are based on consumption expenditure as well as consumption from the household's own production, averaged across the core months of data collection and divided by the OECD equivalent adult household members. The poverty line of USD2 per day is based on adjusted 2005 prices which, during the study period, translated to a per capita monthly expenditure of KSh3,570. Poverty has not been measured on a national scale in Kenya since 2005, when the percentage of the population falling below the USD2 per day line was 67.2%. National surveys that measure poverty may underestimate the poor in comparison to our methodology which tracks spending over an entire year.

Figure 2: Respondent households cover a wide range of income (KSh) and consumption levels within the low-income segment.



METHODOLOGY

Each of our 10 field researchers was assigned a community or a set of neighbouring communities where they would work throughout the project, from recruitment to closing. Our hope was that each researcher would build relationships with their assigned communities and households, that would continually deepen their understanding of the behaviours we were trying to observe.

After a period of community integration we began a recruitment process in each area, first through introductions via local authorities and then with the assistance of village elders and community health workers who introduced us to local families. Our team administered screening interviews to eligible and willing households in each area to document key household traits, such as household structure, main income source, approximate wealth level, and willingness and ability to commit to such a long-term study. We selected households to fit targets for traits reflected in the broader population, trying to achieve diversity.

Data collection began with a series of "initial questionnaires" through which we collected essential background information on the household and registered known income sources and financial devices. Once household members, income sources, and financial devices were registered, our software would produce a customised Financial Diaries questionnaire for each household. This would be updated on each visit as households revealed new income sources or financial devices they had not recalled or had intentionally not disclosed in earlier stages.

During regular Financial Diaries visits interviewers spoke with the adults in the household and walked through all the transactions respondents had made in terms of both sources and corresponding uses of money. The process of recording cash flows is at first systematic, becoming iterative as an interviewer works to balance sources of money with uses, particularly for lumpy inflows and outflows. For example, an interviewer would first walk through known income sources and corresponding uses of money. But, then the interview might notice that the respondent has purchased a bicycle. The interviewer would then probe around that particular expense and ask where the money came from to make that purchase. Interviewers work through all existing (and new) income sources, expense categories, and financial devices and probe to achieve a balance between the sources and uses of money.

Table 1: Example summary of sources and uses of income.

SOURCES	KSh	USES	KSh
Income – teacher	15,000	Direct deposit of salary	15,000
Withdrawal at an ATM	8,000	Groceries	4,000
Receive money from husband	2,000	Airtime	200
Borrowing from a neighbour	400	School fees	5,500
		Payment into a *chama*	300
		Welfare group contribution	400
TOTAL SOURCES	**25,400**	**TOTAL USES**	**25,400**

These cash flows are disaggregated to the level of specific transactions. For example, we did not just collect the value spent on food over a two-week period, but rather captured each individual purchase. We collected a number of particular attributes for each transaction: the date, value, mode of payment, geographic location, and type of merchant. This allowed us to understand payments and shopping patterns in great detail.

Chapter 2

KEY FINDINGS

2.1 SOURCES OF INCOME

Low-income Kenyans have multiple income sources

We found that not a single household received money from only one source; **in fact, the median household had 10 separate income sources.** In comparison, the median low-income household in urban South Africa has about five income sources[3]. By far, the most frequent of these income types was "resources received" (RR)– our designation for contributions, remittances, and other gifts given to respondents within their social networks. RR excludes donations from institutions like churches, charities, and the government, which we designate as "non-employment income". In relation to resources received, we attempt to register each giver separately so that we can track those relationships distinctly. **When we strip out the many sources of resources received in study households, we find that the median household still had five separate income sources** whose importance changed and shifted over the course of the year.

What does that mean? Let's take a look at a couple of examples: George and Jennifer[4].

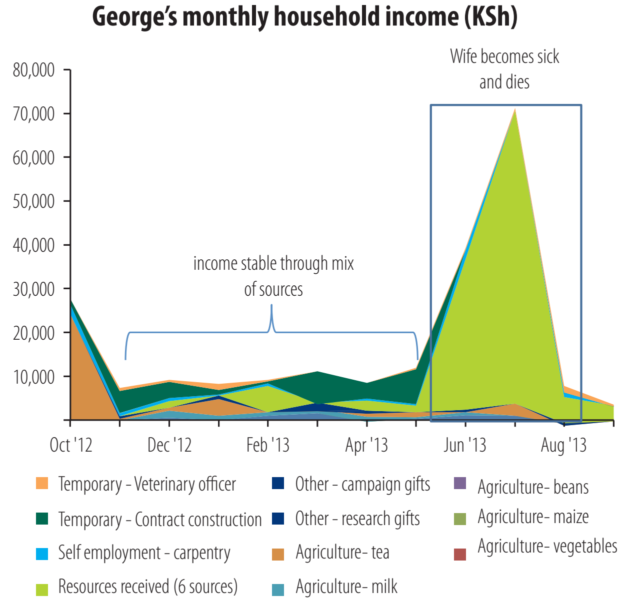
George has a large number of income sources – 11 by our calculation – if we leave out the many sources of resources received over the course of the year. Five of those income sources are from agriculture: tea, milk, maize, vegetables and bananas. While George considers himself a farmer, nearly half – and sometimes more – of his income comes from casual work on construction sites and a side business working as a carpenter. His wife Judith used to help with the labour on the farm and also sold bananas and vegetables when they were in season. The rest of their income was kept stable by RR, contributions from friends and family, which spiked dramatically in June and July when Judith became sick and eventually passed away. (We will discuss that event in greater detail later in this report.) But before that major shock, the household was able to keep its income fairly steady, through a patchwork of varied income-generating activities[5].

3 From the Financial Diaries project implemented by Bankable Frontier Associates in 2012–13 as part of the GAFIS project.

4 The names of all respondents have been changed to protect their privacy.

5 Some income sources even go negative in a given month. This is because what we are charting is net income from the source. In agriculture and self-employment, some expenses may be incurred before revenue, resulting in negative net income for a given month.

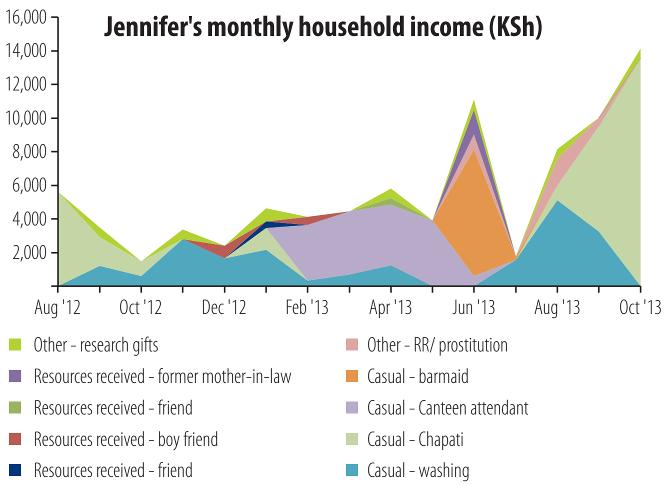
Figure 3: The income composition from George's household is an example of a household patching together a somewhat stable overall income by piecing together money from many sources.



Jennifer, on the other hand, has an average number of income sources (five) excluding resources received and gifts from the research firm[6]. But, unlike George – who patched his income together from multiple sources simultaneously and consistently – Jennifer's large number of income sources reflects her frequent shifting of livelihood strategies. She jumped around trying to find something that would work to meet her household's needs. She started off focused on selling *chapati* (flatbreads), but business went down in November when demand contracted. She went back to doing more casual work, washing clothes for moderately more wealthy families. She cut back on the washing when she was lucky to land a temporary, casual job working in the canteen of a local school. On weekends she would pick up some washing jobs for extra money. The canteen job didn't last, though, and she was on her own again when schools closed at the end of the term. She was then offered a position as a barmaid. The money was good but she hated the long hours and having to stay up late with drunk men. Still, that money, along with some extra earned during a very brief foray into prostitution, helped her to get back to her *chapati* business which was booming at the project's end.

6 The research firm provided small gifts as cash or via M-Pesa at surprise times and in surprise values throughout the study to thank respondents for their participation. Values ranged from KSh400–800 and were a very small share of income for most. We do track these as income so that we can also track expenditures that were enabled by these extra inflows.

Figure 4: Jennifer's household has the median number of income sources in the study. Her income structure over the year shows a pattern of shifting and changing income strategies[7].



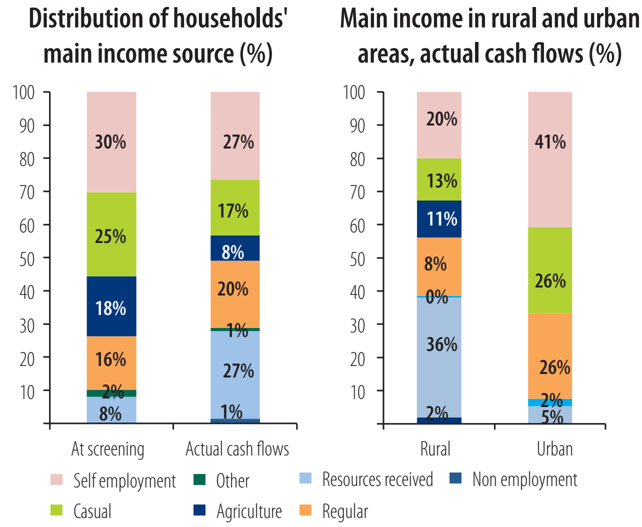
Jennifer had to "hustle" to find these various income sources and always felt strained, not knowing where the money to pay rent and buy food would come from when one of her strategies wasn't working. Once, at a particularly low point, she told us that she badly beat her daughter who had lost the KSh50 Jennifer had given her to buy food. Jennifer was upset with herself. She didn't mean to be so harsh, but it was her last 50 shillings and she didn't know where the next 50 would come from. At one point, she broke down crying, and told us how she wished she could go home – upcountry – but she knew she was stuck in Nairobi since she had children that would be too big a burden to impose on her mother. For her, the many sources of income were not a calculated diversification but rather a result of desperation.

What we observe in both cases is that **it is really consumption– the driving need to meet minimum requirements of food, shelter, and health care – that drives livelihoods strategies, rather than income strictly outlining consumption possibilities.** These households survive so close to the margins that dictating spending strictly within their earnings – what those in the middle class might call "living within your means" – is not always possible. By those standards, George simply would not pay for his wife's care and Jennifer would often go hungry. Instead, many seek new ways to earn money to meet needs, taking on new activities when a single one cannot meet those needs alone. Particularly when lumpy needs arise, like George's wife's sickness, but also for things like school fees and home repairs, low-income people tell us that they **"look for money".** Sometimes that means turning to financial devices like savings and borrowing, but it also means trying to bring new money to the household by picking up extra work and, quite often, asking the social network for help.

Contributions and remittances from friends and family are a very important source of income. When we look at each household's dominant source of income, we find that our calculations of actual income across the year differ in some important ways from the figures captured during the one-time interview we did for screening purposes. During screening, 18% of households told us that agriculture was their main income source, and 8% told us it was resources received. But, when we calculated income dominance from actual cash flows, **we found that agriculture was the most important income source for only 8% of households, while resources received were actually the most important source for 27% of households.** The nature of the study allowed us to probe deeply into cash flows to compute that difference. Just asking people once about their income-earning strategies masks both the diversity of their income sources and the actual relative importance of each source.

In our sample there are some important distinctions in main income sources[8] across rural and urban areas: rural people rely much more heavily on agriculture and resources received, and urban people depend much more on self-employment, regular work, and casual employment.

Figure 5: Dominant income sources actually recorded were somewhat different than reported at the time of enrolment. There are distinctive earning patterns among our rural and urban samples.



7 Timeframes of observations are not exactly the same for every household. In some areas we were able to start Financial Diaries more quickly than in others. Where we started later, we also ended later. However, when we present figures that span across the sample, like average income levels and consumption, we use a common shared period of months when all households were being studied.

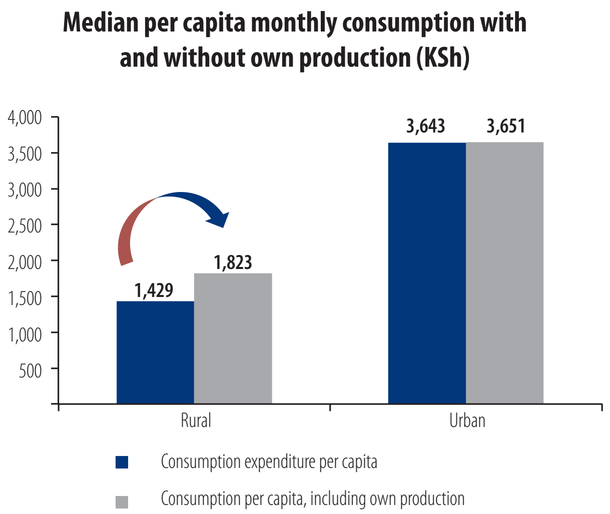
8 We define self-employment as when a person manages an enterprise, investing money in inputs, stock, and tools. In casual employment, they use only their labour. "Regular" employment is that which is contracted or at least tacitly agreed to be earned on a regular basis, usually through a salary, though it may be also be weekly in some cases. Agricultural income, here, is money earned from the sale of agricultural goods. We include goods produced by respondents and consumed within their homes in our calculations of consumption, but not in monetary income. Non-employment income includes grants and other institutionally-provided support from charities, hospitals, and government. Other income includes occasional gifts from the research firm, income from recycling, and other sources that do not easily fit the other descriptors.

Agriculture is often only a small source of cash income, though it is an important source of food for rural households. You'll notice that agriculture is the dominant income source for 8% of households overall and just 11% for our rural households specifically. This tells us some very important things about rural livelihoods.

1. ***Agriculture is just one source of cash income for many rural households.*** We often think of rural people's cash flows as being dominated by agricultural income that is earned once or twice per year, after a main harvest, and then stretched throughout the year. That seemed to be the case for only a small minority of our respondents. Instead, many rural households supplement their farming income with income from casual work – doing things like construction and washing, running small businesses, or picking up work at clinics, schools, and shops. Also, many earn their agricultural income from products that are sold in small quantities, frequently – like tea, milk, eggs and vegetables. The result is that income is flowing into the household more regularly than we might expect, and in many different kinds of potentially complementary patterns.

2. ***Even when agriculture is not a major source of cash income for many families, it is a major source of food for home consumption.*** Incorporating the value of goods consumed from the family's own *shamba* (farm) into our consumption calculations raises per capita consumption in rural households substantially – by about 28%.

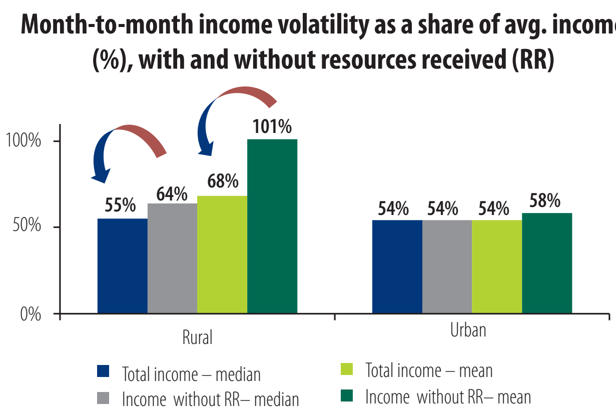
Figure 6: Including the value of food that households consume from their own farms increases consumption calculations substantially in rural areas. The small increase in urban areas is from things like tomatoes and sukuma-wiki (kale) grown on very small plots or inside sacks by a small number of households.



Spending and income are both very volatile. Traditional ways of stating the poverty line –like USD2 per day – mask the fact that no one literally earns USD2 per day or spends USD2 per day. Instead, it is an average derived from a much more complicated underlying pattern (see Collins et al., 2009). Leaving aside day-to-day fluctuations in earnings, we calculated month-to-month levels in order to understand how things change for low-income families at a slightly more aggregated level. We found that at the median, household income fluctuated 55% from month to month, and there was no major difference between rural and urban households in this regard[9]. That's a rather extreme amount of variation.

It appears that at least in rural areas, resources received play a mediating role, helping to reduce the volatility in average incomes. In figure 7, we show the average volatility of income in rural and urban areas. In rural areas, without resources received, median income volatility is around 64%, but that falls to 55% – much closer to urban levels – when we include them. The much higher mean volatility values in rural areas tell us that this volatility is much more heterogeneous in our rural households, and that fluctuations in rural areas can be quite dramatic without the help of resources received. Keep in mind that this is both upward and downward volatility and does not necessarily mean losses. It means uncertainty.

Figure 7: Households in both rural and urban areas experience fairly dramatic fluctuations in income. In rural areas, resources received help to reduce the volatility of income.

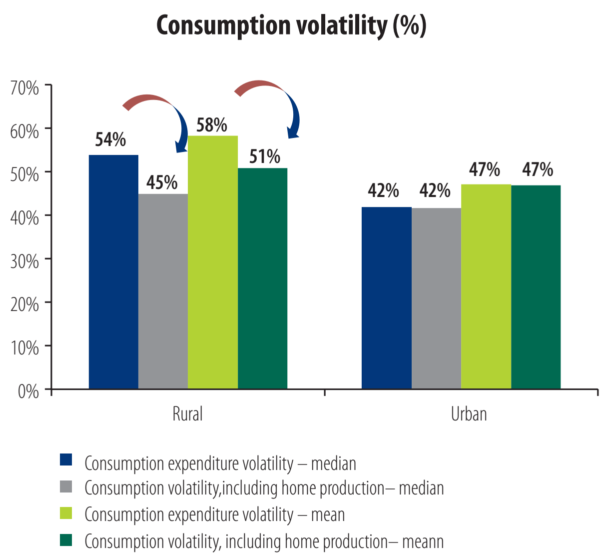


Not only are incomes inconsistent from month to month, so are expenses. In rural areas, consumption expenditures tend to fluctuate about 54% per month at the median, compared to 42% in urban areas (see figure 8). However, there is another mediating factor in rural areas. When we incorporate the value of food consumed from respondents' own *shambas* – the urban-rural gap in consumption volatility closes.

9 This is measured by the standard deviation of monthly income as a share of the household's average income.

What causes consumption volatility? This happens when spending moves upwards or downwards from month to month, a situation that could easily arise if there are a few relatively large lump sum expenditures throughout the year. One example is school fees. For some in secondary school, payments of KSh10,000 may be expected at the beginning of each of the three annual terms. That represents more than four times median per capita monthly income in a single payment[10]. And that's a predictable expenditure. Others are less predictable, like when a major contribution is needed to help with a sick relative, a funeral, or to pay for unexpected medical expenses.

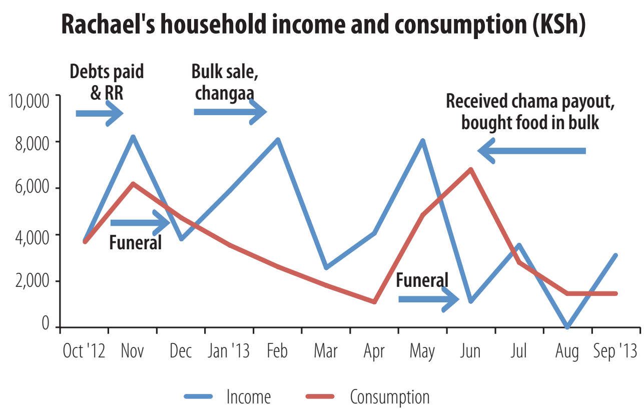
Figure 8: Consumption is also volatile, and in rural areas, consumption from the farm helps mediate that volatility, bringing volatility levels closer to lower urban ones.



What we see then, is that rural households tend to face more volatility in their cash incomes and their consumption expenditures, but that some of that volatility is mediated by resources received on the income side and by home production on the consumption side. Both of these "swing" factors help reduce, but don't eliminate volatility on both fronts. These swing factors only bring rural households' volatility down to urban levels, which are still quite high.

Those dramatic month-to-month changes in both income and spending needs make it very difficult to craft and stick to a realistic budget. Consider Rachael, who gets her income from brewing *changaa* (locally distilled alcohol)[11] and receiving remittances from her children. Her husband worked as a civil servant, but committed suicide before his 55th birthday, making her ineligible to receive his pension. Two of her grandchildren lived with her throughout the study and, at different times, some of her children and daughters-in-law were also staying with her. Her per capita monthly income fluctuates an average of 52% per month and consumption 51%, in the median range across the sample. Figure 9 shows what this looks like graphically.

Figure 9: Rachael has median levels of income and consumption fluctuation, as depicted below. Month-to-month changes can be dramatic.



What was going on through these peaks and valleys? In December she prepared a lot of *changaa* but many of her clients didn't pay until January. In fact, throughout the project she consistently let clients hold outstanding debts until just before her *chama* meetings, when she would call in debts in order to make her savings contributions. In February she had good sales again, and her daughter sent money to help pay the school fees for her child, who stays with Rachael. At the end of June, the police raided her place and chased her fleeing clients on a motorbike. Going at high speeds on rural roads, the police vehicle crashed. Rachael's clients gave the police KSh10,000 to care for their injuries and to avoid being arrested. But, her clients had no more money to buy alcohol through that period, and Rachael's sales slacked. In August, two relatives' children passed away, and the funerals were hosted at Rachael's home, making it impossible for her to work or brew. At least, other relatives and neighbours were taking care of her household's food needs at that time. The big bump in consumption in June was from a bulk food purchase Rachael made after she received a payout from one of her *chamas*. The remainder of the money she saved to buy iron sheets, one at a time, to help her son who is building his house. She felt she could not buy them all at once without raising the ire of neighbours who might be jealous to see her progressing.

Rachael's case shows us how volatile income and the subsequent amount of money available for consumption can really be. Bulk purchases and big payments are made when lumpy sources of money are available. What happens when there's an urgent need at a time that income is low?

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[10] School fees and other education-related expenditures account for about 9% of all consumption volatility at the mean.

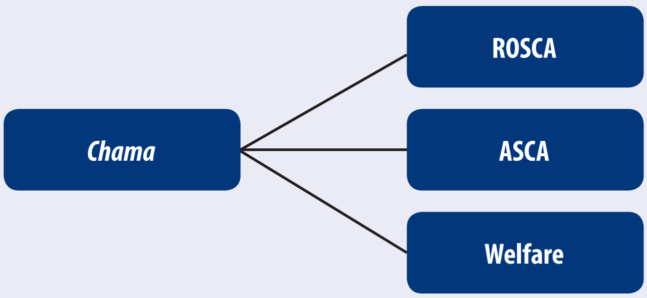
[11] It is illegal to brew and sell this alcohol from the home, but it is still an important and lucrative home business for many low-income families.

What is a *chama*?

Chama is the general word for a savings or investment group in Kenya. A single group can serve different financial functions. Those distinctions turn out to be important, so we trace the cash flows by the group and the function. The three types of *chamas* that we reference in this paper are:

- **Rotating savings and credit associations (ROSCAs)**, also known as merry-go-rounds, in which members contribute regularly, usually but not always a fixed amount, and take turns giving the entire pot to one member on each round;
- **Accumulating savings and credit associations (ASCAs)**, which are also called "table banking" in many communities in Kenya, tend to either start a round with members making one lump-sum contribution for the year or contributing slowly and regularly to build a fund from which the group makes loans to members. Members later divide the savings and earned interest through a share-out, typically once a year; and
- **Welfare groups (simply "welfares"),** which act like informal insurance for group members. These can stand alone or be part of another group, and the rules vary from group to group. There may be fixed regular contributions to a group fund that is used in emergencies, members may be required to contribute to one another only in the event of an emergency, and in some cases, unclaimed funds are redistributed to members at the end of some period.

Throughout this paper, we will use the term *chama* when referring to groups unless the financial function is important, in which case we will refer to ROSCAs, ASCAs, and welfare groups.



2.2 MANAGING HOUSEHOLD BUDGETS

Tight budgets leave very little room to cope with unexpected needs.

Looking at spending across the sample, we see that basics like food, education, housing, transportation, clothing, and medical care comprise the lion's share of spending across the sample. In fact, just the three largest categories – food, housing, and education – account for 71% of the median household's budget[12]. In the context of high income uncertainty, it is very difficult to cope with unexpected expenses that might arise – like medical expenses – particularly when income is in a slump.

Median monthly consumption expenditure for an entire household is about KSh6,000 (per capita is KSh2,167). If we imagine that a household allocates its budget for key expenditure items according to median shares, it looks like figure 10. Now, if income in this month fluctuates downwards by 50%, either new money must be found from savings, borrowing, soliciting the social network, or making cuts. 50% is a lot! If the median household reduced all spending equally in a contraction of 50%, it would be spending just KSh1,440 on food per month.

With this understanding, we can start to see how difficult it is to squeeze in new expenses when they emerge. Even when income is stable, there's very little space to cut back enough to make room for the kinds of needs that emerge. Consider these real examples from our respondents:

- Your child comes down with what seems to be malaria and you must take him to the government clinic and buy medicine: KSh200 or 3% of your monthly consumption budget.
    - *When his baby came down with malaria in one of the slums of Nairobi, Gerard took him to the hospital immediately, using the money they had on hand for other needs. They would cut back on food and other spending for a few days until Gerard was paid again.*
- The rains begin and your roof is leaking badly. You need to buy a new iron sheet to patch a large hole: KSh600 or 10% of your budget.

[12] Having a large share of the budget consumed by food is common for low-income people in many countries. Calculations from Kenya's last Integrated Household Budget Survey in 2005 suggest that purchased food accounted for 36% of the household budget on average, and research on M-Pesa by Billy Jack and Tavneet Suri (2010) found that food consumption accounted for "about half" of all household consumption.

- *One household in Vihiga had planned to sell a goat to buy new roofing sheets, but their two goats were attacked by bees and died in December. They waited until May - mid way through the rainy season - for a ROSCA payout to buy the roofing sheets needed.*

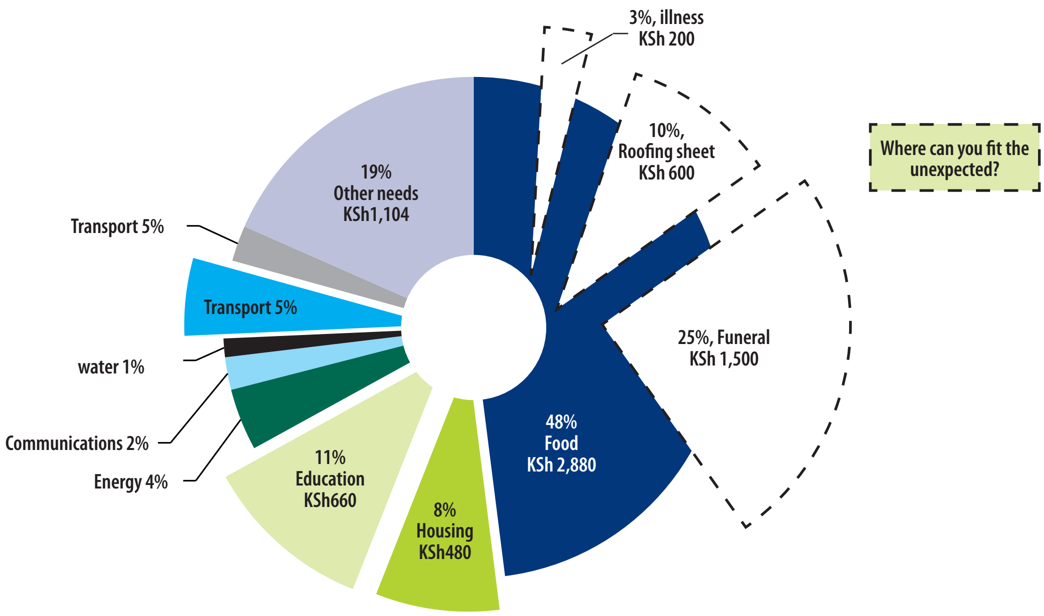
- A relative in another part of the country passes away. You must travel and give a contribution: KSh1,500 or 25% of your budget.
  - *A respondent in Nairobi lost a cousin in February and had to send KSh1,500 to help cover the expenses. He borrowed the money from colleagues at work and repaid them when he was paid.*

- Your child falls from a tree and breaks his jaw. You must pay for hospital admission, x-rays, surgery to repair the jaw, and other fees: KSh60,000 or 1,000% of your budget.
  - *When one child fell from a tree, he broke his jaw and lost several teeth. His mother used all of her working capital from her brewing business. The family sold their cow and also raised funds from friends and family. They asked a relative who is a nurse for help finding a doctor to treat him before they had raised the full amount for the surgery but they were not successful. After about six weeks, they had raised enough for the surgery, and the son was treated and was doing well, though the family took a long time to recover. They could no longer sell milk without their cow. After using up the business's working capital on treatment, the mother switched from brewing to fetching water, a less profitable income-earning activity.*
  - *Another child in Coast fell from a tree and broke his arm. His treatment would cost only about KSh2,500 and his mother raised the money by selling her mobile phone. But she was desperate. She thought the phone was worth KSh2,500 but she could only get someone to buy it for KSh2,000. She got the remaining KSh500 by pulling it from her spending budget, cutting back on other things.*

Households are often forced to forgo important expenditures on food, health, and education. On each visit, our team asked whether anyone in the household needed a doctor or medicine and went without, had a child sent home from school for outstanding fees, or slept hungry. We realised that even if household income and consumption were steady from month to month, families could still be vulnerable if they could not *increase* spending to accommodate new and lumpy needs. A quarter of all households experienced actual hunger during the study and 9% of them experienced it during at least three interview intervals. Thirty-eight per cent went without a doctor or medicine when needed and 11% of households experienced this across three or more interview intervals.

Figure 10: Allocation of a typical household budget[13].

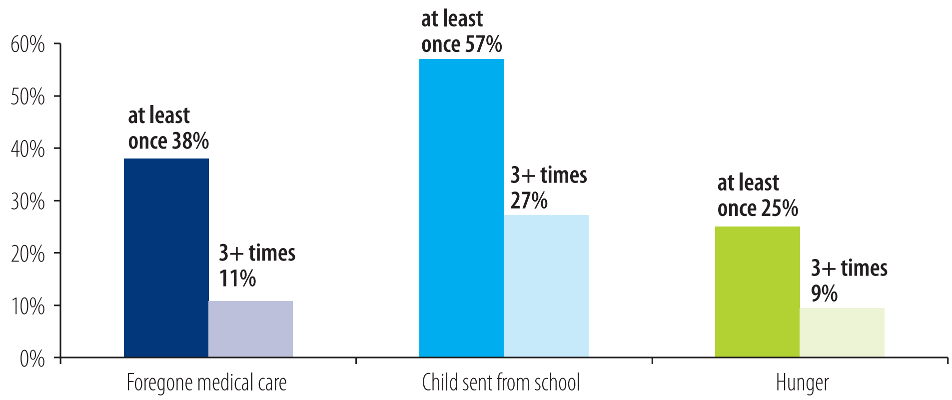
Median share of consumption on various household needs (%)



[13] 78% of our households also give resources to other households, what we call "resources given". For the median giver, that accounts for just 3.5% of household income, and across the sample – including non-givers – a median of just 2%. There are some households who give more, and we'll discuss them further in a later section.

Figure 11: Many households had to forgo or postpone important expenses. We rarely pick up on these kinds of vulnerability that involve "going without", sometimes even when actual consumption expenditure is stable.

Share of households forced to forgo important expenditures during the study (%)



It does not appear that these needs are foregone only for extremely large sums of money, for example, the child who fell from the tree and required extensive treatment in a health facility. Oftentimes, the financial barriers to accessing health care are very small, even relative to income. For example:

- KSh10 (0.2% of monthly income) – Catherine was sick with a high fever and a headache but her father could not afford to take her to the hospital. Instead, he borrowed KSh10 from a friend and bought her *Mara Moja* (an over-the-counter painkiller).
- KSh70 (1.7% of monthly income) – Christine needed KSh70 for medication to treat her malaria but she didn't have the money and postponed treatment for two weeks. In the meantime, her son developed malaria as well, bringing the total medication cost to KSh150 when the two were finally treated[14].
- KSh500 (5% of monthly income) – Samuel fell ill and went to hospital in Mathare. His mother gave him KSh500 but this only covered the transport and consultation. He was not able to buy the drugs prescribed and still had the prescription – but no medicine – with him when our team visited a week later.

Similarly, many children have interruptions in schooling when they are sent home due to outstanding balances owed. However, unlike with medical care, parents seem to be more able to negotiate payment terms, allowing children to go back to school within one to two days. Researchers recorded:

> *"Alex and Margaret were sent home for school fees on Tuesday the 2nd of April. Jecinta took them back to school the same day. She was not able to pay the fees but she talked to the headmaster who agreed to let them back in school."*

> *"Francis was sent home because of having school fees arrears. However on arrival at home, Mary told him to go back and explain they could not raise fees at the moment and so they would have to be patient. The head teacher allowed Fidel back into class."*

Often secondary school children are sent home for arrears amounting to several thousand shillings, but making a partial payment buys some mercy from school administrators. Researchers wrote:

> *"Silas was send home last week but one for school fees. KSh3,900 were needed at school, but they paid half of the money, and he went back to school."*

> *"Victor and Kevin were sent home because of school fees arrears. Victor has arrears of KSh1,000 and Lydia took him back with KSh500 that she borrowed from Mama Yassin."*

But that is not always true. Some children stay home for long stretches:

> *"Sebastian was sent home for school fees on 4 April. He has not yet gone back as there is no money. His sister has promised to send some money over the weekend."*

And even primary students are sent home, often for very small values:

> *"Two of the children Amina and Ishmael, were sent home because they lacked 30 and 20 shillings respectively for examination."*

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14 This particular case comes from Nairobi. Though malaria is rare in most of Nairobi, it still affects people living in slum areas.

> *"Athman was sent home due to exams fees of 55 shillings, so the exams were on and he was missing."*

Many parents find it infuriating that these fees come from their public primary schools where education is supposed to be free:

> *"Regina has been chased out of school due to non-payment of tuition fees. 'We are not going to pay since tuition is not compulsory, and the government has abolished the same. In fact, we can report them to the authorities.'"*

And it isn't just the tuition fees. Schools generally require extra spending on things like lunches, school trips, proper uniforms and shoes. Being sent home for lack of these things seems to add another layer of shame:

> *"Aurelia was sent away from school because her shoes were worn out. Her father had to borrow money to send her back to school."*

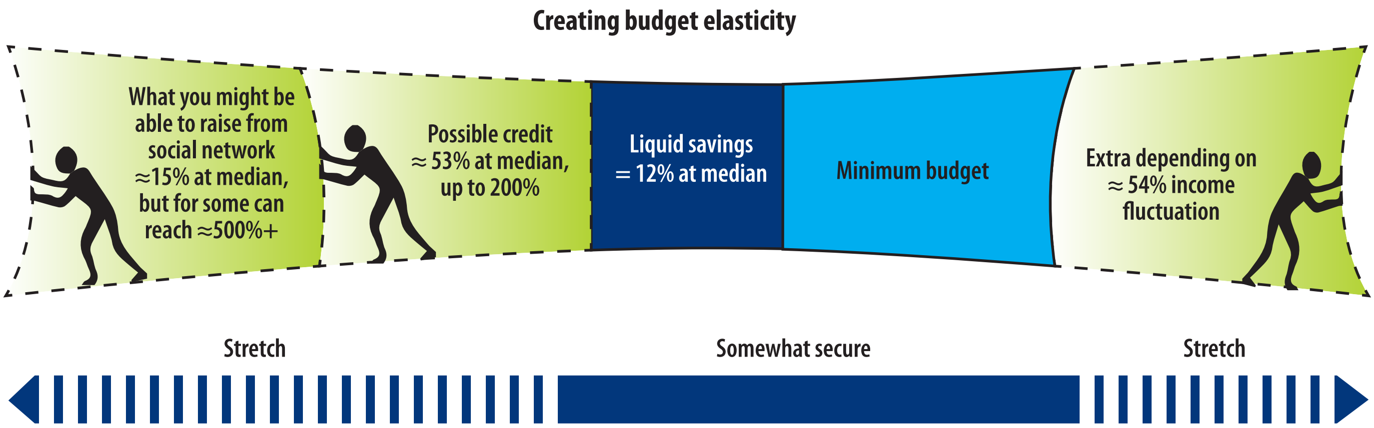
And contrary to expectation, saving does not eliminate these vulnerabilities. **They often happen even when households "have money" according to their balance sheet. The trouble is that this money is not immediately accessible for a particularly need.** For example, savings with a microfinance institution (MFI) may actually be unavailable for withdrawal if those savings are serving as collateral for an outstanding loan. Savings in a *chama* are virtual and can only be claimed when it is your turn to receive the payout or you are able to successfully negotiate an advance/change of order among other members.

People save for multiple reasons and tools they use to be more successful with one type of saving – like building up a lump sum in a *chama* – may involve trade-offs with other types of saving, like pure liquid savings under the mattress or stored on M-Pesa. **Ironically, the reason people are not easily able to meet these extra needs may not be because they are myopic, but actually because they are patient.** It may be because they are saving for a future gain in a device that helps them meet longer-term goals by quite intentionally sacrificing immediate ones. What is the "right" way to allocate assets? It's not entirely clear when there are many financial jobs that need doing and very little money to spread around. We'll explore this more in the Implications section (chapter 3) of this report.

Creating elasticity in the budget is a strategic priority.

Given the stress and pure difficulty of meeting basic and important needs in the face of so much uncertainty, a major money management task for the poor is increasing possible elasticity in the budget. This is similar to Mullainathan and Shafir's (2013) concept of "slack", which refers to creating extra wiggle room in the budget to reduce the stress of spending decisions and eliminate the need for some trade-offs, for example, between school fees and medicine. Our respondents used a wide range of mechanisms to try and ensure that money would be on hand when needed, to make these decisions easier: they save (a little for emergencies, which we'll discuss in more detail later), but they also try to keep open lines of communication with their social network so that they can ask for help when needed. And they invest in negotiating for credit and keeping credit lines open with the school, landlord, and shopkeepers, even when there's no immediate need to borrow. In so doing, they work to stretch their possible budget, making the budget constraint less rigid (see figure 12).

Figure 12: A major financial management strategy for the poor is pushing outwards against possible sources of funds that can supplement the minimum budget if a new need arises that falls outside the minimum budget. This is often just ensuring the possibility of accessing more money, not necessarily always drawing on those sources.



Negotiating the availability of credit is one important mechanism for building elasticity in the budget. Over time our interviewers noticed that respondents would go out of their way to keep the lines of some basic consumption credit open among small shops in the community. For example, Valerie deliberately buys food daily, and from multiple shops and stalls around the community. She explained that this allows her to maintain relationships with all of those shopkeepers, so that she can access credit from multiple sources if the need arises. Each shopkeeper may only let her borrow up to around KSh200, but if she can get that from five places, she can cope with even a pretty serious problem. And she never buys in bulk, even when she has the money. She wants them to see her smiling face every single day. "**When they see you every day," she told us, "they believe you will repay."**

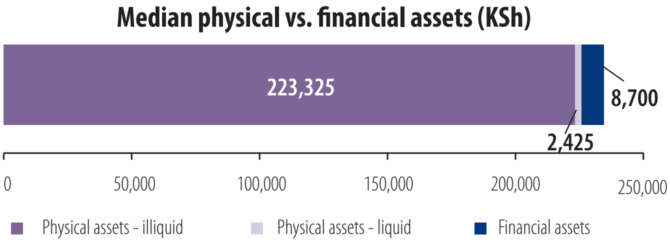
Similar principles apply to schools. Many families strain to get their children in the best schools they can possibly stretch to afford. But coming up with an entire term's fees at one time is beyond the capacity of most families, even when drawing on social networks for extra support. They pay what they have to and often wait for the children to be sent home from school before topping up. For example, Gloria, a very low-income respondent near Eldoret, often struggled to come up with the money for school fees. Once, in early July, she had a pretty good period of earning from casual jobs but still did not pay the outstanding arrears. When we asked Gloria why, she said she would wait until the children were chased from school before paying. There were so many other needs at home, like finishing construction on the walls on the kitchen. By delaying school fees payments, she was able to put the money she had to work doing other important things. When pressure mounted to pay the arrears, she would look for the money, finding another way to stretch.

Schools themselves are providing a helpful and flexible form of financing that helps parents stretch while usually minimising negative impacts on students. While outstanding arrears can be several thousand shillings, just small token payments are often enough to allow children to return to school while parents look for the remaining balance. Many mothers talked about the strategy of "negotiating" better terms for school fees payments, including one mother who told us, "Yes, I can always go and negotiate, but I can't go with empty hands."

This kind of flexibility allows respondents to channel an enormous share of their budget towards fees payments – up to 70% of all spending (median of 9.5%, mean of 16%) – by paying when they can over time. But, as you can imagine, it can make cash-flow management at the school quite challenging. Interrupting the child's education – by sending them home or denying them leaving certificates – is the only stick available to schools to keep themselves afloat while also offering some degree of flexibility to cash-strapped parents.

Most respondents' wealth is held in physical assets. The median household has about KSh225,750 in physical assets, which dwarfs financial assets of just KSh8,700 at the median. Given the size of this wealth relative to income and financial assets, it is helpful to better understand the role of physical assets in the lives of low-income households.

Figure 13: Physical assets are an important store of wealth, but are not meant to be converted to cash like other forms of saving.

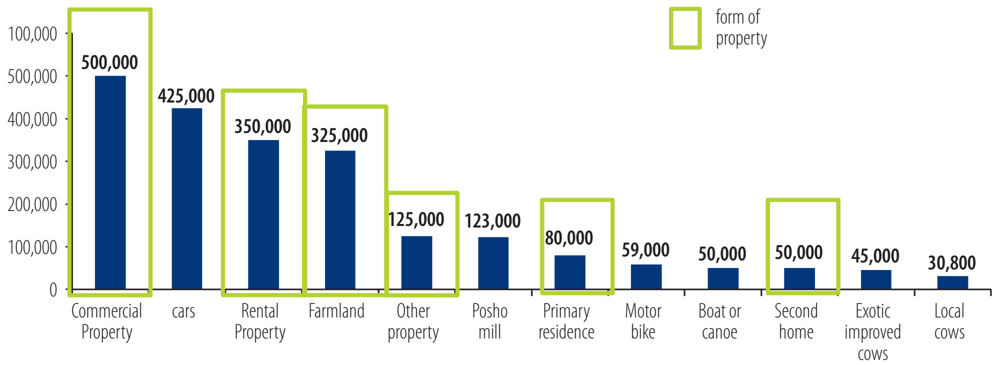


First, the highest value physical assets seem to be land and other property. Property accounts for about 65% (median) of the average household's total physical assets. A total of 78% of households own some kind of property, including 60% who own their primary residence (though that is often just a house with very little land). However, nearly 80% of those who own their primary residence have no form of documentation proving their ownership, including even a letter from the area chief. Even without documentation, property can still be a good investment. Those who own property can reduce spending on rent and eliminate the risks associated with eviction when future cash shortfalls make it difficult to keep up with rent. Though expropriation and future land disputes may arise, owning property can be immediately productive, offering the owner an opportunity to produce food for consumption or sale and even earn a bit of rental income.

A lack of documentation does limit people's ability to use their property as collateral and, with legal ambiguity surrounding their ownership, their asset may also actually be insecure. Urban property may be reclaimed by government or previous owners, but the valuable family land upcountry is also vulnerable to family disputes. This land is typically passed from fathers to sons, but disputes often erupt after the father dies or when one of the sons dies and a wife wants to stay on the land and in the home.

- Justus actually inherited a land dispute case from his father who had been fighting with his brothers over land allocations when their father passed away without legally documenting the land divisions. This was further complicated when Justus' father disappeared to Kibwezi for the ten years preceding his death, without involving his sons in the matter. With the land in dispute, no one is making much use of it.
- Daniel and Jessica have also been battling their relatives for control over a piece of land. They used to have cows but sold all of them to pay for a land survey, bribe local officials, and pay court costs to try and settle the dispute. It is still unresolved, and they are currently without both land and cows.

Figure 14: Land and property are the main receptacles of physical asset wealth



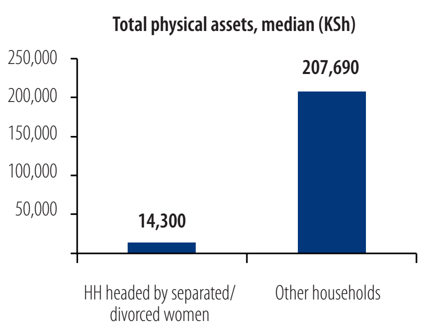
- Another respondent was imprisoned for five years due to a violent confrontation with relatives over land and was badly beaten during the study when tensions flared again.

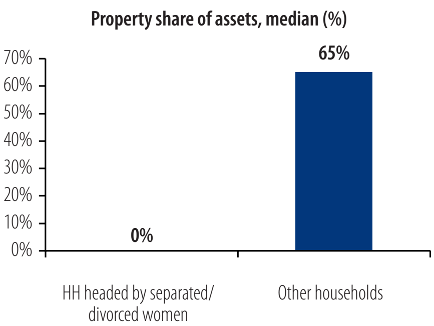
In our sample, land disputes between men and their families appear to be more prevalent than widows actually losing land when their husbands die. Property ownership – in terms of prevalence, share of assets, and absolute values – among widow-headed households is very similar to the broader population. However, because women do not traditionally inherit land, households headed by women who are separated or divorced, have much lower physical asset stocks, seemingly driven in large part by the lack of property.

Knowing that leaving their husbands will leave them without land – and also risk their sons being left without land – seems to be a major reason why some women stay with husbands who are extremely irresponsible and abusive.

One example is Diana in rural Coast. She cares for her two youngest children, aged 11 and 14, as well as four small grandchildren left behind when one child went to work in Mombasa and another married a man who refused to care for

Figure 15: Households headed by divorced and separated women have much lower levels of asset wealth and only rarely own property.





"another man's child." Diana's husband, Kenneth, sometimes earns a little of his own money from trading cows or picking up a short term *kibarua* (casual job). But he never shares that income with his family and even takes some of Diana's earnings from selling fish to buy food to cook only for himself. Not only is he selfish with money, he is notorious for sleeping around. During the study, he impregnated a standard seven pupil. Later in the study, Diana found out about two other mistresses in town. Neighbours had found him bringing them sacks of *unga* (maize meal) even when his own children were hungry and had been sent home for lack of school fees. Diana was frequently frustrated but felt trapped. Where would she go? How could she feed her children and grandchildren while also paying rent somewhere else? Where would her sons settle if they left and he gave the land to the new children or the mistresses? By the end of the study, she finally sought help from the Child Rights Office, asking them to help get her some support from Kenneth. She was hoping she could get him to contribute something to the family without having to leave.

Other physical assets may not be playing a particularly large role as savings devices. How can we tell? At the beginning of the study we asked respondents whether they could sell an asset to get money for a need. From that data, we can determine which types of assets are viewed as somewhat "liquid." Only a very small share of physical assets, about 1% of total physical asset value, is considered to be in some way liquid, or sellable. The top liquid assets are shown in Table 2, along with the percentage of households that own the asset, the average value of the asset type held, and the number of times an asset in this category was actually sold during the study. Only four asset types are considered liquid by more than half of owners – poultry, sheep, goats, and other livestock (excluding cows) – and 69% of asset sales during the project were actually among those four liquid assets. But the typical value is small, just KSh500 for a typical chicken sale. The other 31% of asset sales appear to be more "distress" sales, like the 15 sales of mobile phones that took place during the study, which only 15% of owners considered to be liquid.

Table 2: Physical assets ownership, liquidity perception and actual sales.

	Percentage of HH owning	% Owners who consider liquid	Median total value per HH (KSh)	Median number owned per owning household	Median unit value (KSh)	Actual number of sales
Chicken, poultry	66%	71%	2,450	6	300	123
Other livestock (not cows)	5%	67%	2,000	1.5	1,900	10
Sheep	5%	63%	5,975	2	2,000	7
Goats	27%	57%	9,500	3	2,000	16
Motorbikes	5%	45%	59,000	1	50,000	1
Building materials	7%	36%	2,500	1	480	2
Local cows	27%	33%	30,800	2	10,500	7
Sewing machine	14%	27%	6,000	1	3,500	0
Stove	6%	26%	4,500	1	4,000	0
Exotic/improved cows	15%	22%	45,000	2	16,500	10
Other appliances	7%	21%	2,000	1	1,200	2
Bicycles	32%	20%	3,000	1	2,000	0
Jewellery	10%	19%	500	1	Not recorded	0
Battery	13%	19%	4,000	1	2,500	0
Solar panel	7%	18%	5,000	1	2,100	0
Television	31%	18%	5,000	1	4,000	2
DVD players	19%	17%	2,000	1	2,000	3
Gas cylinder	7%	17%	5,000	1	4,000	0

	Percentage of HH owning	% Owners who consider liquid	Median total value per HH (KSh)	Median number owned per owning household	Median unit value (KSh)	Actual number of sales
Radio, stereo, speakers	69%	16%	1,000	1	600	0
Mobile phone	96%	15%	2,750	2	1,500	15
Other valuable	15%	14%	3,000	1	740	10
Water tank	47%	14%	1,000	1	600	1
Farmland	39%	10%	350,000	1	100,000	8
Furniture (dining area)	42%	6%	1,000	1	Not recorded	0
Furniture (living area)	89%	3%	6,000	1	Not recorded	0
Blankets, bedding	94%	2%	3,000	1	Not recorded	0
Primary residence	60%	0%	80,000	1	25,000	2

Interestingly, only 22% of owners of exotic cows considered them liquid, though there were 10 sales during the project. The median number of cows in cow-owning households was just two. And, liquidity seems to be a secondary function of cow ownership, the first being the ability to produce milk. Most would prefer to hold onto this productive asset that brings in a steady stream of milk income. So, in other words, it does not appear that most of our respondents in these areas were amassing wealth in ever expanding herds of cattle.

What about pawning? Are respondents leveraging their assets for liquidity without necessarily selling them? Not so much. There were only four instances of pawning assets in the entire study.

All of this tells us that, by and large, low-income households are not saving in physical assets – even in livestock – the way they might in a bank, to later cash in on the stored value. But still, these assets could very much be considered investments to increase productivity, earning potential, and achieve improved standards of living.

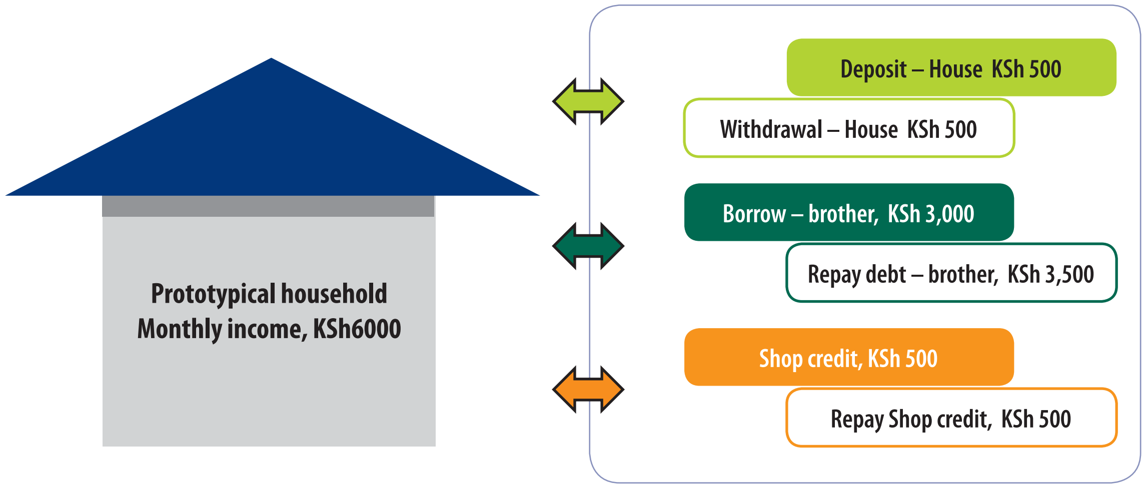
2.3 USING INFORMAL AND FORMAL FINANCIAL DEVICES

Low-income Kenyans are very active money managers, partly as a result of their poverty levels, rather than in spite of them.

While physical assets are an important store of wealth, the action in portfolios is really in financial devices. This insight, articulated in Collins et al. (2009), is just as relevant in Kenya as it was in Bangladesh, India and South Africa. **The median Kenyan household mediates 128%[15] of its income through financial devices.** This means they are constantly shuffling money into and out of financial devices, even short term ones, such as high frequency ROSCAs or savings in the house. Some take goods on credit and pay after just a day. The day-to-day strategy is all about juggling obligations and keeping some open space to cater for needs that might arise.

15 Calculated as the sum of inflows and outflows over income.

Figure 16: The share of income mediated by financial devices can exceed 100% due to high frequency usage of devices, accumulating in- and outflows over the course of a month. The hypothetical example below demonstrates what this might look like.



Take for example Douglas and his wife Marie who live in Mombasa with six of their children and four grandchildren. Douglas is a cobbler and Marie is a traditional birth attendant who also makes extra money selling herbs and brewing *changaa*. Some of the children pick up occasional casual work to also contribute to household needs, like food, which takes up 46% of the budget. During the course of the project, school fees consumed another 24%. They mediate 125% of their income through financial devices. Much of this mediation is short term, helping them make ends meet throughout the month by channelling funds thorough a wide range of devices, including ten separate *chamas*, savings in the house, and credit Marie gives her customers. Even though they are moving substantial sums through these devices, the money rarely sticks around for long. On a month-to-month basis, income and expenditure move up and down together pretty often, though there are some months when they need to spend substantially more than they earned (for example, February) or are able to earn more than they need to spend (for example, July).

But just to meet the difference in those month-to-month gaps, they may not need to mediate a full 125% of their income. Instead, their financial devices are playing an important role in smoothing out intra-month consumption as well, helping them spread out their income throughout the month, despite erratic earning patterns. Still, spending is not totally smooth. Most of the time, on days when they have high incomes, they also have high spending that day or the next, reflecting a common spend-as-you-earn pattern.

Figure 17: Income and expenses both fluctuate substantially and one of the jobs of financial devices is to close those gaps

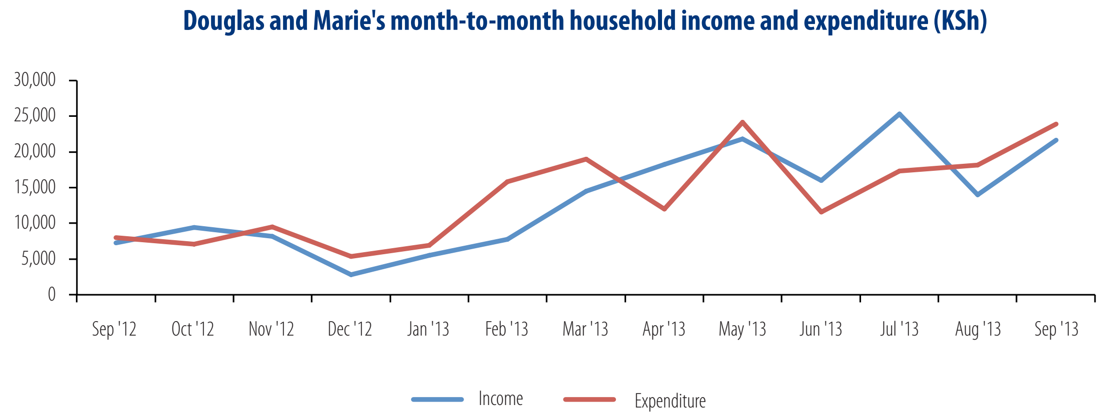
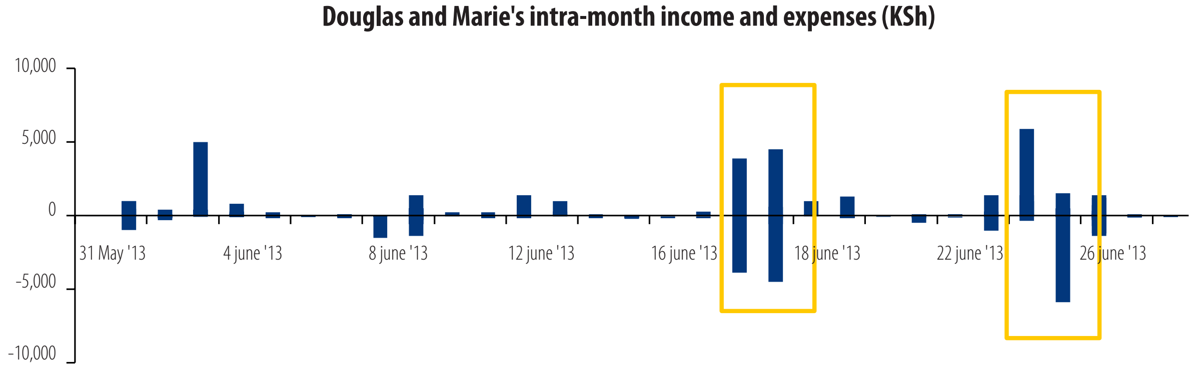


Figure 18: Looking at intra-month variation in income expenses, one can see that income flows into the home at several points in the month. Larger expenses during the month tend to be matched to income flows themselves. Again, when that's not possible, drawing on savings and credit allows for some expenses in the absence of adequate income.



This spend-as-you-earn pattern in figure 18 is not necessarily a "bad" or problematic behaviour and, in some ways, it may be quite thoughtful as a way of discouraging overspending. Nor are the high-frequency expenditures necessarily indicative of some kind of inefficiency. Even in the United States, the US Federal Reserve estimates that the average adult makes about 73 purchase transactions per month (Foster et al., 2010)[16]. In our sample, the average in rural areas was 31 per month and in urban areas 66 per month. Frequent transactions and transactions matched to earning are only symptomatic of a larger problem if lumpy expenditures represent urgent needs (like minimum food needs and health emergencies) that must be postponed for the moment income arrives or if the high-frequency expenditures reflect high levels of inefficiency and cost, for example, by purchasing commodities in small quantities without benefiting from the cost savings of bulk purchases.

Households use a wide variety of tools – as complements – to achieve their money management goals.

Where does all of that money go? It is not just to one *chama* or one bank account. Instead, households and individuals use a large number of financial devices simultaneously. **In fact, the median household used 14 (mean=17) different financial devices throughout the course of the study[17]**. Like the households discussed by Collins et al. (2009) – who used an average of 8–10 different devices – our Kenyan respondents are using many tools simultaneously to manage their money.

Patrick, for example, is a *jua kali*[18] artisan in Nairobi. He fashions *jikos* (charcoal stoves) and other items like simple home banks out of salvaged scrap metal. With an average monthly income of around KSh22,000, Patrick cares for the three sons who live with him, as well as his wife and three other children upcountry. School fees are a major expense for him already – consuming 21% of his expenditure budget – and he expects that to increase next year when two of his children begin their first year of secondary school. Though he earns more than the average household, he still feels constrained by the many needs of his family.

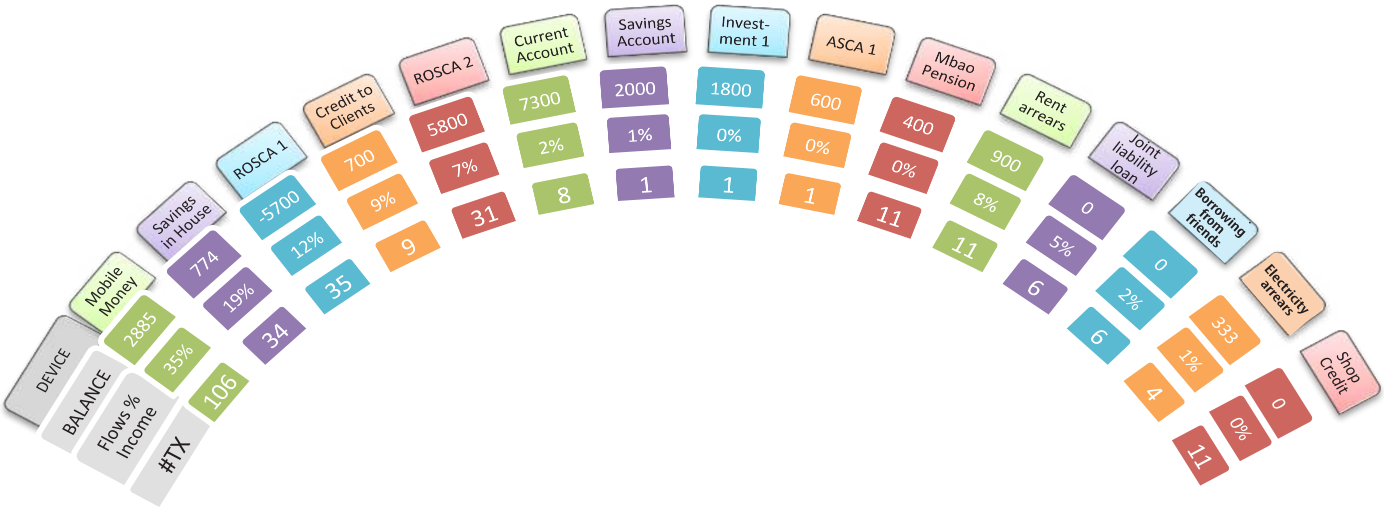
He channels his earnings strategically through an array of 15 different financial devices to help him meet different kinds of needs. For example, he uses mobile money quite intensively to send money to his wife and at-home savings for cash flow smoothing needs. His three separate *chamas* help him put money aside with different maturities to meet periodic lumpy needs. He also borrows

16 It's interesting to note that in a separate diaries exercise conducted by the Federal Reserve over one month, they found consumers to be making 59 payments per month, similar to our figures. See Bennett et al., 2014.

17 We distinguish advices by the type of financial function and the source. For example, each account at a financial institution is a separate device. Each chama is a different device and if it has separate functions, like merry-go-round, accumulation, lending, and welfare, each of those functions would be registered separately. We record each source of informal borrowing (each individual moneylender, each individual lender) separately.

18 Literally, "hot sun" in Swahili, referring mainly to artisans and craftspeople, but also sometimes used more broadly to refer to all the self-employed.

Figure 19: Patrick's array of financial devices.



from them to pay school fees. He told us that he opened his bank accounts to keep money safely and to be able to claim it at any time, unlike the money that gets tied up in groups. His bank accounts are used relatively infrequently, but account for more than half of his net assets at the end of the project.

Patrick clearly has a very rich financial life and by using these devices together he is able to make ends meet.

> *"My work is dirty, yes, but I am happy with what I do. I don't beg, my children are not always out of school, and if I were to tell you that we have ever gone to bed hungry, it would be a lie!"*

Table 3: Patrick's balance sheet at the close of the project.

Assets (KSh)		Liabilities (KSh)	
Mobile money	2,885	Rent arrears	900
Savings in the house	774	Joint liability loan	0
ROSCA 1*	-5,700	Borrowing from friends and family	0
Credit given to clients	700	Electricity arrears	333
ROSCA 2	5,800	Shop credit	0
Current account	7,300		
Savings account	2,000		
Investment 1	1,800		
ASCA 1	600		
Mbao pension	400		
Total assets	**16,559**	**Total liabilities**	**1,233**
		Net financial assets	**15,326**

* Balances is ROSCAs can go negative when a member receives their turn to take the savings pot before others in the group. Right now, for example, Patrick owes other members KSh 5700 before the end of the round. We do this to allow us to hold the device only as an asset and not simultaneously an asset and liability.

Many of these devices are used for small, frequent purposes. Looking at the most widely used devices in Table 4 we see that, for example, mobile money is used by 90% of our households and saving in the house by 77%. Shop credit, used by 67% of households was used six times in the year by the median household, but for a total flow value of only 845, indicating borrowing and repayments of roughly KSh70 at a time. We observe across the board that these informal arrangements can process a lot of these very small transactions, while it seems those in the formal sector – here mobile money, transactional accounts, and individual business or agriculture loans – are processing much larger transactions.

Looking at values of assets you see that many are quite small, but these can be meaningful to users for a range of different needs, for example:

- Mobile money is used mostly for moving money in the social network. While the median closing balance is low (at just KSh6), the flows through the device are substantial, even for the median user.
- Saving in a ROSCA is a cyclical, illiquid type of saving that lets users build up a helpful lump sum. The median payout of KSh1,500 from a ROSCA is substantial when compared with the average monthly household income of around KSh6,000.
- ASCAs start off with a lump sum or regular deposits that earn interest throughout the year before paying out. This is also illiquid, but enables members to borrow against their savings, and – if all goes well – provides a lump sum payout that can be used for investments in farming, education, business expansion, or can be consumed. Here we see substantial savings achieved with large numbers of small transactions.
- For many of our respondents transactional bank accounts were temporary holding places for liquid, larger-sum savings. While the median closing balance is KSh1,500, flows are substantial, transaction sizes are much larger than for other savings devices. This can be useful for holding onto lumpy sums while planning how to use them.

Table 4: Usage levels of common financial devices. The most commonly used financial devices are informal and fairly low balance, but can represent a large share of transactions[19]

FINANCIAL ASSETS	Household level	Median statistics at a device level						
	% HH using	Closing balance (KSh)	Balance as share of Assets (%)	# of tx in period	Turnovers in period (KSh)	Average life (days)[20]	Average withdrawal (KSh)	Average deposit (KSh)
Mobile money	90%	6	0%	14	14,500	6	600	800
Saving in a ROSCA	78%	400	2%	11	4,075	17	1,500	145
Saving in the house	77%	-	0%	6	5,000	13	290	200
Friends and family lending	52%	-	0%	2	1,413	22[21]	600	605
Saving in an ASCA	52%	2,600	12%	8	2,700	40	1,525	200
Checking or current account	38%	1,500	4%	7	37,750	20	5,000	4,950

FINANCIAL LIABILITIES	Household level	Median statistics at a device Level						
	% HH using	Closing balance (KSh)	Balance as share of liabilities (%)	# of tx in period	Turnovers in period (KSh)	Average life (days)	Average withdrawal (KSh)	Average deposit (KSh)
Borrowing from friends and family	69%	-	0%	2	1,200	36	500	500
Credit at the shop	67%	-	0%	6	845	6	30	200
Arrears payable (rent, school fees)	45%	500	5%	3	4,000	36	1,000	1,000
Borrowing from a *chama*	35%	700	6%	4	5,500	20	2,000	1,000
Okoa Jahazi (airtime credit)	24%	-	0%	6	152	3	18	20
Acting as money guard	17%	-	0%	2	3,000	4	500	1,600

These devices seem mostly to be used to move money or build up a lump sum for investing. There is not much pure precautionary savings on the asset side. Most of the smoothing appears to take place on the liabilities side (and through resources received). Also, on the liabilities side, there are not many large "investible" sums. Much of the investment that is happening through financial devices seems to happen through smaller lump sums accumulated on the asset side, particularly through ROSCAs and ASCAs.

19 A more complete summary of financial device usage can be found in the Annex.

20 Average life is an approximation of the average duration that a single shilling is held in the balance of the device.

21 When it comes to family and friends borrowing and lending, we sometimes found out about the device only when the loans were repaid, so the starting balance shares the same date as the repayment, pulling the median close to 0. To adjust for this, we pull the median non-zero average life days here.

The variety of financial devices helps people do multiple "financial jobs," simultaneously.

Our respondents don't necessarily want a one-stop shop or silver bullet to manage all of their finances. First, the spread helps reduce risk in any one area. For example, according to Patrick, *"The security of life is saving, especially for me since I have small children. That's why I am trying not to put my money on the same basket."*

Also, and perhaps more importantly, it is the diversity of tools with different features that both enables them to meet a wide range of needs in different ways throughout the year and spreads the risks associated with any single device. As Patrick's experience shows, the variety of devices gives them access to a wide range of asset maturities and loan terms that together help families to both discipline themselves and also to meet the wide range of needs they have at any given time.

So far, we have focused mostly on the financial job of smoothing out the tremendous intra-month and inter-month variability of income and consumption. But that is only one job that low-income people need their financial tools to help them accomplish. There are others as well, including coming up with large lump sums for school fees, for home improvements, and for asset purchases. There is the need to secure your long-term future by investing in your children's income-earning potential but also in a range of income-earning activities for yourself that will continue to provide once you are no longer able-bodied. And, always, there is the hope of investing now in the hope of making yourself and your family less poor. All of these could be considered "investing" rather than "smoothing" functions.

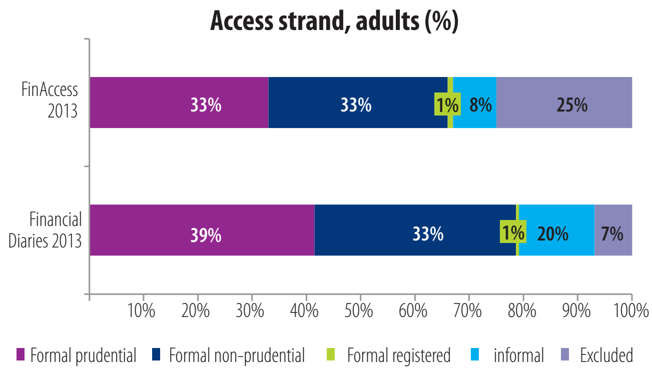
Some tools are better suited to some of these jobs than others. Individuals and households need to make money available at a wide variety of times, hedging against all of those income and consumption fluctuations in pursuit of multiple, simultaneous financial goals. The use of multiple, complementary devices make this more possible, producing a more complete portfolio of tools with lots of different features, sizes, maturities, activity rates, levels of negotiability and risk profiles. In respondents' minds, formal financial services – like bank loans – are not competing with these informal devices. Both are useful in different circumstances.

Informal devices are also different from formal ones in that they are so heavily social. In the best of circumstances, users benefit both from their financial function in mediating money, but also from a source of camaraderie, support, and advice that they find in their *chamas* and informal borrowing and lending relationships. These informal money relationships can sometimes also translate into more material support during times of crisis. How much do respondents value this? There are a wide range of perspectives. Some would prefer to eliminate the social nature of money management if they had equally functioning private options while others see the social element as an added bonus on top of the financial function. When we asked all of our *chama* participants in Vihiga about the relative importance of the social versus financial functions of groups, the financial function was valued much more highly. So while it's true that formal institutions may never replace the social function that informal arrangements provide, they can help those arrangements work better and provide options that enable people to choose the selection of financial tools that best fits their strategic financial objectives.

It does not appear that the tremendously popular informal financial devices are crowding out the formal.

In fact, designating our sample into access strands like FinAccess 2013, we see that the respondents are similarly included – even more included – than Kenyans as a whole. These higher rates of apparent inclusion come in both the "formal prudential" area and in the "informal" area. We believe that these higher rates here are likely caused mostly by the long-term nature of our study. While we asked about financial devices once in the beginning of the study, we continued to add them week after week as respondents remembered them throughout the study, resulting in a more comprehensive view. It's quite possible that all Kenyans are more active money managers than FinAccess may capture.

Figure 20: Financial Diaries respondents, describing their financial behaviours over a full year, appear to be more financially included than the broader population as captured in the one-time FinAccess survey[22].



Why isn't formal usage even higher? One thing that is somewhat surprising is that when it comes to deposit accounts[23], costs – those associated with maintenance and transaction fees – are rarely mentioned as barriers to usage. It is likely this is because it is not part of respondents' conscious rationale rather than actually being irrelevant. It does suggest, however, that cost is not the only, and perhaps no longer even the most important, barrier to usage in Kenya.

When we reflect on all the things that respondents like Patrick need their money to do for them, it becomes clear that what is on offer at today's formal institutions may not be as good at doing those financial jobs as current, diverse informal options, largely developed and refined by low-income people themselves. Much of their financial flows are channelled through services that mediate small values at relatively high frequency and with high levels of flexibility and negotiability. With all the innovation in financial services in Kenya, we are just now beginning to approach some similar features in the formal market with products like M-SHWARI (which provides instant loans via mobile phone for amounts of KSh200–20,000) and micro-loans at commercial banks starting as low as KSh10,000. It's not that current formal products are irrelevant, it's that they are only relevant for some people at some times, and the challenge to formal providers is to offer a larger range of services that can be more consistently useful throughout a person's year and

22 Considers all individuals 16 years old and above from the Diaries to equate with the FinAccess sample.

23 The cost of borrowing in formal institutions is quite different. Formal loans are seen by many low-income people as an inferior option – if they believe it to be an option for them at all – because of loan costs stemming from both interest and fees.

their life, actually making it easier to accomplish some of the very challenging and competing financial demands that people must balance.

For many kinds of financial needs and use cases, informal products are doing a pretty good job

When we asked respondents about their most important asset devices, 22% cited ROSCAs and 18% saving in the house. Banks and M-Pesa were also quite important but it was these informal groups that were most often described as being particularly instrumental in building savings for investing. They could see material changes achieved through the ROSCA:

- *"I wanted to save to buy land. It has been useful. There was a time I got my savings of KSh10,000, and I used it to buy a cow."*
- *"When it's your turn you get KSh9,000, which you can use to pay school fees. It is very convenient, because the contribution never changes and the payout is large and done at once."*
- From interviewer notes: *"She used her payouts to buy school uniforms and make loan repayments for One Acre Fund and for household use."*
- From interviewer notes: *"She once received KSh1,300 which she used to buy a goat sometime back."*
- *"It comes back to you. Before, I didn't even have utensils. Now I can buy blankets, furniture."*
- From interviewer notes: *"She joined the group when she did not have a house. Through small savings with this group, she was able to buy building materials in bits, from her payouts, until she was ready to construct her current house."*

Table 5: Most important asset devices by household

	Most important asset devices reported by main respondents	Most Important	Second Most Important	Reported in the Top Two
Formal	M-Pesa	23%	28%	26%
	Bank	21%	13%	17%
	SACCO	2%	0%	1%
	MFI	3%	0%	2%
	M-SHWARI	1%	2%	1%
Informal	ROSCA	24%	18%	22%
	Saving in the house	14%	23%	18%
	ASCA	9%	13%	11%
	Money Guard	1%	0%	1%
	Lending to others	1%	2%	1%

Are *chamas* reliable? Of course not! Twenty-nine per cent of ROSCA users have lost money in their groups in the last ten years. This is very annoying, and finding a reliable group (or often multiple groups) is very important to people. They move in and out of groups looking for "good ones". But, while losses and mismanagement burn respondents, the lack of rigidity in the rules is also a benefit[24]:

> *"I dislike it when it's my turn and people have defaulted. But, I have also defaulted so many times."*

We sometimes forget that for every person who is cheated there is a cheater, someone who benefits from rule-breaking. This may be a role that itself rotates rather than there being just a few bad apples spoiling every group.

> *"I joined them, because I cannot manage to keep money on my own. I like that they have no strict rules. We make them ourselves. Whenever I have a pressing need or problem, I can request my payout and be given."*

And this clashes with bank culture:

> *"In the bank you do not have a right to explain your views or grievances. But in the chama, it is a free world."*

Chamas are held to different standards of reliability than formal institutions – not just because of the formality of banks, but because the intention behind money flowing through banks and groups is very different. You do not save for an emergency in a ROSCA. Payouts are rarely urgent. If it takes time to get your money, so be it – you buy your building materials or your goat a few weeks later. But, money on M-Pesa, money in the bank – that is often your emergency fund. That money needs to be there exactly when you need it. Perhaps this helps us understand why respondents instead complain about the banks like this:

> *"What is wrong with [the bank]? Are they broke? I need to deposit money urgently, and they just tell me, 'The network is down.' Why is the network down most of the time? Why can't the bank resolve this issue once and for all?"*

> *"I hate that ATMs are failing during emergencies and late hours."*

[24] We did try to understand whether there were differences between organic and trained groups and the rigidity of rules seems to be one area of difference in our small sample. Respondents tell us more often that trained groups have stricter rules, but this is sometimes viewed as a negative feature. For some, the rules feel imposed externally and overly rigid, taking away one of the most important features of the informal product – its flexibility. We will be highlighting more of these issues in a forthcoming paper focused exclusively on groups.

Table 6: Losses reported in financial devices over 10-year recall period (self-reported)

Device	Used in last 10 Years (%)	Users who had suffered a loss (%)	Median loss per instance (KSh)	Losses eventually recovered (%)
Bank	54%	7%	3,000	9%
M-Pesa	94%	12%	1,000	21%
SACCO or MFI	24%	5%	1,750	0%
ROSCA	86%	29%	1,900	7%
Untrained ASCA	48%	11%	3,000	0%
Trained ASCA	23%	10%	2,650	7%
Money Guard	19%	13%	2,500	6%
Saving in the house	97%	30%	500	11%
Lending to friends and family	92%	45%	1,000	5%

We asked respondents what happened during each instance of loss from a formal institution. What was interesting in reviewing the losses that occurred within banks, was the frequency with which respondents still did not really understand what had happened and so having little leverage to make a case to the bank to restore the lost funds. The very institutions that should offer accountability and security above and beyond informal structures, in practice, do not because of a lack of *effective* transparency.

Table 7: Selection of respondents' explanations for losses in bank accounts

Value lost (KSh)	What happened?	Recovered?
700	Not sure, found less money in account when withdrawing	Not recovered
1,000	Some kind of accounting mistake	Not recovered
1,000	Unexplained deductions	Not recovered
2,000	ATM did not work and did not dispense cash, but the funds were still deducted on the bank's side	Not recovered
2,000	Unexplained bank charges	Not recovered
3,000	Account was closed and savings taken	Not recovered
10,000	Someone withdrew without her knowledge or consent. She doesn't know who accessed her account.	Not recovered
11,000	She is not sure what happened, but she found less money in her account. The bank told her to pay KSh2,000 to retrieve it.	Not recovered
16,000	ATM card stolen and the account was accessed somehow	Not recovered
20,000	Niece stole funds from her account when she asked her to withdraw on her behalf	Not recovered
150,000	Money was lost	Recovered three months later

Informal arrangements are far from perfect but they are an option, and one that people continue to use because they are useful and promise to be useful even in the absence of reliability. In the eyes of our respondents banks are neither broadly useful as a tool to help manage money nor so exceptionally safe that it makes up for what they lack in relevance. Money can still be lost from a bank, and when that happened to our respondents the values lost were, on average, higher in the banks than in *chamas*.

The next challenge for financial institutions is to deliver on a helpful value proposition. Current offerings and service models are likely to make only slow progress in increasing their relevance for low-income people. There are many ways to do that: They can integrate themselves into the informal financial ecosystem – much like M-Pesa already has – by reinforcing and supporting informal financial arrangements; they can begin to offer new solutions for unmet financial needs in the market (some of which will be discussed later); and they may also begin to offer options that compete with the functions of informal financial products. But when they do so, they will most certainly be competing with existing tools and will have to offer solutions that are marked improvements upon informal solutions, whether that's along the lines of security, reliability, transparency, negotiability, price/returns, flexibility, or overall value thresholds.

Most households focus on the asset side – rather than the liability side – of the balance sheet

The financial inclusion community sometimes worries that the expansion of financial services may make it too easy for low-income people to get into debt and become trapped by it. We found that our respondents do borrow when they have need and there is a willing lender. As discussed above, that's most often for short-term smoothing needs, but it can also be for larger investments in things like business, education, and home improvement. **Overall, though, we observe a preference to save rather than to borrow.**

Table 8: Household level assets and liabilities

Household level	
ASSETS – HH level	**LIABILITIES – HH level**
Median closing balance: **KSh8,700**	Closing balance, median: **KSh3,288**
Closing assets as a share of monthly income, median: **129%**	Closing liabilities as a share of monthly income, median: **53%**

Is this saving enough? That's a hard question to answer, but it helps to put it in a bit more perspective. At the median, Financial Diaries households had saved the equivalent of about 38 days of income. Looking at similar calculations from surveys of low-income populations in the GAFIS project, this is quite high. As you see in Table 9, median savings among low-income consumers in South Africa is just one day's income. The only other market we studied that comes close is remittance receivers in India, where the median savings are about 17 days' income. So, even if savings among the poor in Kenya are viewed as too little, the fact is that they already save more than those in many other markets.

But, only a small share of the financial savings in our sample is held in formal institutions

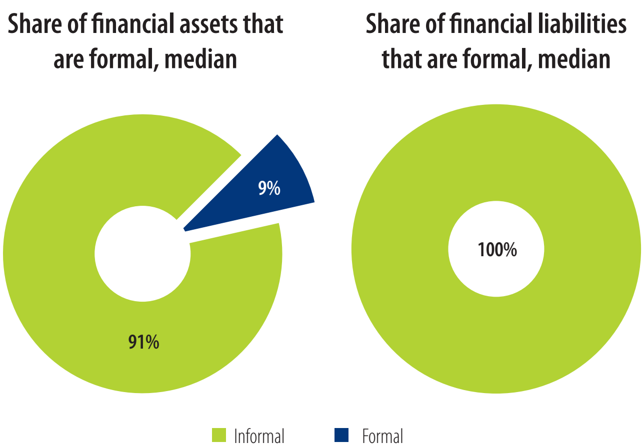
Even though low-income Kenyans may be saving a substantial share of their incomes, only a small portion of that money is making it into the formal institutions that then allocate funds to large-scale investment projects. The median household was holding just 9% (mean=29%) of their financial assets in formal institutions at the close of the project.

Table 9: Savings levels among low-income people in different cross-country bank markets. (Source: BFA, 2012) These markets are not alike in all respects, but the samples are broad enough to speak to general trends, and in this table we focus exclusively on the poor individuals (living on less than USD2 per day) within the sample.

	South Africa – Standard Bank Market of low-income account holders	Mexico – Bansefi Market	India – ICICI Market of low-income urban remitters and rural recipients	Colombia– Bancolombia Market	Kenya – Equity Bank Market Survey (active and dormant clients, unbanked)
Days' savings among those living on <USD2 per day [mean/ median]	16 days / 1 day	5 days/ 0 days	Remittance senders: 10 days/ 0 days Remittance senders: 43 days/ 17 days	41 days/ 12 days	41 days/ 38 days

This does not mean that the money is not being invested. Instead, it is being invested informally – back into the low-income segment. Individuals and *chamas* give loans to other low-income people or entrust their savings to a ROSCA where money is put to use, enabling another low-income person to make a large purchase or investment of their own. In fact we see that in our sample: the median share of liabilities coming from formal providers is 0%, and this rises to only 8% at the mean. It is very possible that the returns on savings are perceived as being more substantial in the informal sector than the formal one, not necessarily in quantitative terms but in the recognition that funds held in the informal sector are used both to help themselves when they are in need of liquidity, as well as to help other low-income people in their communities and in more distant social networks. The value of the reinvestment is visible.

Figure 21: Most financial assets and liabilities (by value) are held in informal financial devices.



Little money is left idle

During our regular visits with respondent households we began to notice a couple of curious patterns:

1. ***Many households would spend their money almost immediately after receiving it as income.*** For example, if someone earned KSh200 from a *kibarua* (casual job), he was likely to spend KSh150–180 of that the very same day. Those with more irregular, lumpy inflows tended to do the same thing. They might receive KSh8,000 at once and spend KSh7,000 of that before the day was through.

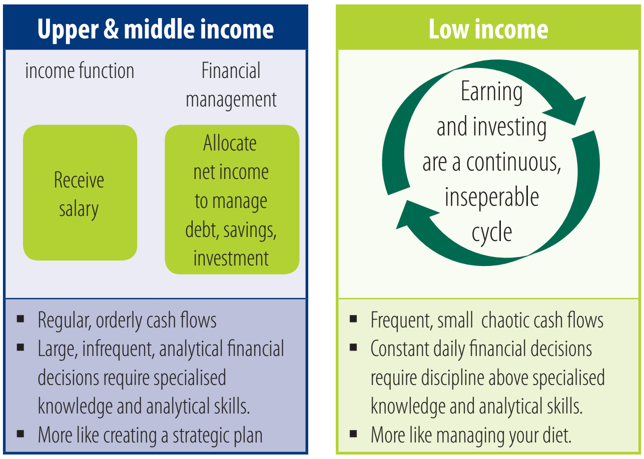
2. ***Many would buy food for the day, not the week or month.*** In fact, one of our urban households told us, *"I normally don't take lunch; I can only afford to buy food once per day."* Many household consumables were bought in very small quantities at the specific meal time – breakfast, lunch, or dinner – when they were needed.

3. ***While they had many financial assets – savings devices – few kept money around in liquid form.*** They might have two bank accounts and four *chamas* but the money wasn't readily available to be used when required. It often had a purpose that made it more restricted. Funds in a bank account might be being used to maintain eligibility for a loan, and funds in a *chama* are only really available at your turn, unless your group allows you to borrow against them.

What we noticed is that our respondents had an inclination to never leave money idle. **They want their money to be constantly working.** That can mean being converted into consumables like food, but often also means investing in earning the household more money, more social capital, or access to the kinds of loans that might offer an opportunity for a larger type of investment. It can also mean giving that money away or lending it – interest free – to someone who would put it to good use now and return it later. Just having money sitting around and not doing any particular work seemed to be viewed as wasteful.

This tendency is not particularly surprising given what we already understand about how low-income people think about and manage their money. While the financial management process of the relatively wealthy involves making periodic strategic decisions about allocating money, the poor are constantly managing their earnings and investing chaotic, small, cash flows with the constant aim of investing enough to pull themselves up to a higher standard of living, even when today's cash is barely enough to meet basic needs (Zollmann and Collins, 2010).

Figure 22: Key money management distinctions between middle- and low-income people



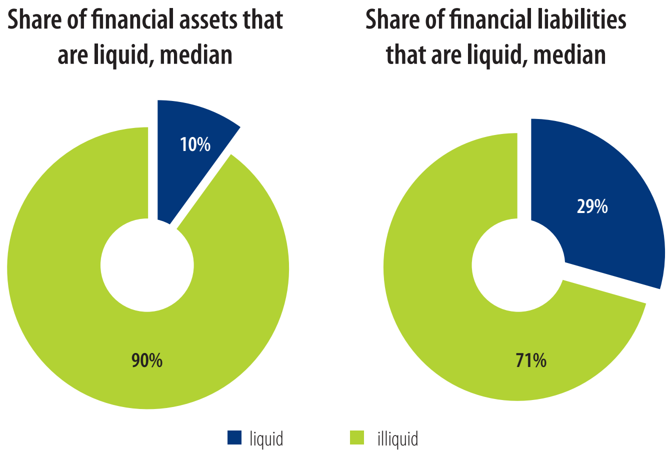
By and large, our respondents do not view "providing peace of mind" – having money around for a rainy day – as an important way for money to "work". There are so many ways to find that elasticity. As a consequence, even minor disturbances in cash flows and small-scale shocks can force families to go without or postpone spending on basic needs. Instead people talk about "looking for money" through contributions and loans when a need arises.

It is difficult for us to completely accurately label all assets as liquid and illiquid since the designation for some individuals is mental and idiosyncratic. But to test this idea, we conservatively labelled different devices liquid and illiquid based on a few key rules:

- **Liquid:** funds held in current accounts, salary accounts, in the house, and in savings accounts at banks; and
- **Illiquid:** funds held in *chamas*, stock market shares, and in savings or "shares" accounts at deposit-taking MFIs and SACCOs – because, in our experience, those funds are not easy to withdraw and tend to be held as security against current and future loans.

When we do this and re-run our balance analysis across the sample we find that the median household keeps just 10% of its financial assets in liquid form, rising only to 29% at the mean. So by and large, across the sample, most financial assets are not immediately accessible for lumpy needs that come along, particularly if those needs are urgent, unexpected, and substantial.

Figure 23: Few financial assets are held in accessible, liquid form.



One respondent, Collins, provides a particularly strong example. Collins is a Nairobi-based businessman who sells firewood and *mutura* (a type of locally made sausage). Collins is an extremely active money manager who is always eager to experiment with new products – like M-SHWARI – and always looking for new, strong groups to join. He is, in fact, so eager that he holds a leadership position in a women's group that was formed in anticipation of receiving support from the Women's Empowerment Fund. Examining Collins' financial assets in Table 10 we see that he has very many savings devices and, together, they comprise an extensive portfolio of assets. But, most of these are not liquid. They are busy working – either helping him access a loan for his business, helping his friends and group mates to do the same, or are locked up earning interest as longer-term investments. Only about 1% of his assets are static, as opposed to active, and it's only those static funds that are immediately available to draw on. He may be able to borrow against some of the others, but that's not always an instantaneous and efficient process. When something does come up for Collins, he tends to draw on the money he holds as a money guard on behalf of one of his *chamas*. As long as he's sure he can pay back the group before they notice, he figures, why not?

Table 10: Collins' financial assets are substantial, but only a very small share is liquid and on hand

Assets	Value	Active?
Savings Account (joint with wife)	-	No
Restricted Savings Account	1,200	No
Savings in the House	-	No
Mobile Money	1,230	No
Savings Account – Bank 1	12,670	Yes – Enables loan
Savings Account – MFI	12,000	Yes – Enables loan
M-SHWARI[25]	1,450	Yes – Enables loan
ASCA #1: Firewood	65,600	Yes – Enables loan, provides capital to members
ASCA #2: Glory	31,000	Yes – Enables loan, provides capital to members
ASCA #3: Twendane Hai	36,000	Yes – Enables loan, provides capital to members
ASCA #4: Karimu	6,750	Yes – Enables loan, provides capital to members
ASCA #5: Wamama	3,000	Yes – Enables loan, provides capital to members
Shares in Muramati	5,200	Yes – Enables loans
Stocks in Kengen	200	Yes – Seen as investment, earning returns
Stocks in Safaricom	1,700	Yes – Seen as investment, earning returns
Wage & rental arrears owed to respondents	1,250	Yes – Owed back to him, while helping others
Lending to family and friends	15,000	Yes – Owed back to him, while helping others
Credit given to clients	2,870	Yes – Owed back to him, while helping others
Static money	**2,430**	
Active money	**194,690**	

Low-income people must make trade-offs between their money management objectives.

The discussion above highlights that even when there are assets on the balance sheet, there may be no money at hand precisely when it is needed. This may help us better understand the kinds of vulnerabilities we saw in figure 11. While savings in a *chama* may be very helpful in purchasing stock for your business, they are not available today to pay your child's school fees, to buy food, or to pay for medical expenses. The protection of those savings for investment purposes is part of the appeal of the *chama* itself – it is a highly valued *feature* of the device – but the preference to hold most savings in these kinds of assets leaves some financial bases uncovered.

[25] Susan Johnson has written about people's perception of value of saving in banks being lower without being able to "leverage" those savings into a loan as a way of seeing those savings at work. The design of M-SHWARI may counter that kind of perception in a banking product.

Despite a general preference to save, some households are heavily indebted.

There are several ways to understand debt: total debt stock as a share of income, financial net worth, and assets-to-liability ratio. Taken together, these measures provide a very interesting picture of debt in our low-income sample. We already know that at the median, assets exceed liabilities. But as shown in figure 24, a third of study households have negative net worth. This means their debt stock exceeded their financial asset stock at the close of the study. This is interesting, but doesn't tell us whether this is because of objectively high debt stocks or just lower relative savings in those households.

Our sample has far more heavy savers than heavy borrowers, as figure 25 shows. There is also a full 20% of households with no active debt at all. While assets tend to outweigh liabilities it is not a dramatic imbalance and that may reflect that both savings and borrowing are done in relatively small values. Some liabilities are funding the acquisition of physical assets and human assets via education spending.

Figure 24: This histogram of household net worth shows that most households have slightly positive net worth

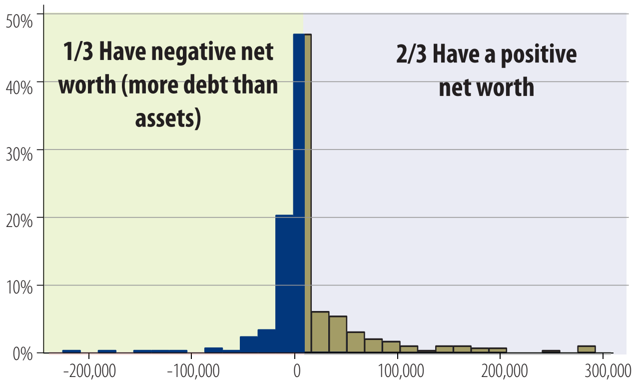
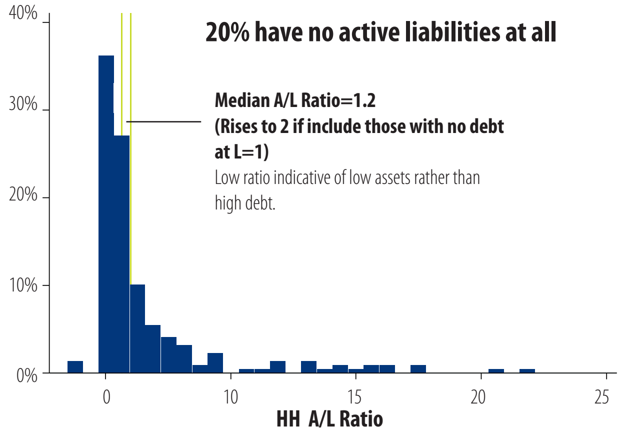
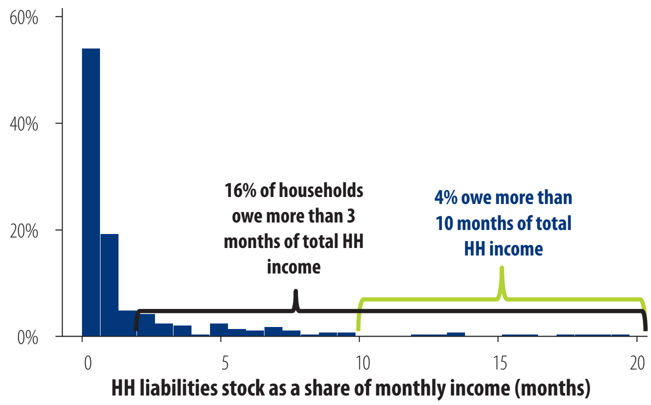


Figure 25: Our households have both low debt and low assets



But to know whether debt is actually a burden, we need to look at debt relative to income. When we do that we see that a much smaller share owe a large amount of money to their creditors. Only 16% of households owe more than three months' income in debt stock. Just 4% – 11 households – owe more than the equivalent of 10 months of their average monthly income to various kinds of lenders.

Figure 26: Only a small share of households is highly indebted



Ten months' income in debt stock can be a lot of money, particularly when living under conditions of significant income and expenditure volatility and uncertainty. But we have seen that debt stress is not a function of the balance sheet alone. Much depends on how the debt is being used, its level of negotiability, and how repayment responsibilities might be shared with others – even those outside the household.

Debt has many faces. Both Betty and Wendy have a large amount of debt relative to income, but their circumstances are very different. Betty's debt amounts to KSh32,000 – about 11 months' income – but Wendy's is around KSh250,000 – about 12 months of her teaching salary. Betty struggles but finds it tolerable, whereas Wendy's debt caused so much stress that it ultimately ended her marriage.

Betty is the single mother of two children. She runs a police canteen and has a small kiosk selling basic items to the police who live at the post. She earns KSh3,000 per month for running the canteen but the net income from the kiosk is often negative due to outstanding debt from her clients and from her taking nearly all of her family's consumption needs from the kiosk and leftovers from the canteen. She has a very hard time staying ahead of her big expenses: school fees (KSh20,000 for the year) and rent for the kiosk at the canteen (KSh2,000 per month).

She is constantly juggling obligations and continually substituting one form of credit for another in trying to refinance her debts. She delays where she can and gets by on the flexibility and negotiability afforded by her informal creditors.

A loan from a moneylender helped her clear a debt she had taken at the shop when her father came to visit. Later, when her kids were sent home around June for school fees arrears of KSh6,000, she borrowed KSh20,000 from her brother. She used only KSh3,000 for fees, KSh10,000 to restock her kiosk, KSh6,000 to pay rent arrears, and she bought a sheep to "remember the loan." She left outstanding debts at the shop and the tailor which she could pay later. While she agreed to repay her brother KSh1,000 per month, she hadn't made any payments by the end of data collection in September.

She does get stressed about rent payments and school fees but she doesn't see many other options. When she finds a loan it provides relief and most of her creditors give her time to come up with the money to repay. The pressure is tolerable. If things are going well at the kiosk, she doesn't get too worried about money.

Wendy is a young teacher in a rural area. She owed the SACCO KSh350,000 at the start of the project. She'd taken the loan so her husband could start a business – a little shop in the community. About KSh11,000 of her KSh20,000 salary goes to the debt service every month. She can't just turn it off and sometimes the deductions even increase: when she missed a month's salary because of a teacher's strike, her entire salary was taken for debt payments the next month. Luckily, her siblings came to the rescue that month and sent her enough money to get by.

But this debt weighs heavily on her, causing mounting stress. Her husband kept telling her it would be fine: the friend he had lent KSh150,000 would pay back any day! The business wasn't translating into much income for the family. He began pawning their assets one by one, without consulting her: first one motorbike, then the freezer, then the second motorbike. That was the last straw. She was so angry that she kicked him out of the house. She's still stuck with the debt but she was relieved to try and start again without him around to make things worse.

Are some low-income Kenyans borrowing too much? That is difficult to judge. Income trajectories are vulnerable. Debt stress is not necessarily a function of total stocks alone, but depends on many other factors, including the source of borrowing, flexibility and negotiability of the debt, use of the loan, cash-flow patterns from the borrower's range of income sources, and the scale of non-debt obligations that might cut into income available for debt service.

A more interesting question is whether some are borrowing too little

The debt that most people are accessing appears to be small scale and low value. The median loan size from friends and family is just KSh500 and from *chamas*, just KSh2,000 (see Annex A tables for median loan sizes across devices). It may be inadequate for investments that help achieve the income increasing and asset acquisition objectives of financial management. It may be that many are under-borrowing for high return investments, for example, in improved inputs for farming, productive assets like dairy cows, and in stock for their small businesses – the kinds of things they use their *chama* payouts to do. If both saving and borrowing are being used mostly for smoothing functions, there is little to invest in advancing livelihoods.

2.4 SOCIAL NETWORKS AND GENDER

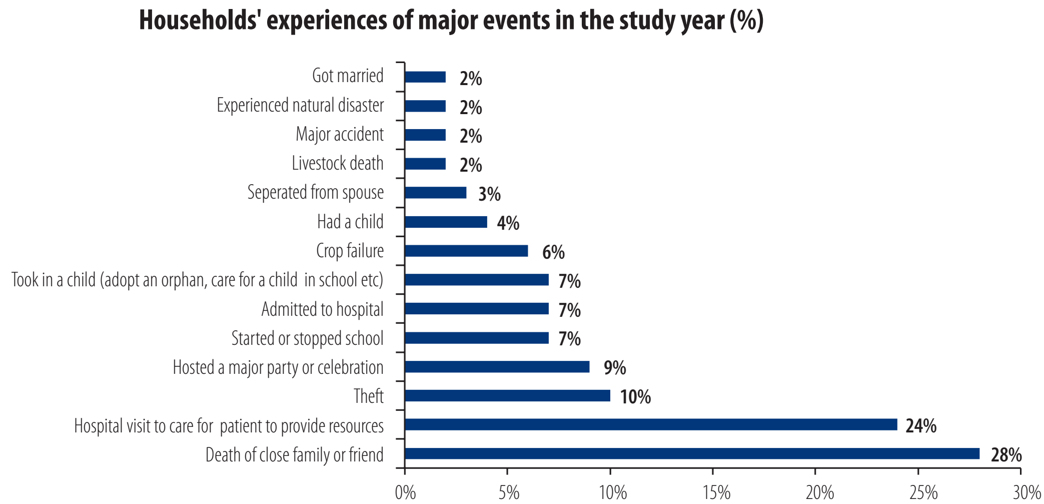
The poor depend heavily on the social network to cope with shocks

With only minimal liquid savings, it's no surprise that when hit with shocks, people often turn to friends and family – and to borrowing – rather than to their savings. Respondent families faced a wide range of challenges and strains on their finances throughout the year. They had babies and weddings. They experienced thefts and the deaths of family members and close friends. And when these things came up, we tracked how households would respond to the new and increased pressure on their budgets.

For large and small needs alike, the two most important strategies for coping with these situations were first, to ask for contributions from the social network, and second, to borrow from the social network. Then, some distinctions emerge. For larger expenses, the third most important device was a welfare group, while for small types of shocks, many would turn next to savings in the house – a device with typically very low balances. (The median closing balance in our sample of users was zero).

If your social network is strong and also responsive to the particular challenge you are facing, it can work wonders. Recall George, whose income is plotted in figure 3 Though his typical monthly income ranges from KSh7,000–11,000, we see that it spikes to KSh71,000 after his wife's death. That's nearly 10 times his typical monthly income, an amount that would be extremely difficult to amass in savings or to be able to borrow. Even if a person like George could borrow that much, it would need to be returned with interest, even though much of it went towards unrecoverable medical expenses and a funeral, activities with no return.

Figure 27: Respondents experienced a wide range of risk events throughout the year, all with different financial implications



But, the social network is imperfect

Though the social network plays a major role in the financial lives of low-income Kenyans, our data show that relying too heavily on the social network to cope with risk has several serious shortcomings:

1. **The network cannot bear the scale of every risk event.** Robert, for example, is a three-year-old boy recently diagnosed with a heart defect. Knowing the child was sick, the family held a *harambee* (fundraising drive) to raise funds for his treatment. They gathered KSh15,000, all of which was consumed by two visits to cardiac specialists that gave him only a diagnosis. Robert needs surgery that they were told would cost upwards of KSh 500,000, while the household only earns KSh 3,000 per month. The KSh 15,000 raised in the *harambee* completely maxed out the resources available within the social network. A sum of KSh 500,000 is simply far beyond the capacity of his social network.

2. **It may not deliver in time for every type of need.** Shortly before Christmas, Isaac's wife became ill and had trouble swallowing. After review, the hospital informed her that she had a tumour in her throat that would need to be removed. It would cost KSh23,000. They weren't sure how they would raise that kind of money, so his wife went to her mother's house to rest. The mother insisted on a traditional healer and Isaac sold his phone for KSh6,000 to help pay for that. But, they could not raise the full KSh23,000 fast enough and his wife died. Immediately, Isaac was flooded with contributions in cash and in kind worth more than KSh33,000. The social network worked but, in this case, too late to save a life.

Table 11: Isaac's sources and uses of funds during his wife's funeral

Sources of funds		Uses of funds	
KSh5,000	Borrowed from brother-in-law	KSh600	*Ustadhi*, imam
In Kind			
(KSh5,100)	Goat borrowed from neighbour	KSh700	*Bao*, piece of wood to cover body before burial
KSh23,000	Contributions from family and friends	KSh1,000	Mother-in-law who would keep youngest child for some time
KSh40,000	**Another 40,000 received from friends and family for *Tsunza*, 40 days after death**	KSh1,000	To Isaac for starting over at home
		KSh1,200	Digging grave
		KSh2,000	*Sanda*, shroud for the dead
		KSh20,000	Food

What happened in this case? It could be that the network did not appreciate the urgency of the situation. Perhaps they could not be sure that the money they sent would make it to the hospital for the surgery. Maybe they were not sure whether it would matter. Would she die anyway? Perhaps there are deeper cultural norms that have made funeral fundraising especially efficient. It is possible that the power of the social network might be better harnessed by addressing some of the information asymmetries between givers and receivers and also complementing social giving with alternative, faster-acting financing devices.

3. **For many poor people, it may not be very large or very effective in generating funds**. Ellen, a Kalenjin, was beaten unconscious and left by her Kikuyu husband during the post-election violence of 2008. During the aftermath of the violence, two of her brothers also committed suicide, leaving her to fend for herself and to support her two children and her mother. The capacity of her social network to support her is extremely limited. She earns about KSh8,000 per month on her own. Those earnings are quickly consumed by food, school fees, rent, and helping her mother. But she is saving. Her son has had intense stomach pains for several years and she has been advised that he needs surgery that would cost about KSh10,000 just to find out what is really wrong with him. Without the means to generate this much money from her social network, she has just been postponing his treatment. She belongs to a trained ASCA that allows her to borrow up to twice her savings. After saving there for about two years, she expects soon to be able to borrow enough money to pay for the medical experiences. The only "help" she received from her social network in the entire study period was a friend allowing her to charge her phone for free a few times. She is not unique: 13% of our study households received less than 1% of their income from social-network sources over the course of the project.

4. **It may place the givers—who are often themselves low-income—at risk and limit their ability to climb out of poverty.** Rather than being strictly reciprocal, many of the giving and receiving relationships in our study were redistributive, with the relatively better off supporting the relatively worse off. And, in the more reciprocal relationships, we see something similar, with those who have resources at the time helping those who do not. Twenty-three per cent of our households were net givers rather than net receivers of contributions from the social network. And when we look more closely at the net givers and net receivers, we see that indeed, the net givers are on average better off than net receivers, but they are not wealthy. Half of them still fall below the USD2 per day poverty line.

Table 12: Key economic characteristics of net givers and net receivers

	Net givers	Net receivers
Share of households in sample	23%	77%
Percentage <USD2per day	50%	79%
Median HH monthly income (excluding RR) - KSh	12,386	4,252
Median HH monthly income (KSh)	13,162	6,265
Median HH monthly income per capita (KSh)	5,335	1,840
Median volatility of income (standard deviation of monthly income/average monthly income for the household)	52%	55%
Median share of income received from others	1%	23%
Median share of income given to others	9%	1%

Living on a per capita monthly income of KSh5,335 is indeed much better than KSh1,840, but if the demands of the social network unexpectedly increase because of a shock within the network, it can wipe out many of the gains achieved through higher earnings.

Take, for example, William. William struggled to get his life in order after his father passed away during his Form Four studies. His brother took him under his wing and helped him leave behind a drug addiction by helping him find a job and by paying for his accommodation while he did an electrician course at a local college. Upon finishing his diploma, William got a one-year contract making about KSh2,900 per week, from which he was able to regularly save KSh1,500. He had to use some of that occasionally, but when he finished the contract, he had saved KSh68,000 which he planned to use to start his own electrician business. But tragedy struck his brother's family when William's nephew fell into hot *mandazi* (fried dough triangle) oil and incurred a hospital bill of KSh180,000 for burns treatment. William handed over his entire savings to his brother and now gets by on spotty contracts he is able to get via leads from his other classmates. William is doing okay, now. He is not bitter about having to help the family with his savings. But economically, he would have been much better off if he had been able to use that KSh68,000 as a cushion when things got hard or to help him set up a business that could provide some extra income and extra stability.

Health emergencies are particularly urgent and expose some of the more severe consequences of shortcomings in relying heavily on the social network. But delays for even less urgent needs can also be extremely stressful. Sarah has a small shop and *posho* mill (for grinding maize into flour) in a rural community. Around September, her *posho* mill was having problems. She took KSh10,000 from her savings to have it repaired but, in the meantime, learned it needed a new cement foundation that would cost KSh33,000. This was important to repair, because the mill brought in about KSh200 per day, money she really relied upon. She sold her other income source – a dairy cow – for KSh18,000 and hoped her daughter would help with the rest. She did not. Sarah became extremely stressed and worried about how to keep paying school fees. She borrowed from her friends and a moneylender to keep up with *chama* contributions and to keep stock in the shop. Just as she was losing hope, her brother-in-law gave her the extra KSh15,000 – repayment of a loan she had made him many years ago. She immediately paid for the repairs and was back in business on 29 December, more than three months after the problem was discovered. If an appropriate loan was available, processed quickly, and she was comfortable bearing risks associated with future unforeseen shortfalls, she could potentially have been better off taking a loan and repairing the mill more quickly.

Women are more active money managers, but less likely to use formal devices.

Separating data out by individual allows us to look more deeply at gendered patterns of money management, which we know have important differences from FinAccess and much other research.

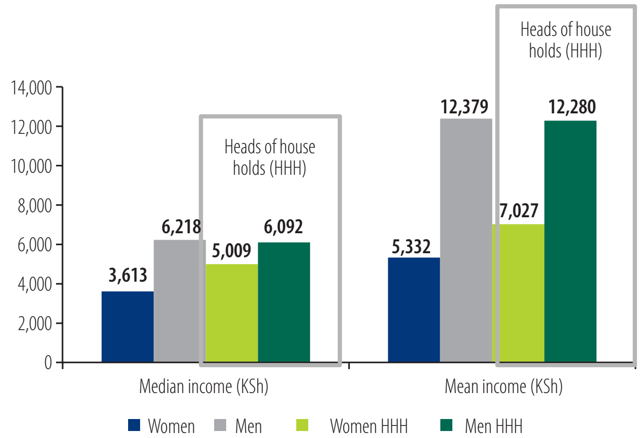
The economically active men and women in our study are alike in many basic ways: They are similar in age, education levels, and – if we put aside resources received – number of income sources. However, the men in our study tend to be slightly more urban and are less likely to be poor than adult women.

Table 13: Profile of adults by gender, showing first all adults then only those adults who are heads of household

Profile of adults by gender	All adults		Heads of household	
	Women	Men	Women	Men
Share of adult sample (%)	65%	35%	47%	53%
Median age	39	41	41	42
Share urban (%)	29%	39%	24%	37%
Share poor (%)	74%	66%	81%	65%
Median years of education	8	9	8	9
Median number of income sources	7	6	9	6
Median number of income sources, excluding RR	4	4	4	4
Median average monthly income (KSh)	3,613	6,218	5,009	6,092
Median share of income from RR (%)	32%	4%	40%	4%
Median number of financial devices	10	9	12	9
Median share of income flowing through financial devices (%)	177%	122%	159%	120%

Figure 28: Men earn more than women, though the gap is reduced among heads of household.

Average monthly income by gender (KSh)



Across the board, whether we look at all adults or just heads of household, we see that men have higher incomes than women. The gap is somewhat smaller between women and men heads of households, at least at the median. Despite, (or perhaps, in part, because of) the substantial gap in incomes, women seem to be more active money managers in terms of both saving and borrowing. At the median, women mediate 177% of their income, compared to 122% for men.

When we look at closing balances, we see that men have higher balances in both their assets and liabilities, but not as a share of income. The median woman has saved the equivalent of about 42 days of her personal income compared to just 31 for men.

The median woman deposits most of her income – 61% – in a savings device to use at another stage. Men are also active depositors depositing about 48%. Both genders are saving a lot. But, these deposits may not stick around for long. For example, money received from a relative and deposited into M-Pesa is usually withdrawn within a day or two. *Chama* payouts in merry-go-rounds can come in a matter of days or weeks. Short-term saving may be helpful for smoothing consumption, but inhibits the accumulation of higher levels of savings.

Figure 30: Women channel more than 60% of their incomes through financial devices.

Savings deposits to income ratio by gender (%)

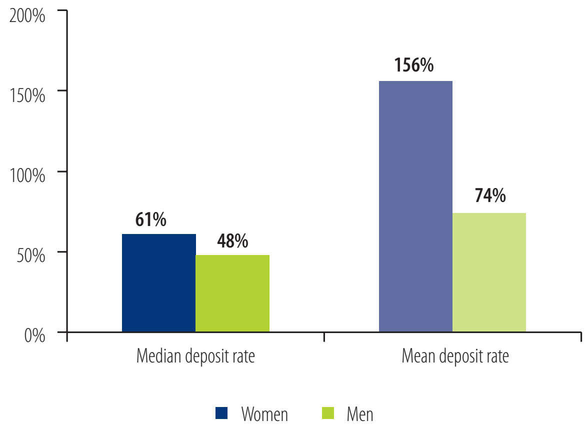
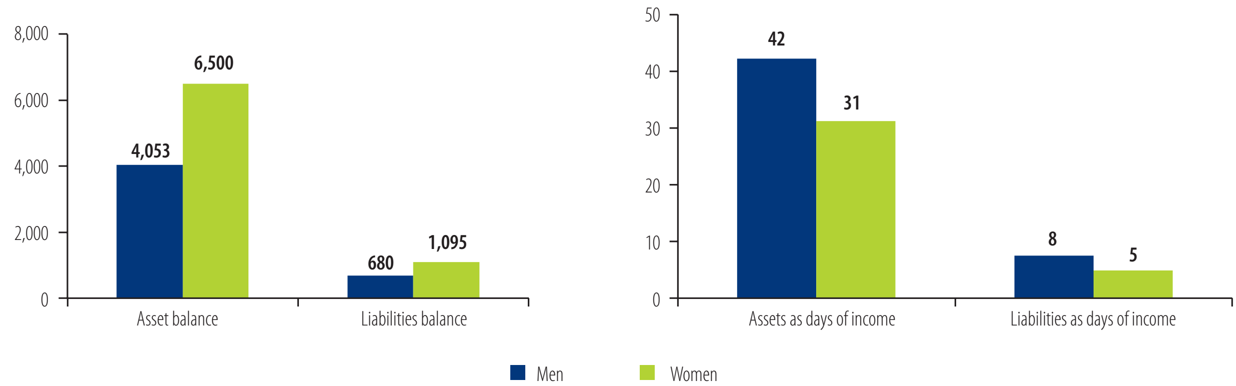


Figure 29: Assets and liabilities by gender. While stocks of assets are similar for men and women, they represent a larger share of income for women.

Median asset and liabilities stocks by gender (KSh)

Median days of income in assets and liabilities



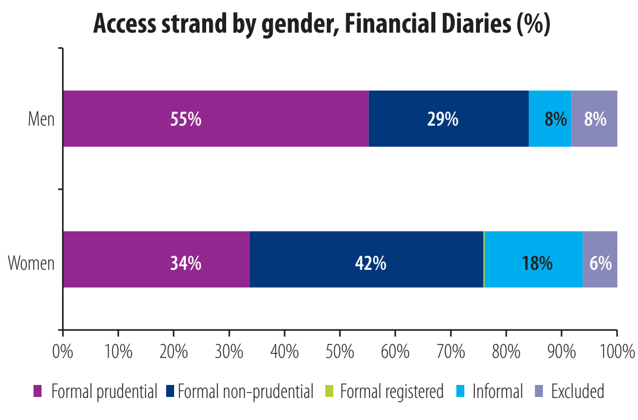
What explains some of these differences between men and women? Well, it is possible that women are playing a more important role in managing household finances. They may be mediating some money earned by husbands and transferred to their management through an intra-household exchange. For example, the woman may borrow from her *chama* on behalf of her husband, and he may give her at least part of the money for repayments.

Indeed, we observed these dynamics in a number of households:

- Benson grows oranges and mangoes in relatively large amounts. His trees have just recently reached maturity in the last few years, yielding large and lumpy sales. After he makes a sale, he gives the cash to his wife for her to store in her bank account until they decide how to use it.
- Rebecca and Jacob produce Napier grass (used to feed zero-grazing dairy cows) and avocados for sale, and Rebecca runs a *changaa* business. Though Jacob helps on the farm, Rebecca handles all the money, to the extent that she gives Jacob an allowance to buy his one indulgence: cigarettes[26]. Rebecca does all the saving and investing for the family, keeping fairly large sums in secret places in the house and circulating in three different *chamas*.

Though women are more active in managing their finances, they are doing so through mostly informal devices. While 55% of adult men in our study were in the highest access strand – formal prudential –only 34% of adult women were included at that level.

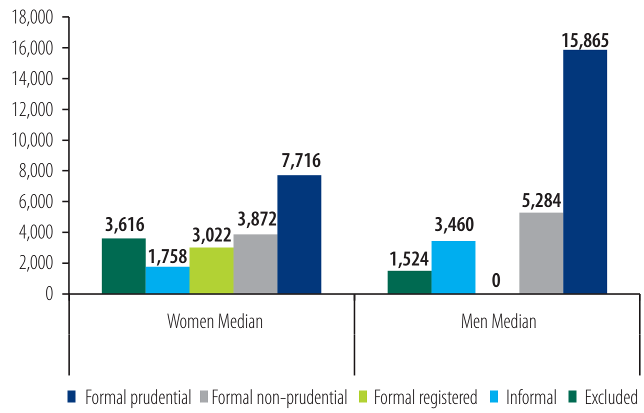
Figure 31: The men in our sample are much more formally included than the women.



[26] He tends to smoke a KSh50 pack of cigarettes every four days. Over the course of the project, cigarettes accounted for 4.4% of consumption expenditure in this household.

We believe there are at least two explanations for this trend. First, women's lower income levels. Given that banks were viewed as places for "big money" across the sample, respondents felt that it was embarrassing to make and hold very small deposits or to be inefficient given the fees associated with managing an account. When in FinAccess, 63% of unbanked respondents (65% of unbanked women) say the reason they do not bank is because they don't have money, it could very well be because they feel that banks are for larger value savings. But, curiously, M-Pesa does not fall into this camp. When we look at income by access strand, the only big difference in incomes across access strands is when it comes to formal prudential, banking, particularly among women. Women who feel they do have enough money for a *chama* and for M-Pesa feel they don't have enough for banking. Real or perceived, the affordability threshold is higher for banks.

Figure 32: The formal prudential access strand is associated with significantly larger individual monthly incomes.



The second reason may be due to women's seemingly greater reliance on the social network – both to help cater for day-to-day needs and to help during a shock. Women are much more likely than men to receive their main income from resources received. Figure 33 shows that, not only are women more likely to rely heavily on resources received, they are also more likely to receive help when they need it, and receive larger contributions than men. Could it be that men are substituting formal sector financial products where women are instead relying more heavily on their social networks and their informal products (which also tend to be quite social)?

Figure 33: More women in our study rely on resources received, while more men earn incomes through casual work, regular work, and agriculture.

Main income source by gender (%)

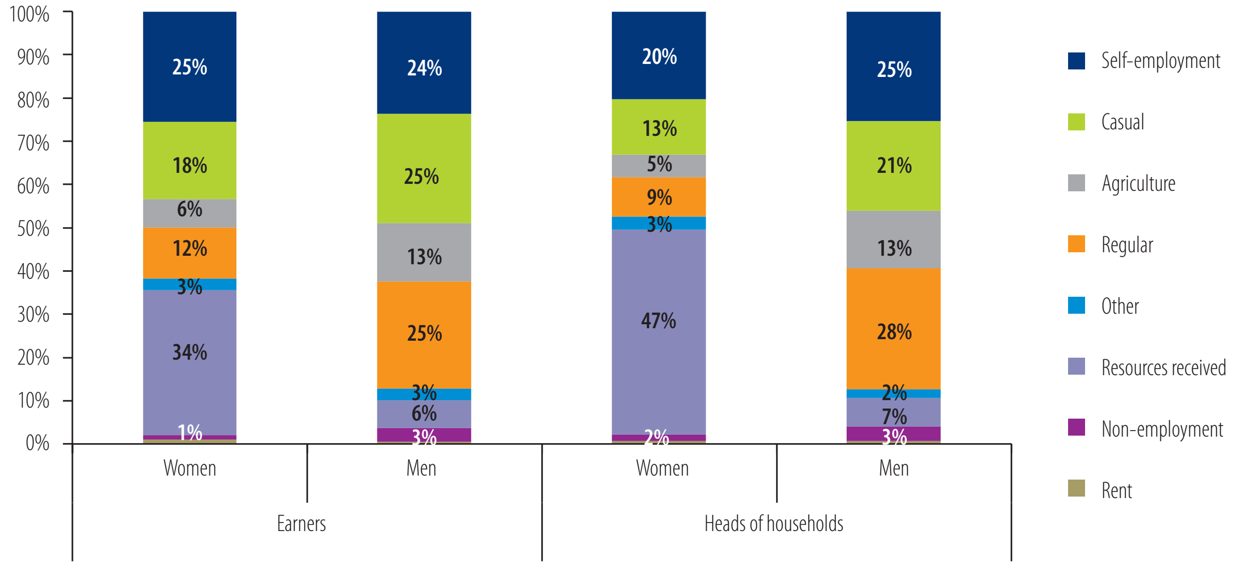
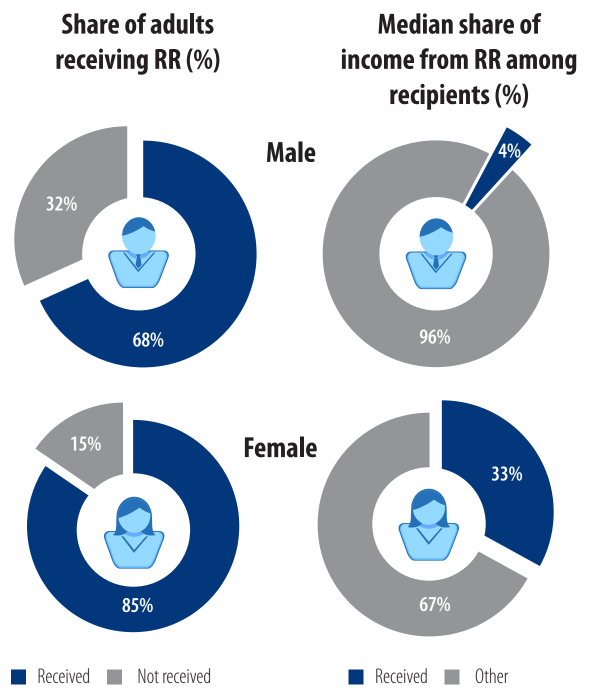


Figure 34: Resources received by gender. Fewer adult men get support in the form of contributions from their social network and, when they do, those contributions are relatively small.



Why do men receive so much less from their networks? It could be because of pride. In qualitative interviews many men emphasised how important it was to them to show their families that they have become successful, and part of that is projecting the image of self-reliance. It could also be that friends and relatives who want to help prefer to help the female spouse, believing the money will be put to better use. Understanding these dynamics is critical for developing service solutions that make financial services more relevant and helpful for both men and women.

Chapter 3

IMPLICATIONS

There are gaps in the available service options to help low-income people cover all the financial bases.

One way to think about unmet financial services needs for Kenya's low-income consumers is to consider the financial management jobs that they have to do and the existing tools they have to do them. What tools are there, and how good are they in actually helping people accomplish the financial job at hand? In an ideal world, an individual would have *multiple good options* among both saving and lending products to accomplish these financial jobs, and these options would allow that person to access *a range of fund sizes* from small to large when appropriate for the need.

There are probably a dozen important and specific financial management jobs that low-income people have to do, but we can simplify them into two basic categories: accessing short term liquidity and making longer-term investments. Below, we look at the financial devices currently available to our respondents and score them in terms of how many people are able to use them effectively (usage) and roughly how much they enable people to access at the appropriate time. In terms of usage, we give a score of one to four stars for how many people, roughly, are able to make use of the device – to do this financial job. On value, we give another score of one to four stars for the size of money they are typically able to access from one of these sources when they are successful in accessing money from the device to meet this kind of need. We start to see that there are still some important gaps in financial services options available to low-income people.

In terms of short-term liquidity, there are very few people who are successfully able to access medium to large scale liquidity from their financial devices when needed quickly. We see a heavy reliance on resources received for this, which is not available to everyone and should not be the only option to choose from. Also, we see lots of users of 'saving in the house' and M-Pesa, but fewer of them are using those devices effectively to ensure they have access to small levels of liquidity when needs arise. Liquid savings, we've shown, is currently quite small. There are some borrowing options, and M-SHWARI has introduced one more. But are the values substantial enough to meet needs? When it comes to health, the National Hospital Insurance Fund (NHIF) can provide a substantial cushion, but effective usage remains low in this segment.

Figure 35: Financial devices available to low-income people. Low-income people need a range of financial options that help them access different levels of money to meet different kinds of needs.

Short-term liquidity

Asset options	Usage levels	Value accesible
Saving in house	★★★★★	★
Saving on M-Pesa	★★★★★	★
Saving in bank	★★	★★

Liability options	Usage levels	Value accesible
Shop credit	★★★★★	★
Loans from *chama*	★★	★★
Loans from family and friends	★★★	★★

Insurance options	Usage levels	Value accesible
Resources received	★★	★★★
Welfare Group	★★	★
NHIF	★	★★★
Other Insurance	★	★★

Gap: Few options for medium to large scale liquidity quickly. Options for small value liquidity are not working very well.

Long-term liquidity

Asset options	Usage levels	Value accesible
Saving in *chama*	★★★★★	★
Saving in bank, MFI, SACCO	★★	★★

Liability options	Usage levels	Value accesible
Loans from chama	★★	★★
Loans from family and friends	★	★★★
Loans from bank, MFI, SACCO	★	★★★

Insurance /other options	Usage levels	Value accesible
Resources received	★★	★★
NSSF	★	★★★

Gap: Borrowing for investment is limited and only one device , the *chama* is very effective and widely used to save for investment. Few good options in assets or liabilities.

Moving over to investment, we see that there are actually few financial options being mobilised to make investments in assets, business, education, and other "development" at a household level on both the savings and lending side. The most effective device appears to be the *chama*, but while good at building lump sums, the sums still tend to be relatively small. Accessing the kinds of money that households might need to make a good investment at the right time is something that is not easy to do right now in current savings and credit offerings.

There are major gaps around health finance. Low-income people are having a difficult time mobilising funds quickly for acute health needs, even when the size of the need is quite small. The challenges are even more significant for larger needs and surgeries. And the result is postponement of care, worsening of the condition, more lost income from longer recovery times, and, in the worst cases, unnecessary and untimely deaths. New financial services that help ensure adequate liquidity to deal with health risks would have a major impact. These services could enhance and complement existing social network finance, even support informal credit provision when it comes to health risks, and potentially expand insurance coverage by targeting remittance senders rather than the poorest, most vulnerable households themselves.

Banking can work better for low-income people

So yes, there are product gaps where new services could add value to the lives of low-income people. But, there are also ways to modify existing products and service experiences to make formal products feel more relevant. Innovations in technology and service models have driven down the cost of banking and made it much more accessible geographically. But when our respondents talk about banks and microfinance, respondents tend to view them either as institutions with limited relevance, or more often than we might expect, exploitative and hard-hearted. Respondents tell us:

- *"You know my salary delayed in November and December, so they didn't process my standing order [into my savings account]. To make matters worse the bank fined me KSh600. Do you know what that means? It's not like that kind of money can just be picked up anywhere in this city. They should have at least saved the money for me as they took their fine, but no. I have to go stand in a queue just to deposit. That's why I had a standing order!"*
- From interviewer notes: *"He has not used his account for a while, because he does not understand how much interest he earns. He has tried getting information from the bank but he claims they have been elusive and vague in giving him answers."*
- From interviewer notes: *"She is very annoyed that her money was withdrawn from her account and the bank has not done anything despite the several follow ups."*
- From interviewer notes: *"He has decided to put aside saving with that bank. He was expecting to get interest, but instead he got just his money less KSh100 for the withdrawal fee. When he sought an explanation he was told that interest is given only to those who deposit huge sums, like KSh50,000, not his small KSh5,000."*

What can banks do to counteract this perception? Actually, quite a lot:

1. **Signal welcoming of small values and celebrate small achievements.** In product structure and marketing, banks can do a better job of signalling to clients that even very small value transactions are welcome. Simply giving an option on a mobile platform menu to deposit KSh20 tells your customer that KSh20 is a worthwhile contribution and welcome. Highlighting small-scale success stories and recognising savings achievements of lower value savings, even KSh5,000 with text messages, interest earnings, or other rewards (free services, points, and airtime) builds the relationship with the customer and makes them feel at home with their savings in a formal institution.

2. **Improve price transparency.** Low-income people do not have money to lose. Even if unexpected fees are small, the fact that they are unexpected is painful and feels like a betrayal. It creates the feeling among respondents that the banks are trying to "cheat" them. People understand the concept behind paying for services, and making sure pricing of transactions and loan products is clear, consistent, and understood by clients will go a long way to building their trust and increasing their usage of services. Improving price transparency will likely simultaneously reduce the frequency of losses clients believe they have in the bank. Without them knowing bank fee structures, it is very difficult for users to distinguish between fees and mistakes at the bank. The uncertainty alone keeps many away from using these products more frequently.

3. **Improve the service experience.** One area where formal institutions ought to have a real edge over informal ones is in offering greater reliability. This is where low-income people should be able to add security to their portfolio. But improvements are needed both to make sure system reliability is robust and to improve recourse mechanisms when things go wrong. As banks expand their channels – from just branches to agents and automated devices – there are new opportunities to focus more on service quality. As branch congestion abates with everyday transactions moved to lower cost channels, a greater share of branch activity will be on more difficult things: helping clients select the right products, answering questions, resolving problems. These will be critical moments for demonstrating courtesy, respect, even kindness to customers, and banks should be prepared to make good use of those moments.

4. **Help clients see their savings are working.** For banks to be successful in gaining the savings of low-income people, clients need to believe and feel that the money is working. One way is in paying interest on small-balance savings and making sure that clients see and feel that interest. But this could also be improved through localised marketing messages that tell clients how many local business owners are able to take loans based on the deposits of savers in that region or that highlight success stories of successful borrowers, particularly those who are "giving back" to the community through their success.

5. **Incorporate flexibility into product design.** Flexibility is an important product feature of informal financial devices that formal ones could learn from. This does not have to mean giving endless grace periods and rescheduling. It can mean encouraging loan repayments at much more flexible – even more frequent – intervals. Perhaps they could pay daily. Perhaps the institution could remind them of an option to "pay early" this month and save some token amount in interest payments or receive some token benefit.

Solutions can go beyond accounts

Traditional types of financial products are not the only answer to the financial challenges faced by the poor. For the kinds of gaps that they face, new kinds of solutions need to be imagined. Low-income people are also using financial services offered by their local shopkeepers, employers, landlords, schools, churches, health facilities, friends, relatives, even their newspaper vendors. Can those relationships be improved? How can schools maintain the flexibility and negotiability of parents' debts while managing their own cash flows? Might there be new delivery models for enrolling low-income people into health coverage plans via their local health facilities or services providers can offer to help clients save for predictable events like childbirth? Can we find new ways to help leverage informal relationships by, for example, building a credit history in the informal sector to help low-income people access formal products when the appropriate opportunity arises?

Technology has worn away at longstanding barriers to providing the poor with financial services. **The next challenge is to offer more, better, and more helpful solutions to the real and enduring problems of managing money, even – especially – when it is too little.**

MORE TO COME …

This rich dataset provides us an opportunity to view the financial lives of low-income Kenyans much more deeply than ever before and to see new angles and nuances in their daily struggles to make ends meet and pull themselves from poverty. The implications are far reaching for development practitioners and policymakers as well as for financial services providers. Many of those will be explored in greater depth in a series of forthcoming publications and events.

Upcoming publication topics from the Financial Diaries

- **Overview of findings** - *Shilingi Kwa Shilingi: The financial lives of the poor in Kenya*
- **Payments** in the Kenyan and South African Financial Diaries
- The financial role of **savings groups** in Kenya
- Understanding **risk**
- **Capacities** to aspire and save

Find all of these and more at http://www.fsdkenya.org/financial-diaries/

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Annex

SUMMARY OF FINANCIAL DEVICE USAGE

ASSETS	HH Level	Median statistics at a device level						
	% HH using	Closing balance (KSh)	Balance as share of assets (%)	Number of transactions in period	Turnover in period (KSh)	Average life (days)	Average withdrawal (KSh)	Average deposit (KSh)
Mobile money	90%	6	0%	14	14,500	6	600	800
Saving in a ROSCA	78%	400	2%	11	4,075	17	1,500	145
Saving in the house	77%	-	0%	6	5,000	13	290	200
Friends and family lending	52%	-	0%	2	1,413	0	600	605
Saving in an ASCA	52%	2,600	12%	8	2,700	40	1,525	200
Checking or current account	38%	1,500	4%	7	37,750	20	5,000	4,950
Credit given to clients	37%	-	0%	4	1,200	9	300	60
Savings account	29%	2,800	5%	6	12,000	37	5,000	900
Wage or rental arrears receivable	20%	-	0%	2	2,449	32	n/a	n/a
Commitment or restricted savings	19%	2,000	3%	6	14,500	33	4,475	1,000
Layaway	19%	-	0%	3	2,800	13	1,800	1,000
NSSF--Social security	13%	5,500	15%	10.5	2,000	92	--	200
M-SHWARI savings	9%	3	0%	2	1,200	24	1,250	250
Using money guard	9%	525	3%	2	4,500	6	300	1,000
Other financial investments (including stocks)	4%	5,000	3%	11.5	12,425	210	5,000	200
Pension	3%	200	1%	3.5	6,650	35	6,000	1,000
Education policy	2%	10,000	6%	1	6,000	37	80,000	760
Retirement or investment account	1%	-	0%	3	80,031	109	35,516	600
Private investment in someone's business	1%	450	10%	2	900	64	400	400
Gift card, vouchers	1%	-	0%	1.5	2,057	.	1,500	1,307
Bail bond	1%	50,000	10%	1.5	60,000	0	10,000	55,000

LIABILITIES	HH Level	Median statistics at a device level						
	% HH using	Closing balance (KSh)	Balance as share of liabilities	Number of transactions in period	Turnovers in period (KSh)	Average life (days)	Average borrowing value (KSh)	Average repayment (KSh)
Borrowing from friends and family	69%	-	0%	2	1,200	36	500	500
Credit at the shop	67%	-	0%	6	845	6	30	200
Arrears payable (rent, school fees)	45%	500	5%	3	4,000	36	1,000	1,000
Borrowing from a *chama*	35%	700	6%	4	5,500	20	2,000	1,000
Okoa Jahazi (airtime credit)	24%	-	0%	6	152	3	18	20
Acting as money guard	17%	-	0%	2	3,000	4	500	1,600
Individual business or agriculture loan	12%	2,050	2%	6	19,000	31	9,625	2,500
Wage advance	12%	-	0%	3	7,200	10	2,000	2,000
Supplier credit	12%	-	0%	3	3,150	14	1,500	735
Loan from moneylender	10%	-	0%	2	4,000	8	1,300	1,500
Consumer loan	8%	19,170	39%	7.5	29,625	28	15,000	4,650
Hire purchase, installment credit	7%	425	4%	3	3,000	4	1,500	700
Joint liability loan	6%	5,000	12%	6	16,508	26	50,000	2,050
Loan from employer	4%	1,500	7%	5	12,500	31	100	2,000
M-SHWARI loan	4%	227	0%	3.5	2,218	5	800	538
School fees loan	3%	7,605	9%	6	38,275	21	21,730	5,070
Pawning assets	2%	-	0%	1	2,450	n/a		1,650
Payday loan	1%	750	7%	3	4,500	33	1,500	1,500
Group enterprise loan	1%	10,500	100%	12	136,861	17	100,000	9,000
Student loan	0%	247,399	100%	.	.	.		

INSURANCE	HH Level	Median statistics at a device level			
	% HH Using	Number of transactions in period	Turnover in period (KSh)	Average payout value (KSh)	Average payment size (KSh)
Welfare group	48%	4	845	2,250	100
Health Insurance (all but 3 policies are NHIF)	15%	6	1,800	950	265
Other Insurance	3%	3	600	375	30
Life insurance	2%	8	21,000	24,000	2,000
Vehicle or motor	1%	2	10,000		8,000

FSD Kenya
Financial Sector Deepening

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