FinScope Consumer Survey
Mozambique 2014

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Acronyms and abbreviations

AfDB	African Development Bank
AMOMIF	Association of Mozambican Microfinance Operators
ASCAS	Accumulating savings and credit associations
ATM	Automatic teller machines
BoM	Bank of Mozambique
BI	Identity card
CTA	Confederation of the Economic Associations
DCA	USAID's Development Credit Authority
DFID	Department for International Development
DIRE	Identity Document for Foreign Residents
DSTV	Digital Satellite Television
EA	Enumeration area
FAS	Financial Access Strand
FDA	Fund for Agricultural Development
FMT	FinMark Trust
FSTAP	Financial Services Technical Assistance Project
FSPs	Financial Service Providers
GDP	Gross Domestic Product
GIZ	Deutsche Gessellschaft für Internationale Zusammenarbeit (German Society for International Cooperation)
GoM	Government of Mozambique
HDI	Human Development Index
ICA	Investment Climate Assessment
IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
INE	National Statistical Institute
INSS	National Institute for Social Security
IOU	I owe you
IPRMF	International Partners for Rural and Micro Finance
ISSM	Institute of Insurance Supervision of Mozambique
KfW	Kreditanstalt fuer Wiederaufbau
LSM	Living Standard Measure
MDG	Millennium Development Goals
MFI	Micro Finance Institution
MFDS	Mozambique Financial Sector Development Strategy
MFW4A	Making Finance Work for Africa
MSMEs	Micro, small and medium enterprises
MT	Metical
NGO	Non-governmental organisation
NUIT	Tax Identity Number
OIIL	Budget for Local Investment Initiatives
PARPA	Plan for the Reduction of Absolute Poverty
PCA	Principal Component Analysis
PSU	Primary sampling unit
RFSP	Rural Finance Support Programme
SACCO	Savings and Credit Cooperatives
SADC	Southern African Development Community
SMS	Short Text Message
TV	Television
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
USD	United States Dollar
VSLA	Village Savings and Loan Association

Executive Summary

FinScope Mozambique 2014 is the second national financial inclusion survey, following that of 2009, in which a representational cross-section of adult Mozambicans have been interviewed comprehensively about their financial behaviour, familiarity with financial terminology and their use of financial services. A total of 3928 households were covered by the survey from which one person from each household aged 16 years or over was selected (with equal opportunity) for interviewing. In 2009 5,028 households were covered.

The introductory chapter presents the background and the setting for the analysis, reviewing some of the important issues relevant to the use of the study and interpretation of the data and presents the objectives of the FinScope Surveys developed by FinMark Trust (FMT). Chapter two describes the methodology of the survey and implementation while chapter three reviews the developments in the financial sector that have occurred since 2009, focusing particularly on those most relevant to financial inclusion.

Chapter four provides a socio-economic profile of the respondents (sometimes households) which is critical for contextualising financial access and the use patterns of financial services. The variables analysed in the study are important indicators of well-being and development and the findings are consistent with those of 2009 but registering some noteworthy developmental changes. Two-thirds of the population are rural-based but more than four-fifths are engaged in agriculture or fishing (many urban residents are engaged in agriculture in peri-urban areas or in more distant rural areas). More smallholders are selling their crops in 2014 than in 2009 and although employment has increased, two-thirds of adults earn less than 5,000MT per month. Education levels have also improved and, despite the narrowing gap, a huge disparity remains between the education levels of rural and urban adults. Perhaps the most notable change in asset ownership and lifestyle is that almost half the population now own cellphones vs. only 20% in 2009. Although spreading infrastructure such as cellphone coverage, electricity provision, roads, health facilities and schools have helped bridge the urban/rural gaps, this chapter clearly demonstrates that the gap continues to be disturbingly large.

Chapter five reiterated the findings of 2009 which demonstrates a large gap between urban and rural populations in terms of awareness of banking products and terminology. However, due to the increasingly common presence of banks in rural areas, the gap is not so big in terms of bank awareness. Perhaps the most interesting finding of 2014 relates to coping mechanisms for calamities and planned events. In 2014 adults are much more prone to selling assets (such as livestock in rural areas) than they were in 2009 and are less dependent on assistance from family and friends. This positive tendency would suggest increasing levels of wealth.

Chapter six presents the headline results indicating that financial access has improved considerably with those accessing financial services almost doubling. Impressive increases are registered in all three Strand components (i.e. banked, other formal and informal). The formally banked have increased from 11.8% to 19.7%, while those served by other formal institutions (such as non-bank microfinance institutions and insurance companies) increased from 3.6% to 9.8%. The biggest increase was registered among those using "informal financial services" almost doubling from 14.7% to 26.7%. Although considerable progress has been made in improving financial access in rural areas, the gap, though narrowing is still far too large: in 2009 86.5% of rural adults were financially excluded while in 2014 this was reduced to 68.8% vs. 43.3% urban adults. Compared with other African countries, Mozambique fares low both in terms of overall financial access and the formally banked. The formally banked are analysed in chapter eight. In addition to the substantial increase in the percentage of adults banked, the 2014 results showed important trends in usage patterns. The use of banks as a place to save money (as opposed to depositing) decreased. A significant increase has been noted with banks being used for obtaining credit and transferring money. The vast majority of those that hold a current or salary account use banks for nothing more than depositing and withdrawing money. Safety and trust are the dominant reasons for using banking services which are overwhelmingly dominated by the two largest banks accounting for about 80% of current and salary accounts. An important finding is that women are *proportionately* less banked than men compared to 5 years ago. Two thirds of those who were aware of what banks are were able to get to the nearest bank within 30 minutes (40% of whom would use public transport). Partly accounted for by the transformation of two of the commercial microfinance banks, the number of adults using microfinance banks or non-bank microfinance institutions has diminished significantly.

Remittance patterns are reviewed in chapter eight with the most important finding showing that almost two-thirds of adults who transfer money now use banks (vs. 42.9%) with much less dependence on family and friends. The use of mobile money as a transfer mechanism is still developing (1%). Most transfers are done within urban areas although cross-border transfers from migrant workers are still significant.

Chapter nine examines savings patterns (including investments). Overall the savings strand shows an increase in savings in 2014 of 35%, versus only 21% in 2009. The study indicated that a change occurred in the proportion of those saving at home (66.7%), while there is a marginal increase of those saving in banks (40%). A general preference for the use of informal savings mechanisms dominated the saving strand and an increase by 50% was noted. Rural savings by contrast more than doubled with significant increases in all 3 components especially through informal mechanisms which saw a substantial increase. The principal drivers of the overall increase in informal savings were informal groups (see below) and increased livestock (cattle) holdings.

The credit strand covered by chapter 10 increased by 30% over the past 5 years (from 8% to 10%) but with major changes in the mix of credit sources. The most important finding is that credit from banks which was the second lowest category in 2009 more than quadrupled to become the most important source of credit (5% of all adults) vs. 4.7% who borrowed from family and friends. Contrary to the increases registered in the informal savings, a sudden drop in credit through informal mechanisms was recorded from 2.6% to 0.2%. Although the main reason for obtaining a loan is linked to emergencies, living expenses and consumer goods; credit is playing an important role in the financing of economic activities.

Chapter 11 attempts to analyse the use of insurance products. The percentage of adults insured increased from 5.1% in 2009 to 7.7% in 2014 with the proportion of those covered formally more than doubling from 2.3% to 5.1% while those informally insured increased slightly from 2.9% to 3.2%. The main type of proactively procured insurance for both the formal and informally covered was funeral insurance.

Informal finance groups and associations are discussed in chapter 12. It is within these groups that some of the most interesting dynamics of financial inclusion are taking place. Two dominant groups prevail: the older traditional xitiques (rotating distribution of member deposits) which are common in any area where people are earning a regular income and practiced by poor and rich alike and community based savings and credit groups (ASCAs) which were recently introduced to the country and have found widespread appeal in remote rural areas and rural towns. Memberships in these groups have more than doubled since 2009. By contrast membership with funeral associations and shared family account (contas de família) have declined.

Chapter 13 looks at cellphone usage and mobile money. Cellphone usage has increased in the country with usage by half the adult population. Mobile money has only been recently introduced and is subscribed to by 3.5% of cellphone users. Although nascent, one can reasonably predict that during the next 5 years, mobile money will play a dominant role in driving financial inclusion in terms of safeguarding money, facilitating payments and transferring funds. Cellphone technology can also be expected to play an important role in facilitating microfinance for agricultural inputs.

Chapter 14 looks at the relationship between living standards (using a wealth index as a proxy) and financial access. Due to a wider spread of assets we were able to make a clear distinction between the five quintiles (very poor, poor, moderate, well-off and very well-off) as opposed to the 3 quintiles in 2009 when the three poorer categories had to be consolidated as "poor". With the 5 quintiles, the 2014 results were able to demonstrate a clearer correlation between levels of wealth and strand components. Banking products, especially credit was closely correlated to wealth, while informal financial products (mainly savings) showed similar percentages at all levels of wealth with the exception of the "poor" quintile which showed a considerably higher adherence to informal services than the other four.

Chapter 15 presents the conclusions and recommendations to the study. Conclusions are consolidated under the issues of disparities (regional and zonal); access issues; access and costs; product use; technology and innovation; and gender issues. Recommendations focus on targeting and financial education; the promotion of better and cheaper ASCAs; the promotion of agricultural credit to smallholders; promoting technology and innovation; improving consumer protection; developing more appropriate insurance products and the establishment of an open stakeholder working group for financial inclusion.

1   Introduction

Although rapid economic growth in Mozambique (7% to 8% over the past 2 decades) has been largely driven by a series of mega projects. The benefits of this growth have been mainly confined to the resource boom enclaves and urban areas, benefiting a small minority of Mozambicans and leaving most of the rural population unaffected. The results of the FinScope Consumer Survey Mozambique 2014 suggest that the economic situation in rural areas is likely to have improved since 2009 but that the urban/rural gap remains unacceptably high.

It is generally recognised that one of the principal barriers to economic growth and reasons for persistent poverty is the exclusion of the vast majority of the population to appropriate financial services provision. Emphasis is placed on appropriateness as financial services needs vary considerably between the poorest and wealthier segments of the population. Increasing access to financial services especially in rural areas is high on the Government's agenda.

The Government, through its Financial Inclusion Action Plan, is currently elaborating on a Financial Inclusion Policy with assistance from the World Bank. This is a follow-up action foreseen by the Mozambique Financial Sector Development Strategy (MFSDS) 2013-2022, which has one specific financial inclusion objective – to have 35% of adult Mozambicans with bank accounts by 2022.

The FinScope Consumer Survey Mozambique 2014 study is an initiative by the Ministry of Economy and Finance and FinMark Trust (FMT) co-funded by the Department for International Development (DFID). FMT which has undertaken a series of FinScope surveys across Africa and Asia over the past few years has provided technical assistance for the implementation of the survey. COWI Mozambique was contracted by FMT to support the implementation of the survey and present the findings while the National Statistical Institute (INE) designed and controlled the sampling methodology.

The FinScope survey is a research tool which was developed by FinMark Trust. It is a nationally representative survey of how adult individuals source their incomes, and how they manage their financial lives. It also provides insight into attitudes and perceptions regarding financial products and services. The survey, by design, is intended to involve a range of stakeholders, thereby enriching the data through a process of cross-cutting learning and sharing of information. The objectives of the FinScope 2014 survey include the following:

■   To measure the levels of financial inclusion (i.e. the proportion of the population using financial products and services – both formal and informal);

■   To describe the landscape of access (i.e. the type of products and services used by financially included individuals);

■   To identify the drivers of, and barriers to the usage of financial products and services;

■   To compare the 2014 survey results with the first FinScope Consumer Survey in Mozambique (2009) and to provide an assessment of changes and reasons thereof (including possible impacts of previous interventions to enhance access);

■   To stimulate evidence-based dialogue that will ultimately lead to effective public and private sector interventions in order to increase and deepen financial inclusion strategies.

This report documents the principal findings of the survey and presents recommendations for stakeholders of Mozambique's financial sector.

The breadth of information collected in the survey allows analysis of the population across a multitude of different variables such as specific provincial, rural/urban, income level, household size, age group, gender, etc. This report captures the main findings in a manner comparable to FinScope reports in other countries. However, further in-depth analysis could be performed on the data that has not been covered in this report. Stakeholders are recommended to review the data available in order to help them to address financial and development questions that are significant to them.

FinScope Mozambique 2014 is a nationally and provincially representative survey, with reporting domains ranging from national, national urban, national rural and provincial levels. With a sample of 3928 individuals, it provides estimates for the aforementioned domains, with the coefficients of variation (CVs) for the main variables below 14% at provincial level and below 10% for the national, national urban and national rural levels. The survey findings of the FinScope Mozambique Survey 2014 are comparable to the FinScope 2009 findings.

FinScope Mozambique is designed to involve a range of stakeholders engaging in a comprehensive consultation process. This process has enriched the survey and the shared results have contributed meaningfully to members who have a common interest in financial inclusion. The FinScope Consumer Survey is an important component of the Making Access Possible (MAP) methodology as it is the demand-side tool that assists in determining the levels of financial access in a country. MAP is a diagnostic and programmatic framework to support expanding access to financial services for individuals and micro- and small-businesses.

The sample size reduction from 5,028 in 2009 to 3928 in 2014 does not affect comparability between the two FinScope data as well as its representativeness of the adult population in Mozambique[1]. Findings also closely correlate with reference indicators such as the number of bank accounts per 1000 adults supplied by the Bank of Mozambique. In the instances where there were divergences, the differences are explained by the change in the manner in which the question was asked[2]. In the absence of other recent major household studies such as the census and the family income and expenditure survey or the agricultural census, the survey findings can be used as a reliable instrument for measuring a wide range of current socio-economic indicators and not only those relating to financial access issues. Readers are reminded that the survey is not a household survey as most questions with the exception of assets and living conditions relate only to the respondent.

The FinScope Consumer Surveys have been conducted in 17 African and 4 Asian countries. Caution should be taken when making inter-country comparisons due to the fluidity of defining "informal financial services" which, for most countries including Mozambique, encompasses the greatest portion of the financially served. Because the FinScope methodology includes savings mechanisms or investments as financial services, each country's inclusion of what constitutes the main forms of savings or investment are different and prone to a degree of subjectivity[3]. Of importance in the long term, however, is the manner in which Mozambique progresses between surveys and that the measure for financial access remains consistent and forms a solid empirical basis to track progress and provide an impetus for necessary reforms.

FinScope surveys provide a depth of analysis that, serve the informational needs of policy makers, financial services providers, donors and researchers.

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[1] According to INE, both FinScope Mozambique Consumer Surveys (2009 and 2014) were designed taking into account the same level of confidence and the same sampling error. The sampling selection methodologies were the same in terms of design, questionnaire and variables. The fact that the 2014 sample is inversely proportional to the size of the Mozambican population, does not affect the comparability of the results, since the saturation levels of the 2014 survey sample continues to be acceptable, and it would globally continue to be acceptable even if the sample had been reduced to 2000. Furthermore, there would be very little gains by increasing the sample size to the level of the 2009 survey.

[2] For example, problems were encountered with the education question which in terms of "no education" were significantly different than those of 2009. This is explained by the fact that the question in 2014 was asked directly of the respondent who was likely to distort the answer to avoid admitting not being educated, while in 2009 this information was collected for all household members before selecting the respondent.

[3] For Mozambique, as in many other African countries, livestock was considered to be a form of savings/investment. Both in 2009 and 2014 "livestock" was translated as only being cattle. By excluding goats and other forms of livestock, the financial access strand will be reduced. However, for the sake of consistency and in order to avoid messy definitions of where to draw the line, it is felt that cattle is a suitable proxy for "livestock".

2 Methodological approach

The FinScope Consumer Survey Mozambique 2014 was carried out with a nationally representative sample of 3928 individuals who were selected at household level across the country. The sample was designed and weighted by the National Statistical Institute (INE) with the support from FMT. The sample is also representative at provincial, rural and urban levels.

This chapter provides a very brief description of the surveys' methodological approach. For more details on sampling design, please refer to the Survey's Sampling Report (INE's sampling methodological approach in Annex 1).

2.1 Survey implementation

The survey was implemented in four stages shown in Figure 1 below.

Figure 1 – Survey implementation stages

Design	Fieldwork & Data processing	Analysis & reporting	Dissemination
Literature review	Data collection	Tabulations and cross-tabulation	Public launches
Sample design	Supervision and quality control	Presentation of preliminary results to the Steering Committee	
Questionnaire update	Data entry	Input from the Steering Committee	
Piloting	Supervision and quality control	Report writing	
Training of field teams	Data cleaning		
	Weighting		

2.1.1 Questionnaire Design

Being a repeat survey, the FinScope Survey Mozambique 2014 was conducted with an updated version of the first 2009 FinScope Mozambique survey questionnaire. A series of meetings of the Technical Steering Committee were held for the process of revising and updating the survey questionnaire. The final version of the questionnaire was approved by the Ministry of Economy and Finance, with the endorsement of the Bank of Mozambique (BoM), the INE and FMT.

The survey questionnaire has the following structure: socio-economic information, household socioeconomic situation, perceived risks and coping mechanisms, financial literacy, experience with formal financial institutions providing account related services, remittances, savings and investment, credit and loans, insurance, informal mechanisms, physical access to institutions, overall perception of selected financial service providers, communications and use of technology, access and use of mobile money and everyday quality of life.

2.1.2 Sample frame methodology

A stratified three-stage sample was used for the survey. The primary sampling units (PSUs) selected at the first stage were the enumeration areas (EAs) delineated for the 2007 Mozambique Census. A total of 447 EAs were selected systematically from each stratum (province, urban/rural) with probability proportional to size (PPS). The measure of size for each EA was based on the number of households in the sampling frame based on the 2007 Census data. The frame of EAs within each stratum was sorted geographically by district, *posto administrativo, localidade, bairro,* supervisory area and EA.

Following the first sampling stage, the households in each sampled EA were listed, and from the lists, the samples of households from which the respondents would be selected were randomly selected. Ten (10) households were randomly selected in each urban EAs and eight (8) households in each rural EAs.

After the household sample was drawn, a respondent from each household was selected at random from the household members aged 16 years and older using the Kish Grid method.

2.1.3 Data collection and processing

Fieldwork implementation began on 21 April 2014 and was completed on 22 July 2014. The fieldwork was conducted by teams composed of 3 enumerators and 1 field supervisor, except the Nampula and Zambézia provinces, which both had 4 enumerators, each. These teams were in turn supervised by a fieldwork coordinator and project manager.

Field supervisors were responsible for guaranteeing the quality of enumerators' performance by back-checking 20% of each enumerators work and by reviewing the questionnaires for completeness, consistency and accuracy on a daily basis.

Apart from the field visits undertaken by the regional coordinators and survey coordinator, further field visits were made by INE and FMT representative staff to ensure that the sampling procedures were effectively followed.

As illustrated by Table 1 below, which shows an overall completion of 99.4%, all the teams managed to achieve their sample as per the sample designed by INE, with the exception of the Zambézia Province, which failed to conduct 2 interviews. Twenty one questionnaires were found to be inconsistent in meeting quality control measures during the data analysis process and as a result were removed from the sample. COWI explained these to have been 'incomplete' to which the sample was further reduced to 3905 albeit not affecting the representativeness of the sample[4]. The analysis done in this report was based on this sample.

Table 1 – Survey Sample and Fieldwork Result

Provinces	Sampled EAs	Completed EAs	% of Completed EA	Sample	Achieved Sample	% of Achieved
Niassa	58	38	100	324	324	100
Cabo Delgado	46	48	100	388	388	100
Nampula	38	58	100	512	512	100
Zambézia	48	46	100	416	414	99.5
Tete	39	39	100	328	328	100
Manica	34	34	100	292	292	100
Sofala	38	38	100	334	334	100
Inhambane	34	34	100	292	292	100
Gaza	32	32	100	276	276	100
Maputo Province	42	42	100	386	386	100
Maputo City	38	38	100	380	380	100
Total	**447**	**447**	**100**	**3928**	**3905**[5]	**99.4**

The data collection was not affected by the political climate during the period of the survey. Data processing began after the start of the fieldwork and was carried out by a team of ten data entry clerks who were trained by the data base manager.

Data entry was done using a CSPro (The Census and Survey Processing System) and the resulting database was converted into SPSS (Statistical Package for the Social Sciences) format and submitted to INE for weighting purposes.

The data base manager was responsible for monitoring the data entry process, cleaning the database and carrying out the quality control procedures. A number of systematic efforts were used throughout the process to ensure quality of the process and outputs. A detailed technical report is available and can be shared on request.

2.1.4 Analysis and reporting

Analysis of the data commenced soon after confirmation from INE that the data and weights were approved. Analysis was performed by COWI in conjunction with FMT representatives. Tabulations, cross-tabulations and principal component analysis were the main analyses that were performed. The report was written during the same period and benefited from inputs from the technical and steering committee.

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[4] As mentioned in the introductory chapter, this reduction does not affect the sampling error neither the confidence (please refer to footnote 1).
[5] As explained above, the 3926 was reduced to 3905.

3   The Financial Sector

3.1   The economy and implications for financial inclusion

Mozambique has enjoyed high rates of growth since its Peace Accord of 1992, driven by mega projects and a resource boom. However, the past two years have demonstrated the risks of resource dependency, first through turbulence in the coal sector leading to the second largest mining company writing off almost its entire investment, followed by the fall of oil prices with its obvious ramifications for one of the world's largest off-shore gas fields located in the north of Mozambique. Despite high growth rates and government efforts to "combat poverty", Mozambique languishes amongst the poorest countries of the world with high levels of poverty. Although public services and infrastructure, together with some private services, notably banking and cellphone networks helped to close the financial inclusion urban/rural divide, income and wealth disparities are likely to have worsened. However, coal and gas investments, as well as commercial agriculture, have helped redress the regional dominance of the South.

Investors watched nervously as the country was recently plunged into guerrilla warfare for the first time in more than 20 years, truncating the country geographically and decimating tourism. Although peace prevails precariously after the recent contentiously fought elections, continued threats from the main opposition party will continue to have repercussions on future economic growth.

The United Nations Development Programmes (UNDP) Human Development Report for 2014 which ranks Mozambique 178th of 186 countries, estimates (on the basis of 2011 data) that just under 60% of the population live under the income poverty line and that 44.1% live in "severe poverty" while 14.8% in "near poverty", implying that three-quarters of the population are struggling to survive. The main ranks of the poorest of the poor are comprised of smallholder farmers. The results of the FinScope 2014 survey show that two thirds of the population live in rural areas and 80% of Mozambican adults have economic connections to agriculture or fishing. It also demonstrates that 60 percent of the population remains financially excluded.

Agriculture is the obvious sector to target from the perspective of economic growth, economic stability and poverty reduction but remains an enormous challenge. Banks are reticent to finance farmers without security and have steered largely clear of the agricultural sector (accounting for only 5-6% of total credit) due to both high perceived client and weather risks. Donors and government, both cognizant of the sleeping giant's potential, are trying, through a gamut of interventions (grants, guarantee funds, lines of credit, technical assistance and government interventions such as District Development Funds commonly known as the 7 *milhões*) to stimulate the sector, targeting smallholders to large agri-businesses alike. Nevertheless, recent evidence has shown that some of what were considered beacons of Mozambique's commercial agriculture are struggling financially, vindicating the commercial bank's fears of entering the sector.

3.2   Financial sector developments

Mozambique, with a score of 44/100, was ranked 31st out of 55 countries globally and 7th out of 11 African countries surveyed by the 2014 Global Microscope[6] which measures the national environment for financial inclusion[7]. Since the 2009 survey, the Government of Mozambique (GoM) has made considerable progress in preparing for a much more financially inclusive environment which is expected go a long way towards reaching its target of 35% of adults financially served by banks by 2022. Much of the discussion below focuses on these new developments.

3.2.1   Commercial banks

The commercial banking sector has gone through substantial transformation since 2009 marked by major new acquisitions. Anticipated developments include the arrival of the Angolan bank, Banco Sol, and possibly French bank, Societé Générale, and the creation of a Post Bank by the government. The Mozambican banking sector has a reputation for being highly lucrative but only 7 of the 18 banks have managed to turn profits, albeit with very high returns on equity of around 40% in the case of the two largest banks, Millennium BIM and Banco Comercial e de Investimentos (BCI), which account for 63% of the loan market and 59% of deposits. The banking industry has grown substantially, largely driven by the resource boom. The value of deposits grew by 108% from 2009-2013 while loans grew by 120%[8]. The stock of domestic credit as a percentage of GDP has increased

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6   Economist Intelligence Unit *Global Microscope 2014: The enabling Environment for Financial Inclusion*
7   The measures used the following criteria: the range of financial products and services offered; the diversity of institutions offering them; the array of delivery methods; the institutional support that ensures the safe provision of services to low-income countries.
8   KPMG, 2014 "The Cost of Financing in Mozambique" Power Point Presentation, study financed by USAID's SPEED Project

over the past 3 years from 25.5% to 31.2% while the level of non-performing loans is held at a respectable 2.8%[9]. Table 2 and Table 3 demonstrate the rapid growth of the banking sector since 2009 in terms of branches, ATMs, POSs and selected banking products. With the stimulus of the GoM's *bancarização* policy (see below), the formal banking services are available in exactly half of the 132 districts.

Table 2 – Number of branches

Provinces	Authorised branches (Until Dec 31, 2014)	Functioning branches (Until Nov 30, 2014)	Distribution of the branches through the 128 districts		Credit Cooperatives (until Nov 30/14)	Micro credit operators (until Nov 30/14)	Micro banks (until Nov 30/14)
			Branches (until Nov 30/14)	Districts (until Nov 30/14)			
Maputo City	210	201	–	–	3	–	8
Maputo Province	68	56	22	7	–	223	5
Gaza	36	35	19	6	1	12	2
Inhambane	32	31	16	9	–	10	4
Sofala	49	49	11	6	–	8	2
Manica	30	27	9	5	–	1	2
Tete	43	41	16	8	1	4	2
Zambézia	29	29	16	9	–	10	1
Nampula	71	62	14	9	2	8	3
Cabo Delgado	28	25	11	6	1	5	4
Niassa	16	16	10	4	–	4	4
TOTAL	612	572	144	69	8	285	37

Source: Bank of Mozambique 2015

Table 3 – Number of ATMs, POSs and selected banking products

	2009	2010	2011	2012	2013	2014
Number of ATMs	582	733	840	950	1 078	1 302
Number of PO's	4 080	4 731	6 592	9 147	11 733	14 690
Number of debit cards	1 440 909	2 113 607	2 437 613	2 680 573	3 070 126	3 306 154
Number of credit cards	65 603	94 352	97 085	93 053	95 202	97 324
Total of cards	1 506 512	2 207 959	2 534 698	2 773 626	3 165 328	3 425 346
Number of bank accounts in MT	1 599 875	1 716 450	2 031 442	2 275 567	3 104 253	3 461 568
Number of bank accounts in FX	82 647	87 084	94 639	83 175	97 228	115 534
Total of bank accounts	1 682 522	1 803 534	2 126 081	2 358 742	3 201 481	3 577 102
Accounts/1000 adults	141	147	169	182	239	260
Projected adult pop(15+)	11 893 746	12 246 199	12 591 404	12 984 846	13 369 688	13 766 888

Source: Bank of Mozambique 2015

9   Economist Intelligence Unit, Country Risk Service Mozambique, December 2014.

3.2.2   Microfinance

Microfinance has, until recently, been associated mainly with short-term working capital loans, mainly for urban traders and was dominated by 4 commercial banks. Three developments have greatly changed the nature of microfinance in Mozambique. One is that, as explained above, two microfinance commercial banks have exited the sector. The second has been the growth of rural-based Micro Finance Institutions (MFIs) subsidised through the GoM's Rural Finance Support Programme (RFSP)[10] to the extent that *"microfinance services had attained a greater degree of penetration than the commercial banks with 91 of the 128 (71% vs. 45%)*[11]." The third is the advent of salary-based consumer lending through the two *microbancos* Letshego and Bayport.

Although the commercial bank Socremo has clearly demonstrated that microfinance is a profitable business and Banco Oportunidade de Moçambique (BOM) continues to attract donor support for its innovative products and growing agricultural portfolio. The Association of Mozambican Microfinance Operators (AMOMIF) recognises that the industry is in "crisis" in the wake of some significant failures and the slow but constant haemorrhaging of the RFSP supported institutions due to poor management and low volumes (largely due to high interest rates), as well as the difficulties faced by intermediate scale MFIs usually with NGO or donor origins in attaining profit-making volumes.

One hopeful development for the industry and rural financial outreach is BOM's success in providing non-collateralised solidarity groups of small-holders with input loans, resulting in high repayment rates also backed by a loan guarantee fund[12]. Although the low risk of the farmer groups was recognised, BOM was unwilling to undertake it alone without the support of weather indexed insurance.

3.2.3   Informal financial service provision

The importance of informal savings (and sometimes credit) groups in the expansion of financial inclusion is clearly demonstrated by the results of the FinScope survey 2014. Revolving-pot *xitique* groups have existed for many years and are very popular among friends or workmates with regular incomes. Community-based savings and credit groups generically known as Accumulated Savings and Credit Associations (ASCAs) or Village Savings and Loan Associations (VSLAs) were introduced as an innovation in the late 1990s by CARE based on the success of their groups in Niger. They have since mushroomed and are promoted by more than 20 NGOs and are commonly found as components of rural projects. There are now probably more than 250,000 members in the country and numbers can be expected to rise exponentially. Initiatives such as Deutsche Gessellschaft für Internationale Zusammenarbeit (German Society for International Cooperation) (GIZ's) Pro Econ programme are promoting linkages between these groups and financial institutions to improve the security of their savings (usually stored in boxes) and graduating more entrepreneurial members to bigger loans.

3.2.4   Government financial inclusion policy

The Government, through its Financial Inclusion Action Plan, is currently elaborating a Financial Inclusion Strategy (expected in 2015) under the responsibility of the Bank of Mozambique with the assistance from the World Bank as a follow-up action foreseen by the Mozambique Financial Sector Development Strategy (MFSDS) 2013-2022. The GoM also launched a National Savings Campaign, and the Bank of Mozambique, since 2007 has encouraged increased rural outreach of commercial banks and microbanks through its "bancarização" policy.

In recognition of the fact that many Mozambicans do not have a national identity card (BI), accounts can be opened by using one of 7 possible identity documents (including voter registration cards, refugee cards and driving licenses). In the instance that an individual does not have one of the 7 options, new clients are allowed to open up an account if witnessed by at least two existing clients of the bank.

The regulation of electronically stored money currently falls under the law governing financial institutions with a category specifically for e-money institutions. There are a few specific regulations however there is currently a multi-disciplinary Electronic and Mobile Banking Task Force developing appropriate regulations.

3.2.5   Other access-enhancing policies

The Government's substantial Fund for District Development provides what are technically interest-free credits to promote development and employment generation in each district. Because no sanctions have been imposed on defaulters, repayment rates are usually well below 5%. In recognition that borrowers from government funds rarely repay, the managers of the Fund

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10   Initiated in 2005 and financed by IFAD and AfDB
11   ICC, 2012. Mapeamento do Sector de Microfinanças, National Directorate for the Promotion of Rural Development, Ministry of State Administration.
12   Supported by a USAID/DCA loan guarantee fund.

A Law on Warehouse Receipts Finance (WRF) is being developed at the initiative of the Ministry of Industry and Trade with the objective of providing smallholders to borrow against stored crops in bank-recognized warehouses, thus allowing farmers to benefit from higher crop prices later in the year[13].

The Bank of Mozambique has started the process to strengthen credit information systems and a Law on Credit Bureaus has been drafted.

To improve consumer protection, the World Bank has indicated its intention to support "a regulation to be passed by the Bank of Mozambique to establish a standard methodology for financial institutions to disclose the total price/cost of financial products to consumers ("effective interest rate")". Microfinance institutions commonly apply fixed interest rates which unsuspecting clients assume are no different than declining balance interest.

3.2.6   Donor initiatives

The World Bank, KfW and GIZ have played important roles supporting the Bank of Mozambique in rolling out the MFSDS, which places a high priority on financial inclusion, consumer protection and financial literacy[14]. DFID through its Financial Sector Deepening programme (FSD Moz) and GIZ through its Pro Econ project, are exploring ways to expand financial inclusion. At the time of writing, FSD Moz was exploring innovative ways to improve the quality and efficiency of ASCAs while Pro Econ was promoting linkages with banks. Substantial donor funds are now targeting commercial agriculture in recognition that financial institutions are reluctant to enter the sector because of the high risks and the little experience that banks have acquired for serving the sector. Donor interventions include numerous guarantee funds, apex funds, low-interest lines of credit and matching grants[15].

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[13]   For an in-depth analysis of the concept and its evolution in Mozambique see F. de Vletter, 2014 *Mozambique Case Study on Warehouse Receipt Finance* in Sullivan Worcester and J. Coulter *Study on Appropriate Warehousing and Collateral Management Systems in sub-Saharan Africa and Madagascar.* Prepared for AFD, CTA and IFAD.

[14]   See World Bank, 2013 Mozambique: Diagnostic Review of Consumer Protection and Financial Literacy Vols 1 & 2.

[15]   For a good analysis of MSME credit lines and guarantee funds, see the 2013 DFID funded study *MSME Credit Lines in Mozambique* by Eileen Miamidian. Also, for a broader review of agricultural finance, see FinMark Trust, 2012. *Status of Agricultural and Rural Finance in Mozambique.*

4   Socio-economic profile

4.1   Demographic characteristics[16]

As explained in chapter 2 the sample is deemed representative of the country's adult population (16 years or older). The results of the survey presented in this report are therefore extrapolated to represent the country's adult population at the time of the survey (estimated to be 14,431,915 vs 11,481,138 in 2009 i.e. an increase of nearly 26%).

A large majority (67.1%) of the adult population live in rural areas, while the remaining 32.9% live in areas defined by INE as "urban". Just over half (52%) of the adult population are women[17]. The corresponding figures from the 2009 survey were 66.1% rural, 33.9% urban and 55.1% women.

The respondent profile in 2009 comprised 46% who were heads of households, almost a third (32%) spouses (wives) and 12.9% sons or daughters. Although this information was not solicited in 2014, it is unlikely that the profile would be different. A significant proportion (38.5%) were either single or no longer married (Table 4).

Table 4 – Marital Status

Marital Status	2009 (%)	2014 (%)
Monogamous marriage (formally or de facto)	57.7	56.4
De facto marriage (polygamous)	2.4	5.0
Single	28.9	30.1
Divorced/separated	4.2	3.0
Widow/widower	6.7	5.4

The average age of the adult population is just under 35 (34.89 vs. 34.65 in 2009) and the median of 32 years (vs 31 in 2009). The 2009 survey found that the majority of the adult population (59.7%) is Christian while less than a quarter (22.1%) is Muslim. Foreigners comprised only 0.3% of the sample. In 2014 this information was not obtained.

Table 5 – Age Distribution

Age brackets	2009 (%)	2014 (%)
16 to 20	17.6	19.2
Between 21 and 30	31.6	26.9
Between 31 and 40	22.9	22.5
Between 41 and 50	12.3	13.9
Between 51 and 60	8.2	8.1
61 and more	6.8	7
Refused or Do not know	–	2.5
Total	100	100

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[16] Readers are reminded that this survey is a survey of *individual* adults resident in Mozambique and *not a household survey*. As such, comparisons cannot be made with household surveys.

[17] Females represent 52.3% of the total population (2007 census). The reason for a larger percentage of *adult* women is explained by longer average life spans as well as the significant number of men who migrate to neighbouring countries (particularly South Africa) for employment.

4.2   Education

Despite considerable investment into education since independence, Mozambique still has low levels of education compared with other countries in the region. In 2009 more than a third (32.8%) of the adult population did not go to school vs. 21.7% in 2014. Though a decline was expected, the magnitude could well be higher than the reality due to a difference in the way the question was asked[18]. Only 15.1% attained a level of education at the secondary level or higher. In terms of formal schooling at the primary and secondary level, notable increases have occurred during the past 5 years.

In rural areas only 10.4% of the adult population attended secondary school or higher (substantially higher than the 6.8% of 2009) of whom 83.2% did not go beyond the first level (8-10th class).

Table 6 – Highest level of education

Highest level of education	2009 (%)			2014 (%)		
	Urban	Rural	Total	Urban	Rural	Total
Literacy	3.7	4.8	4.4	4.6	10.7	8.7
Primary EP1 (1st/5th grades)	21.7	26.4	24.8	23.5	35.5	31.6
Primary EP2 (6th/7th grades)	20.5	10.3	13.8	17.4	18.1	17.9
Secondary ESG1 (8th/10th grades)	17	4.9	9	21	8	12.3
Secondary ESG2 (11th/12th grades)	8.4	0.9	3.4	14.1	1.8	5.8
Elementary Technician	0.3	0.2	0.2	1	0.2	0.5
Basic Technician	1.7	0.2	0.7	1.2	0.3	0.6
Medium Technician	2	0.6	1.1	2.2	0.1	0.8
Superior	1.9	0	0.7	0.7	0	0.2
Did not go to school	15.9	41.5	32.8	5.5	5.5	5.5
Doesn't know	6.7	10.1	9	9	19.8	16.2
Total	100	100	100	100	100	100

4.3   Income

Almost all (98.5%) adults receive some form of income (97.1% in 2009); this includes those who receive money from a family or household member, etc. Just over a third (33.7%) depend on another member to pay for their expenses, while 0.9% receive money from another member (the vast majority receiving this money in the form of cash and on an irregular basis). The level of dependence on other members has decreased significantly since 2009 with corresponding figures of 34.5% and 13.4%. Reflecting the growing number of smallholder households engaged in agricultural marketing, the proportion of adults earning an income from agricultural products has increased significantly from 22.7% to 41.3%. Graph 1 shows the main sources of income and demonstrates the dominance of the informal sector (agriculture, own business and casual employment (Biscato) being the three most common forms of cash income). A small but growing proportion (10.1%) earn a salary (up from 8.8% in 2009). Graph 2 clearly demonstrates the continuing extent of poverty with more than two-thirds of the population earning less than 5,000MT per month[19].

It should be borne in mind that income estimates derived from this type of survey should be treated with caution and seen as only indicative.

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[18]   In 2009 the question relating to education was asked about all the household members before selecting the respondent while in 2014 the respondent was directly asked the question, opening up the response to distortion, given respondent propensities to give exaggerated responses when talking about themselves.

[19]   In 2009 income was estimated on an annual basis and showed that 42.1% of the population earned less than 5,000MT in cash income per year.

A large majority of Mozambican households are involved in farming activities (81.4%) - most of these are predominantly involved in agriculture (97.8%), a little more than a third (43.2%) have livestock and 7.9% are involved in fishing. Less than a fifth (18.2%) of the population is not engaged in either agriculture, livestock breeding or fishing. Of those engaged in farming, more than half (57.9%) engaged in agriculture and sold only and/or sold and consumed their produce with most of the remaining essentially consuming all their production mainly because they did not have a surplus to sell. A slightly higher proportion of those with livestock (62.5%) sold only and/or sold and consumed their livestock.

The 2009 survey found that a large majority of those marketing their crops (71.3%) sell most of their produce through local markets while 27.7% sell their crops to traders, companies or through associations[20].

Graph 1 – Sources of income

	2014	2009
Depends on a member of household to pay its expenses	27	35
Income from sale of agricultural products	41	23
Income from your own business	19	15
Casual labour	16	14
Depends on a household member who gives you money	8	13
Receive wage or salary	10	9
Money or goods sent by a relative from another country	2	2
Pension reform	1	2
Sale of products collected from nature	2	2
Income from the sale of cattle	1	1
Income from rentals	2	1
No income	2	0
Other	2	0

■ 2014
■ 2009

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20   To demonstrate the low level of agricultural inputs used by Mozambican smallholders, the 2009 survey found that, of those selling agricultural produce, 12% used fertilizer, 10.3% used pesticides, 16.9% improved seeds, 1.3% hired a tractor, 3.7% used oxen to plough their fields and 8.7% hired labour.

Graph 2 – Monthly personal income

%

50 001 – 100 000 MT	0.2
25 001 – 50 000 MT	2
5 001 – 25 000 MT	15
Less than 5 000 MT	65
Refused	5
Do not know	12
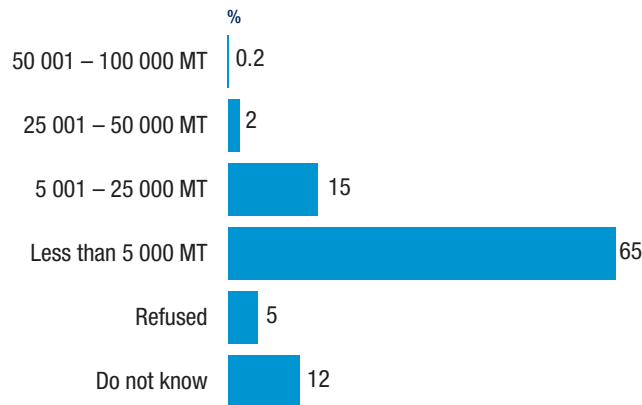
4.4 Housing and basic amenities

The vast majority (93.3%) of the adult population claimed that their residences were either owned by them (56.4%) or by a member of their household (36.9%). Only 3.9% were renting their residence while 2.6% claimed to be borrowing their place of residence from the owner. In comparison with the 2009 findings, there was almost no variation for all the categories.

In 2009 almost two-thirds (62.1%) of the population lived in houses that were built exclusively of traditional materials (mud, sticks and thatch). In 2014 this category reduced to 43.7% with a little over a quarter (27.8%) living in "conventional" houses, 0.9% living in apartments and 12.3% in "casas mistas" with a mixture of traditional and conventional material. More than half (57%) lived in housing with thatch roofing while 39.3 had zinc roofing. The vast majority (94.6%) built their own house, just less than 1% had bought their house from the State Housing Corporation (APIE) and 2.3% bought their house from others. Only 3.3% had bought their house with a loan. A quarter (27.5%) of those who constructed their house purchased their land, of which 5% took a loan.

Less than a fifth (17.5%) of the population obtain water from a tap either from inside or outside their house (16.4% in 2009). Slight increases were registered among those accessing water from a common fountain (15.4% vs 13.8%) and water from a well with a pump (22% vs 18%) and a well without pump (21.6% vs 28.7%). Significantly, the percentage obtaining water from a river or lake was almost halved from 17.6% to 9.7%).

From an environmental perspective, the use of cooking materials is increasing cause for concern: more than three-quarters of adults (76.8%) depend on firewood for cooking (up from 70,8%), 17.5% depend on charcoal (vs.15%) with only 1.7% using electricity (down from 4.4%). In terms of the source of lighting, the trends are much more encouraging: the use of electricity jumped significantly from 15.3% to 25.8% while the use of petroleum based products fell from 53% to 26.7%, and firewood from 21.2% to 8.5%. 27% used electricity for cooking or lighting vs. 19% in 2009.

4.5 Other assets

Graph 3 demonstrates the ownership of assets by household and not by individual. It demonstrates that there has been a steady increase in the ownership of basic assets, most notably with cellphones, motorised vehicles and solar panels with slight decreases registered in bicycles and radios (possibly the result of increased cellphone ownership as many cellphones have radios). Graph 4 demonstrates the large disparities in urban/rural asset ownership especially with domestic goods (TVs, fridges, DVD players, music systems, etc.).

Graph 3 – Asset ownership

%

Asset	2014	2009
Radio	47	53
Bicycle	39	42
Mobile/Smartphone	48	22
TV	21	16
DVD player	20	12
Fridge/freezer	13	11
HiFi system	17	9
Motorbike	15	6
Solar panel	11	3
Computer	4	3
Car/van	6	3
Mill	1	1

■ 2014
■ 2009
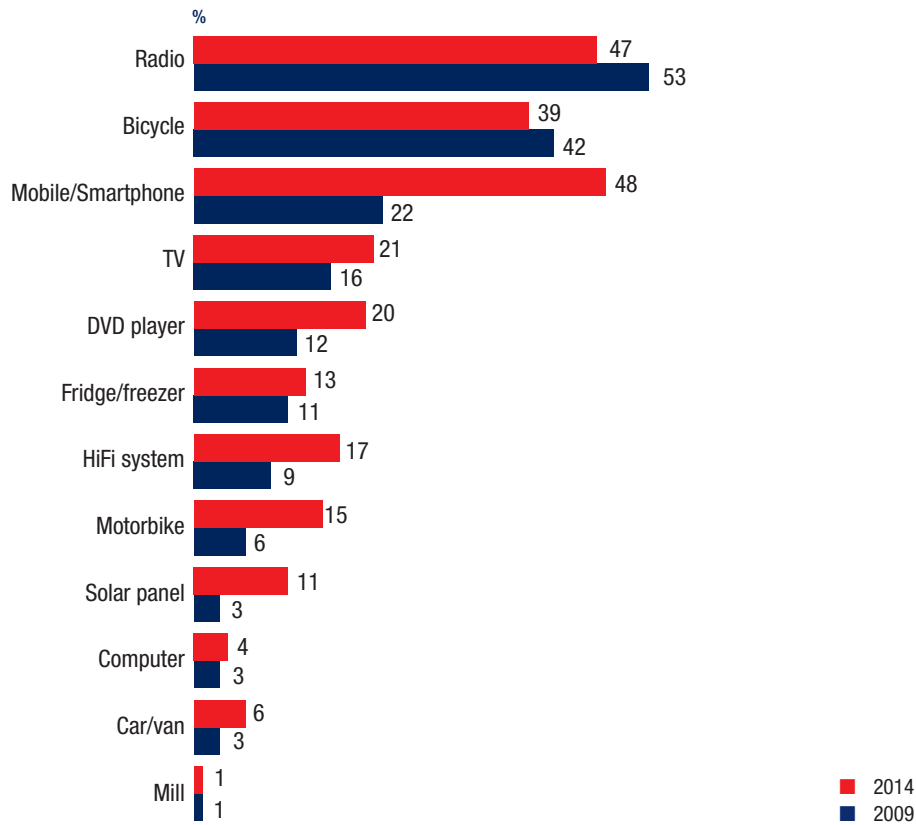
Graph 4 – Asset ownership by area

%

Asset	Urban	Rural
Radio	60	54
Bicycle	34	51
Mobile/Smartphone	72	38
TV	59	10
DVD player	48	13
Fridge/freezer	40	4
HiFi system	38	12
Motorcycle/Motorbike	18	17
Solar panel	4	18
Computer	14	1
Car/van	12	4
Mill	1	1

■ Urban
■ Rural
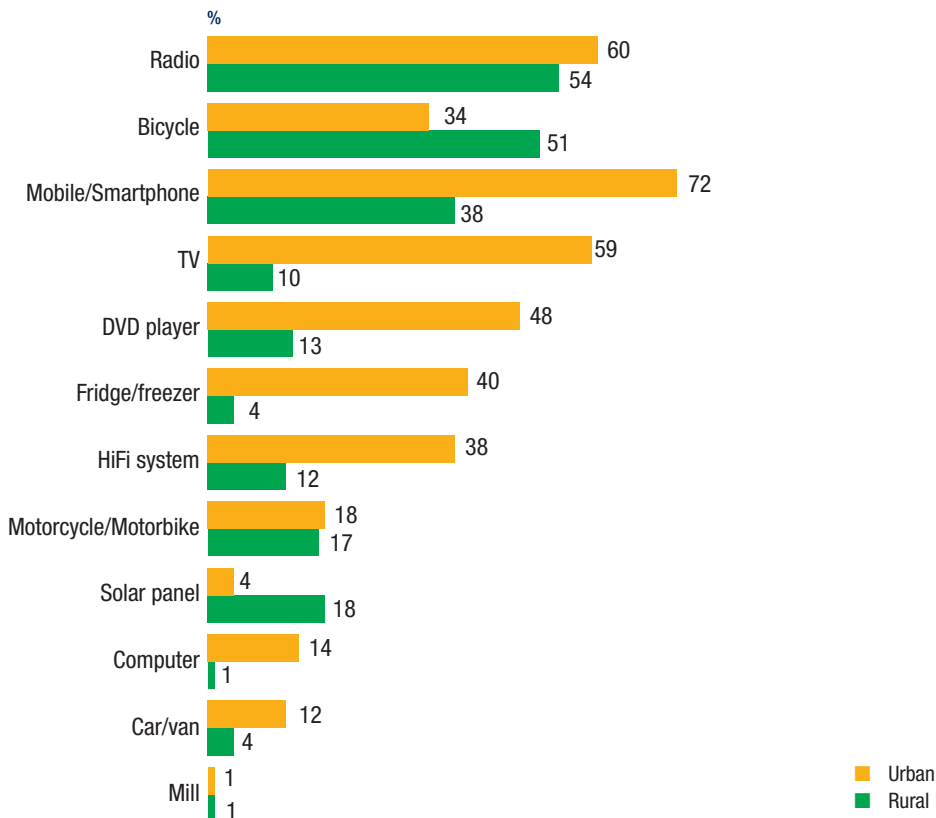
4.6   Documentation

Given the importance that conventional banks place on personal documentation[21], the survey analysed the degree of document ownership. Half of the adults are in possession of an identity card (BI) somewhat better than in 2009 (45.4%). Only 4.8% had a passport, less than the 7.4% indicated in 2009.

Table 7 – Possession of documents

Type of Document	2009 (%)			2014 (%)		
	Urban	**Rural**	**Total**	**Urban**	**Rural**	**Total**
BI/DIRE (identity card for nationals/residence permit for foreigners)	64.9	35.3	45.4	73.3	39.9	50.9
Talão de BI (provisional ID Slip)	65.4	48.9	54.5	–	–	–
NUIT (tax number)	11.1	1.8	4.9	–	–	–
Passport	13.2	4.4	7.4	10.7	1.9	4.8
Election card	72.2	75.7	74.5	–	–	–
Driver's License	8.8	1.2	3.8	–	–	–
Water bill	6.2	0.2	2.2	9.9	0.6	3.6
Electricity bill	9.9	0.4	3.6	13.3	1	5
Title deed to house/building	6.6	0.6	2.6	6.8	0.8	2.8
Bank Statement	8.9	0.9	3.6	–	–	–
Lease or Rental Agreement (e.g. DSTV, TV CABO)	2	0.1	0.8	–	–	–
Salary pay slip	4.3	0.6	1.9	4.6	0.3	1.7
None of the above documents	4.8	9.2	7.7	25.3	59.3	48.1

4.7   Information access and connectivity

A major constraint to accessing financial services in many areas is the limited telephonic/cellphone service or the capacity to afford them.

Although the mobile phone network coverage has increased dramatically, less than a fifth (19.4%) of the population do not have mobile phone network coverage, and almost two-thirds (63.4%) of the adult population do not have or use any means of telecommunications as they do have the resources[22]. About a third of the adults have either their own cellphone, a telephone or use one or the other belonging to someone else. Only 1.5% of the population did not know what a cellphone was.

Table 8 presents the access, and ownership patterns of fixed line phones and cellphones. In 2009, cellphones were owned by 21.8% of the population while only 2.1% had fixed line phones in their homes. Computers were owned by 2.4% of the population, while 2% use internet cafés. A large majority (62.7%) of cellphone owners do not send text messages and just over a quarter (26.2%) send credit to other cellphone users. Only 3.5% of cellphone users had contracts.

Perhaps the most significant change to have occurred during the past five years is the enormous increase in cellphone usage. Table 8 also shows that almost half (49.4%) the adult population had access to use their own cellphone compared to only 21.1% in 2009. Almost one-third (29.5%) claimed to have access to someone else's cellphone. Disparities between urban and rural users remain high, with almost three-quarters of urban adults having their own cellphone. Almost a fifth (19.8%) of the urban population own a smart phone vs. less than a fifth (18.3%) and 4% respectively of the rural population. Not surprisingly the percentage of adults having access to someone else's phone is similar in both urban and rural areas. Access to national and satellite TV is enjoyed by about four times more urban adults than rural adults. Access to public and personal telephones has decreased considerably between the surveys.

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[21]   Recognizing that many Mozambicans do not even have one of the 7 document option, new clients are allowed to open up an account if witnessed by at least two existing clients of the bank.

[22]   43.4% of the adults claimed that they did not have the resources to pay for a cell phone or cell phone services. 10% stated that they did not know understand cellphone technology.

Table 8 – Access to communications and technology

Channel of communication	2009 (%)			2014 (%)		
	Urban	Rural	Total	Urban	Rural	Total
National TV	–	–	–	73.7	18.3	36.6
Satellite TV	–	–	–	21.3	5.2	10.5
Own Cellphone with internet	–	–	–	19.8	4	9.2
Own Cellphone	41.5	10.6	21.1	68.7	39.9	49.4
Someone else's cell phone	37.9	12.8	21.3	34.3	27.1	29.4
Public phone/public cell phone	25.2	6.1	11.1	4.7	1	2.2
Telephone at home	4.5	0.9	2.1	1.9	0.4	0.9
Someone else's telephone	6.3	1	2.8	3.8	1	2
PO Box	2.1	0.3	0.9	3.2	0.2	1.2
Computer at home	6	0.5	2.4	11	0.3	3.8
Someone else's computer	7.3	0.5	2.8	8.1	0.6	3.1
Computer at Cybercafé	5.2	0.3	2	8.2	0.2	2.9
Internet/e-mail at home (2014-internet from cell)	2.6	0.3	1.1	4.9	0.2	1.7
Use someone else's internet/e-mail facilities	3.2	0.4	1.3	3.6	0.3	1.4
Internet/e-mail at cybercafé	3.2	0.4	1.3	6.9	0.4	2.5
Fax machine at home	1.3	0.3	0.6	1.2	0	0.4
Fax machine elsewhere	3.1	0.4	1.3	3	0.4	1.3
None of the above	33.1	79	63.4	13.7	44.4	34.3

4.8 Lifestyle Indicators

Adults were asked about their expenditure patterns during the past twelve months which were considered useful in segmenting people's quality of life (excluding major expenditure items such as food). Noteworthy changes observed from Table 9 is that transport has become a common expenditure in urban areas compared to rural areas, possibly explained by the progressive expansion of urban suburbs. Two significant changes occurred since 2009: an increase in the number of people buying mobile air time (reflecting the increased ownership of cellphones) and new clothing).

Table 9 – Expenditure patterns on selected items

Type of expenditure	2009 (%)			2014 (%)		
	Urban	Rural	Total	Urban	Rural	Total
Chapa/bus fares	38.1	63.4	45.2	68.5	44.7	52.6
Taxi (not "chapa")	6	0.9	2.6	7.2	2.3	3.9
Food at a restaurant	6.9	1	3	4.4	0.8	2
Bar	6.8	2.7	4.1	10.1	3.6	5.7
Barraca/informal selling stalls	18.7	15.7	16.7	23.1	23.6	23.5
Discotheque/nightclub	3.4	0.5	1.5	3.3	0.7	1.6
Hotel	0.9	0.1	0.4	1.2	0	0.4
Guesthouse	0.9	0.3	0.5	1.5	0.8	1
Paying the telephone bill	2.2	0.2	0.9	–	–	–
Cellphone (contract or prepaid)	33	6.4	15.4	57.4	27.8	37.6
New clothes (including capulana)	28.6	27.9	28.1	45.8	50.3	48.8
Fuel (gasoline/diesel)	9	9.3	9.2	10.7	6.6	8
Wages for workers	4.7	1.6	2.7	4.4	0.9	2
Household cleaning products	37.5	30.7	33	42	25.2	30.7
Medicine from a pharmacy, clinic or hospital	49	41	43.7	45.6	42.1	43.3
Hairdresser/beauty parlour	20.8	2.3	8.6	24.9	5.4	11.8
Donation to religious organisation/group	10.3	4.7	6.6	12.2	11.2	11.5

5 Financial behaviour, literacy, and coping mechanisms

5.1 Financial behaviour

Pertaining to decisions relating to personal financial issues, the study revealed that 25% of adults make financial decisions on their own, while over half (52.2%) make financial decisions in consultation with their partner. 14.8% made decisions with other household members and 8.0% were not involved. These figures were closely aligned with those of 2009.

Less than a quarter (22.5%) regarded their house a tradable asset (vs. 16.2% in 2009) with just under half (44.9%) claiming that they did not want to risk losing their house (vs. 48% in 2009).

When respondents were asked about whom they would approach in need of financial advice, about a third (33.4%) said that they would consult family members or friends vs. almost half in 2009 (47.1%). 29% said they would go to a bank with the percentage slightly up from 2009 (24.8%). On the other hand 24.4% said that they would approach a community leader (vs. 21.5% in 2009) while 13.1% said they would consult their community radio programmes (considerably more than television (6.4%) and newspapers (1.5%) and 1.1% said that they would consult the internet. In 2009, underscoring most adults' unfamiliarity with financial issues, significantly more than half (57.3%) of the population said that they did not know what type of information they would need to improve their relationship with financial services providers. This fell significantly to 39.2% in 2014. For those who responded, the main issues related to loans; investment choice and financially educating their children. When asked about what sort of information they would like relating to money management, the main issues related to how to save, invest and obtain a loan.

When adults were asked about how they would like to receive information about financial services, their responses provided useful insights into how the population used or perceived the media and information technology. In 2014, 40% responded that they would prefer to meet directly with the service providers, substantially up from the 22.3% in 2009 and perhaps reflecting easier access; 18.4% said they would prefer hear telephonic contact, considerably up from the 5.9% in 2009 and probably reflecting the much wider ownership of cellphones. The percentage of those who would like to receive information via radio is 17.5% which is significantly down from 39%. About the same percentage preferred TV (13.4% vs 12.2% in 2009). Reflecting greater cellphone ownership, 5.1% preferred to receive the information by SMS vs 1.3% in 2009 with 4.4% via the internet, 1.5% by email and 1.3% by SMS. Those preferring to use internet (1.3%) and email (0.4%) decreased substantially from 2009 (4.4% and 1.5% respectively).

5.2 Financial literacy

One of the most notable results of the 2014 study is the negligible change in adult awareness of banking and other financial products. Despite the increased presence of banks in rural areas, more than half the population does not know what a bank is (the results show a slight decrease in level of awareness). The only banking services that demonstrated a notable increase were ATMs (18% to 25.9%) and interest on savings from 10.1% to 25.3%.

Graph 5 – Financial literacy

%

Category	2014	2009
Vale	n/a	78
Profit	n/a	76
Bank	55	58
Xitique	n/a	56
Bank branch	30	n/a
Guarantor	20	n/a
Bank loan	27	n/a
Collateral	n/a	22
Savings Account	20	18
ATM	26	18
Credit card	n/a	13
mKesh/MPesa/Banking services via mobile	13	n/a
Insurance	14	12
Debit card	18	11
Interest on savings	25	10
Mobile banking	9	n/a
Micro credit	9	n/a
Instalments	8	9
Exchange rate	11	8
POS (point of sale)	9	8
Internet banking	7	n/a
Shares	n/a	7
Bank charges/Service charges	7	7
Surety/Guarantor	9	6
Electronic money	5	n/a
Inflation	n/a	4

■ 2014
■ 2009

n/a* Question not asked in respective year

Table 10 demonstrates the gap in financial literacy between rural and urban areas. A good portion (43%) of rural people know what a bank is but very few are aware of banking products or terminology.

Table 10 – Knowledge of financial terms by area

Financial Term	(%) Aware	
	Urban	Rural
Bank	79.1	43
Bank Branch	57.1	16.8
Bank loan	49.3	16.4
Savings Account	40.1	10.7
Debit card	35	8.8
ATM	52.1	12.9
POS (point of sale)	20.4	3.2
Micro credit	21.2	3.3
mKesh/MPesa/cellphone banking	32	3.5
Instalments	18.1	2.9
Internet banking	18.2	1.9
Mobile bank	20.4	2.9
Electronic money	13.1	1.5
Bank Charges/Service fees	15.3	3
Interest rate	42.5	16.9
Insurance	30.8	6.1
Guarantor	17.4	4.5
Exchange Rate	23.4	5.3
Collateral	36.7	11

5.3   Coping strategies/mechanisms

Adults were asked how they would cope in the event of a calamity (such as a fire, flood, death or illness) or an anticipated major event (such as a marriage, birth, university fees). In 2009, the main recourse was to borrow money for calamities from relatives or friends, asking for donations (especially in the event of natural disasters) followed by the sale of assets (such as livestock) and reduction of household expenditures. A significant number mentioned resorting to religious groups. The 2014 responses were not categorised in the same detail but one can assume that the sources for borrowing remain similar to the 2009 results. What is significant is that recourse to selling assets has gone considerably up while the recourse to savings has decreased substantially. This can be partially explained by the increased number of adults now owning cattle compared to 2009.

For anticipated events, a clear pattern has emerged, partly reflected under the reaction to calamities (discussed above).

Table 13 and Table 14 show that the financing of anticipated events has clearly shifted from a dependence on borrowing to financing through the sale of assets. In 2009 planned events was about evenly split between borrowing and sale of assets (slightly more than 20% for both). In 2014, more than a third of the respondents would sell an asset while less than 10% would borrow money. This is a significant behavioural change which requires further investigation.

Table 11 – Coping with unanticipated hardship (2014)

Event-coping mechanisms	Sell assets/dispose of agricultural crop/livestock	Use savings	Cut down on household expenses	Borrow money from family/friend	Claim insurance	Other	Do not know
Flood destroying house or property	13.1	3.6	1.9	6.1	0.2	7.7	5.9
Theft, fire or destruction of household/property	16.9	6.6	5.1	10.5	0.3	8.4	7.7
Theft, fire or loss of car/vehicle	2.3	1.5	0.8	1.7	0.4	1.2	2.9
Poor Harvest	17.7	4.8	4.3	10.4	0.1	8.1	9
Job loss of the main person who brings money home	6	2.5	2.1	4	0.1	3.8	6.8
Death of the primary person who brings money home	10.9	3.9	4.3	10.2	0.4	6.1	13.6
Pay/contribute to a funeral	2.6	1.9	0.8	2.1	0	1.2	2.6
Accident or illness that prevents the main person who brings money home to work	11.4	4.3	4.6	9.3	0.3	5.2	8.1
Accident or serious illness of another household member	9.4	4.9	3.8	8.3	0.2	4.2	5.9

Table 12 – Coping with unanticipated hardship (2009)

Event-coping mechanisms	Sell assets/dispose of agricultural crop/livestock	Withdraw savings from bank	Cut down on household expenses	Borrow money from family/friend	Borrow money from employer	Borrow money from money lender	Borrow money from bank	Ask for assistance from religious group	Ask for donations	Claim insurance
Flood destroying house or property	7.8	2.3	6.4	12.3	1.5	0.3	1.6	5.0	12.1	0.4
Theft, fire or destruction of household/property	11.7	2.8	9.6	19.2	1.8	0.3	1.9	6.1	8.8	0.5
Drought	8.5	1.2	3.2	9.7	0,8	0.2	0.8	4.9	11.4	0.3
Loss of job of main wage-earner/	2.8	1.5	2.3	7.0	0.9	0.2	0.7	2.5	1.7	0.2
Illness or accident so that main wage-earner can no longer work	5.9	1.8	3.1	11.6	0.2	0.3	0.7	3.4	1.9	0.3
Serious illness or accident of a member of the household	8.3	2.3	5.0	14.5	1.4	0.4	0.8	4.2	2.6	0

Table 13 – Dealing with anticipated events (2014)

Financial events	Sell assets/crops/livestock	Withdraw savings from bank	Savings with other financial service provider	Cash in other financial instruments	Cut down on household expenses	Postpone plans to pay for something else	Use a family account	Borrow money	Claim insurance	Wedding	Not applicable	Do not know
Wedding	35.6	5	0.6	0.6	6.6	4.3	1.9	8.4	0.1	3.1	15.1	23.6
Big celebration	32.3	4.5	0.6	0.5	10.5	5.4	1.8	8.2	0.1	2.7	16.2	20.9
Birth of child	32.9	4.2	0.5	0.7	14.1	5.4	2.1	6.7	0.2	3.7	15.4	17.7
Education expenses	39.8	4.5	0.5	0.7	14	3.5	2.3	7.5	0.2	4.3	12.2	14.2
Retirement	10.6	2.1	0.8	0.2	1.4	0.5	0.5	2.4	0.6	1.8	41.9	38.6

Table 14 – Dealing with anticipated events (2009)

Financial events	Sell assets/crops/livestock	Withdraw savings from bank	Cut down on household expenses	Postpone plans to pay for something else	Use Conta da Família (account shared by related families)	Borrow money from family/friend	Borrow money from xitique members	Borrow money from employer	Borrow money from money lender	Borrow money from a commercial bank, a microfinance institution or from a microbank	Ask for assistance from religious group	Ask for donations	Claim insurance
Wedding	24.3	4.9	9.8	4.7	1.8	21.0	0.8	1.4	0.2	0.5	5.4	2.4	4.8
Big celebration	21.1	4.3	8.9	4.8	2.3	20.3	0.7	1.4	0,7	0.3	5.5	2.9	5.0
Birth of child	23.3	4.5	11.0	5.6	2.4	21.3	0.8	1.4	0,7	0.3	5.5	2.9	5.0
Primary or Secondary School Expenses	21.1	4.9	9.8	4.7	2.0	17,8	0.9	1.4	0.6	0.5	3.6	2.8	5.3
University fees of a close relative	11.4	3.8	4.9	2.4	0.9	11.3	0.6	1.2	0.3	0.6	3.8	2.7	3.9

6   Financial access and exclusion

The financial access strand (explained schematically in Figure 2 below) is one of the key measures of FinScope surveys. It illustrates the use of financial products and services available within the market. Those who do not access these products and services are considered to be "financially excluded" due to the fact that they are physically, psychologically or circumstantially impeded from accessing such products and services or who have voluntarily opted to stop using financial services[23]. The strand ranges from formal banking services provided by commercial banks and *microbancos* at the one extreme, shifting to other formal financial services provided by a large variety of formal finance service providers (FSPs). At the other end of the access strand we find a vast range of informal services and products. This study focuses on four types of financial services: i) transactions such as deposits, withdrawals and money transfers (remittances); ii) savings/investment; iii) credit; and iv)insurance. Each of these services are provided in varying degrees by the banks or informal service providers, whereas formal financial service providers tend to offer specialised services e.g. credit, insurance, pension schemes, etc.

6.1   Formal banking services

For the purposes of this study, these services are provided by commercial banks as well as the special financial services categories of "microbanco", as these types of institutions offer all the basic banking products (deposit and loan products). In 2014, 19.7% of the adult population was found to be formally banked a 67% increase over 2009 (11.8%). The banked population includes all those holding some form of personal bank account or an account shared with another person as well as including all those who are not clients but who have used banks for one reason or another (e.g. transferring or receiving money). Chapter 7 provides a detailed discussion of the use of the various products and services offered by the banks as well as barriers and banking-related attitudes.

6.2   Other formal financial services

Other formal financial services cover a broad range of services, including microfinance from non-bank providers that are registered with the Bank of Mozambique (in particular under the category credit operators), savings and credit cooperatives, savings and credit operators (known as OPEs), mobile money operators, insurance companies, pension funds, money transfer agencies, government funds, etc. These service providers are prohibited from offering savings or money safeguarding products. Some segments of the population are legally obliged to use insurance companies for compulsory vehicle third-party coverage and salaried workers with contracts are required to deposit a percentage of their salaries with the state-operated pension fund INSS. Insurance services are covered separately in chapter 11. Although only 9.7% of the adult population access other formal financial services, this category almost trebled since 2009 (3.6%).

6.3   Informal financial services

The informal service sector is of importance in financial inclusion. Within the informally served are the informal financial services linked to savings and credit which mainly fall under the generic category of Rotating Savings and Credit Associations (ROSCAs) and Accumulating Savings and Credit Associations (ASCAs) plus other informal groups such as funeral associations, etc. These are discussed and analysed in more detail in chapter 13. This sector also includes investments that are relatively easily convertible into cash and for the purposes of this survey includes livestock (cattle), business investments, second houses, etc. A significant increase in membership of informal financial services groups and ownership of livestock (cattle) have been mainly responsible for the expansion of financial access since 2009 almost doubling from 14.7% to 26.7% in 2014.

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[23]   See World Bank 2008, *Finance for All?: Policies and Pitfalls in expanding Access,* World Bank Policy Research Report, Washington D.C.

Figure 2 – The financial access strand

Total adult population = 16 years and older in Mozambique

Financially included = adults who have/use financial products and/or services – formal and/or informal

Financially excluded = do not have/use any financial products and/or services – neither formal nor informal

Formally served = have/use financial products and/or services provided by a formal financial institution (bank and/or non-bank). A formal financial institution is governed by a legal precedent of any kind and bound by legally recognised rules

Informally served = have/use financial products and/or services which are not regulated and operate without legal governance that would be recognised, e.g. Xitique or ROSCA

Banked = have/use financial products/services provided by a bank, regulated by the Bank of Mozambique

Served by other formal financial institutions = have/use financial products/services provided by other regulated (non-bank) financial institutions, e.g. a loan by a micro-finance institution or insurance products

Graph 6 shows a significant overlap between the components of the access strand. For example, it is common that urban salaried workers are members of xitique groups (rotating savings groups) some of whom might have cars which have to be insured. Therefore having to use other formal (non-bank) financial service providers accounts for the 3.5% of the adult population using all three service providers (vs. 1.6% in 2009).

Graph 6 – Financial Access Strand overlap

2014

Banked 8.5
Other formal (non-bank) 1.6
2.7
3.5
5
1.9
Informal 16.3
Excluded 60.5

2009

Banked 6.1
Other formal 0.5
1.1
1.6
3.1
0.4
Informal 9.6
Excluded 77.8
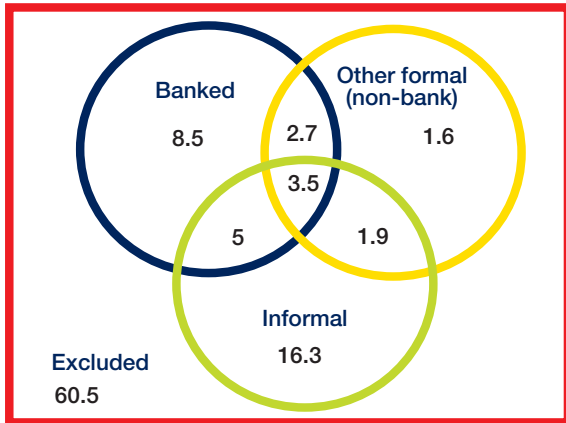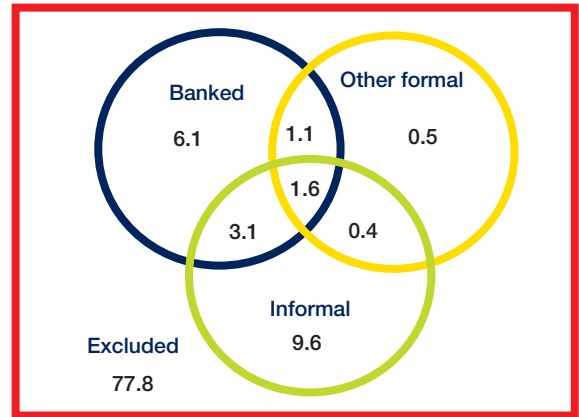
Graph 7 presents the financial access strand, which illustrates that almost two-fifths (39.6%) of the adult population is financially included i.e. having had access to at least one of the financial services provided by any of the three alternative categories. This is a significant increase over the 22.2% financially included in 2009. 60.5% are deemed to be financially excluded (vs. 77.8%) although this might include those members of the population who have had previous access e.g. the 5% of the adult population who previously had bank accounts in 2014 (2.2% in 2009).

Graph 7 – Financial Access Strand

| 2014 | 20 | 4 | 16 | 60 |
| 2009 | 12 | 1 | 9 | 78 |

■ Banked
■ Other formal (non-bank)
■ Informal only
■ Excluded
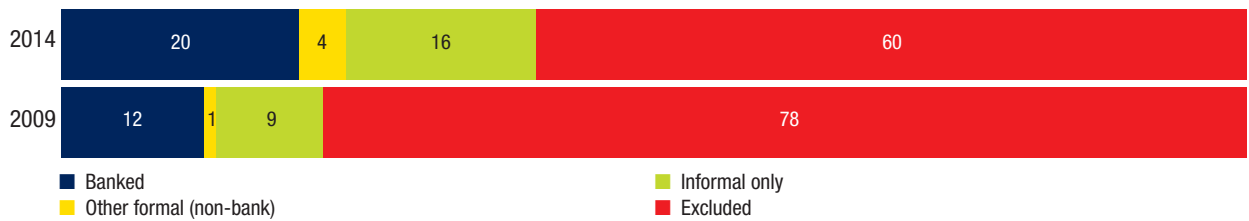
Figure 3 – Landscape of Access

2014

Transactional 37
Savings 66
Credit 15
Insurance 19
Remittances 57

2009

Transactional 32
Savings 65
Credit 12
Insurance 23
Remittances 32
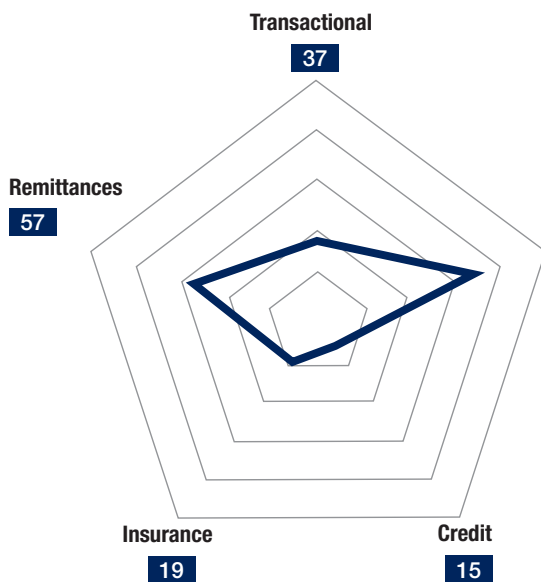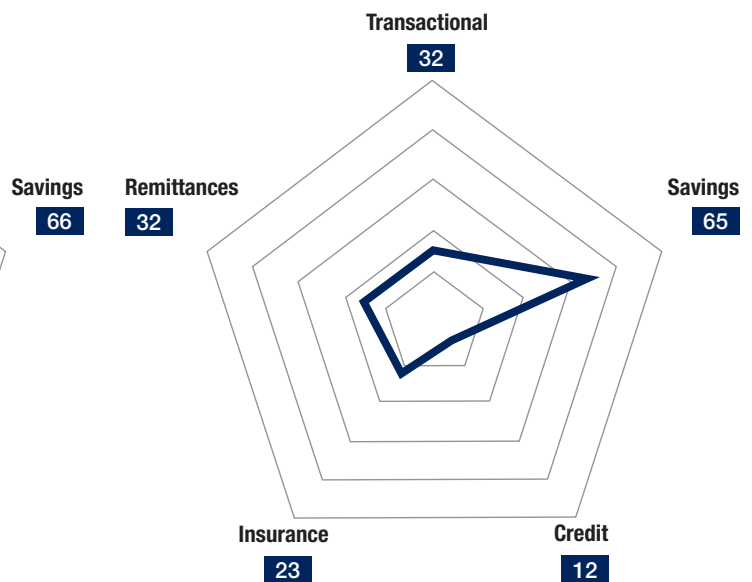
Graph 8 shows the FinScope Consumer Survey findings for SADC countries only (although FinScope has been implemented in 17 African countries as well as 5 Asian countries). FinScope Surveys are conducted in different countries at different times due to availability of funds and favourable country conditions. Hence some countries in the comparison in Graph 8 will be of the latest launched FinScope Consumer Survey conducted. In terms of overall financial access, Mozambique ranks the lowest. In terms of the formally banked Mozambique ranks 10th place. When making such comparisons, it should be cautioned that only the formally served can be looked at with a strong degree of objectivity. The definition of "informal financial services" is prone to some subjectivity. In accordance with the FinMark Trust FinScope methodology, traditional wealth holdings/savings such as livestock (defined as cattle in Mozambique but could have arguably included goats) are included within the definition of 'informal financial services' but are less a financial service than an ASCA in Mozambique.

Graph 9 shows that, although men are more financially included than women, the difference is not significant (5.9%). What is of concern is that the gap has widened since 2009 (2.5%) especially in terms of access to formal services: in 2009 the ratio of women to men using formal banking services was almost 3:4 (72%) while in 2014 this decreased to about 2:3 (64%). Women are more inclined to use informal services.

In 2009, of the 10 African countries studied, Mozambique had the highest percentage of excluded adults. The situation is only marginally better if looked at in terms of the percentage of those formally banked being higher than that of Tanzania.

Graph 8 – Financial Access Strand – country comparison

Country	Banked	Other formal (non-bank)	Informal only	Excluded
Mauritius 2014	85	3	2	10
South Africa 2014	75	5	6	14
Namibia 2011	62	8	3	27
Swaziland 2014	54	10	9	27
Botswana 2014	50	18	8	24
Lesotho 2011	38	20	23	19
Zimbabwe 2014	30	39	8	23
Malawi 2014	27	7	15	51
Zambia 2015	25	13	21	41
Mozambique 2014	20	4	16	60
Tanzania 2013	14	43	16	27
DRC 2014	12	24	12	52

■ Banked □ Other formal (non-bank) ■ Informal only ■ Excluded

Graph 9 – Financial Access Strand by gender

Year	Gender	Banked	Other formal (non-bank)	Informal only	Excluded
2014	Male	24	4	15	57
2014	Female	16	4	18	62
2009	Male	14	1	8	77
2009	Female	10	1	10	79

■ Banked ■ Informal only
□ Other formal (non-bank) ■ Excluded
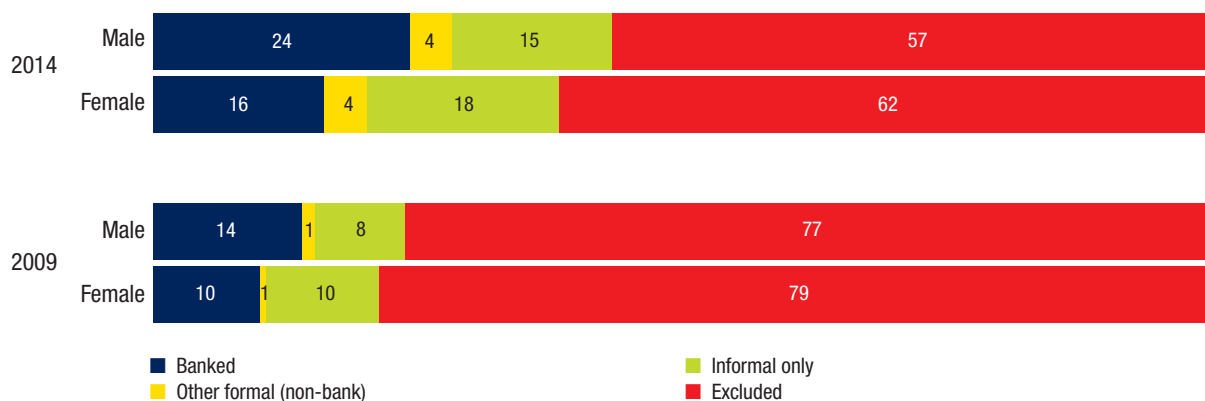
It is very important to explore the relationship between education and monthly income levels. Graph 10 and Graph 11 show a close positive relationship to the proportion of those formally banked with the levels of education and income.

Graph 10 – Financial Access Strand by education

Education	Banked	Other formal (non-bank)	Informal only	Excluded
Superior	77		13	10
Medium technician	87	5	6	2
Basic technician	67	7	3	23
Elementary technician	61	6	11	22
Secondary ESG2 (11th/12th grades)	66	3	5	26
Secondary ESG1 (8th/10th grades)	34	7	12	46
Primary EP2 (6th/7th grades)	17	3	20	60
Primary EP1 (1st/5th grades)	13	4	20	63
Literacy	9	3	10	77
Does not know	6	2	18	74
Did not go to school	20	1	11	67

- ■ Banked
- ■ Other formal (non-bank)
- ■ Informal only
- ■ Excluded

Graph 11 – Financial Access Strand by monthly income

Monthly income	Banked	Other formal (non-bank)	Informal only	Excluded
Between 500 001 MT or more	100			
Between 300 001 MT and 500 000 MT	100			
Between 200 001 MT and 300 000 MT	100			
Between 100 001 MT and 200 000 MT	43			57
Between 50 001 MT and 100 000 MT	73		7	19
Between 25 001 MT and 50 000 MT	49	8	8	35
Between 5 001 MT and 25 000 MT	48	4	16	32
Less than 5 000 MT	15	4	19	62
Not willing to disclose	16	3	5	76
Do not know	6	2	10	82

- ■ Banked
- ■ Other formal (non-bank)
- ■ Informal only
- ■ Excluded

Graph 12 shows that the provincial distribution of the proportions of those that are formally banked closely correlates with the density of bank branches by population and districts. The only apparent anomaly is Niassa, but its relatively high percentage of formally banked adults is partly explained by the province's small population and that almost 50 per cent of its population lives close to Lichinga and/or Cuamba where the banks are situated, complemented by the fact that most of the population live near the main roads. The graph clearly depicts that not only is there an urban/rural disparity (see below) but significant regional disparities exist with access being lower in the central and northern provinces.

Graph 12 – Financial Access Strand by province

	Banked	Other formal (non-bank)	Informal only	Excluded
Maputo Cidade	43	9	19	30
Maputo Province	33	4	22	41
Inhambane	25	5	32	38
Zambezia	20	4	16	61
Cabo Delgado	19	12	15	54
Gaza	18	1	25	56
Sofala	18	5		78
Niassa	18	1	7	74
Nampula	14	1	21	65
Manica	14	6	6	74
Tete	11	1	13	75
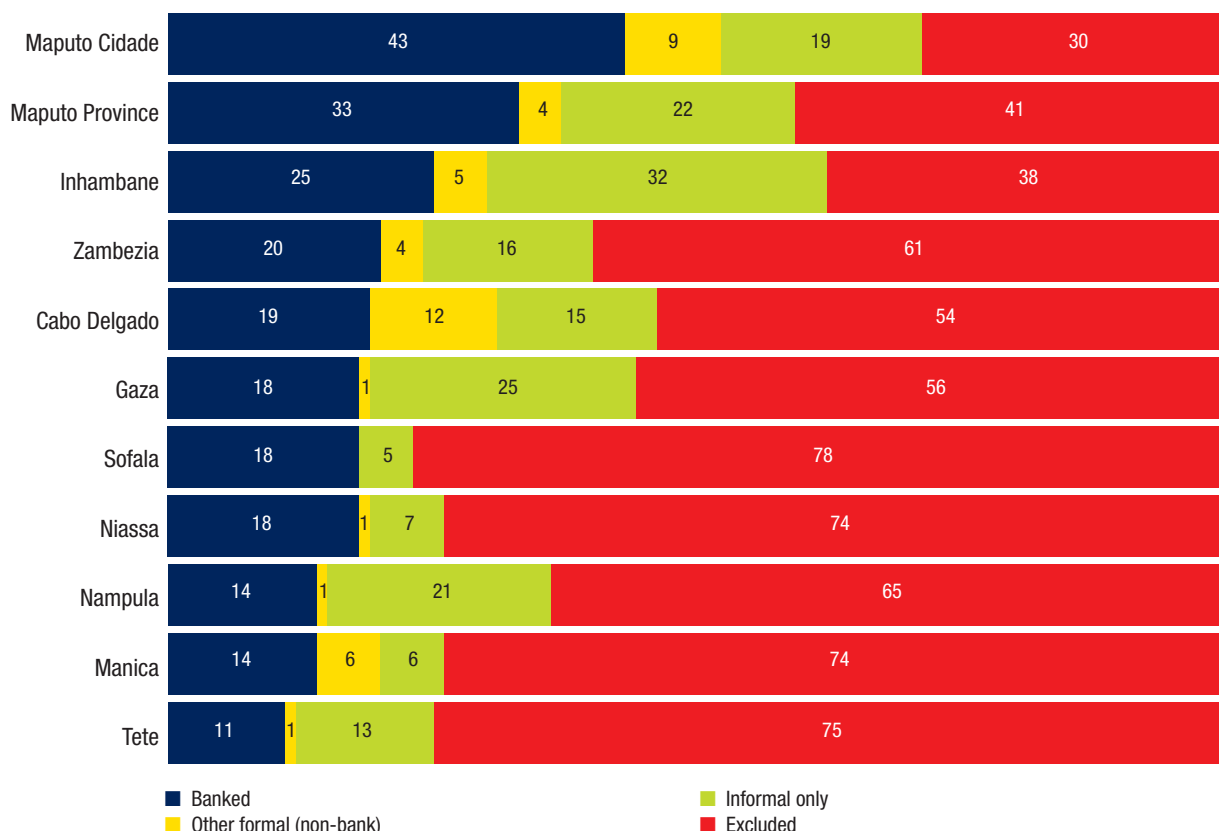
Graph 13 drives home the reality of the economic marginalisation of Mozambique's rural population and demonstrates the urgency of the government's bancarização campaign. More than two-thirds (68.8%) of the rural population of are financially excluded (vs. 86.5%) while only 9.9% use banking services (vs.4.2% in 2009). By contrast, 43.3% of urban adults are excluded (vs. 60.8% in 2009) and 39.5% are formally banked (vs. 26.6% in 2009). Despite the rapid growth in the outreach of banking services in rural areas, the urban/rural gap remains large, though declining (the percentage of urban banked to rural shifting from a ratio of 6:1 to 4:1 from 2009 to 2014).

Graph 13 – Financial Access Strand by area

		Banked	Other formal (non-bank)	Informal only	Excluded
2014	Urban	40	4	13	43
	Rural	10	3	18	69
2009	Urban	27	1	11	61
	Rural	4	1	9	86
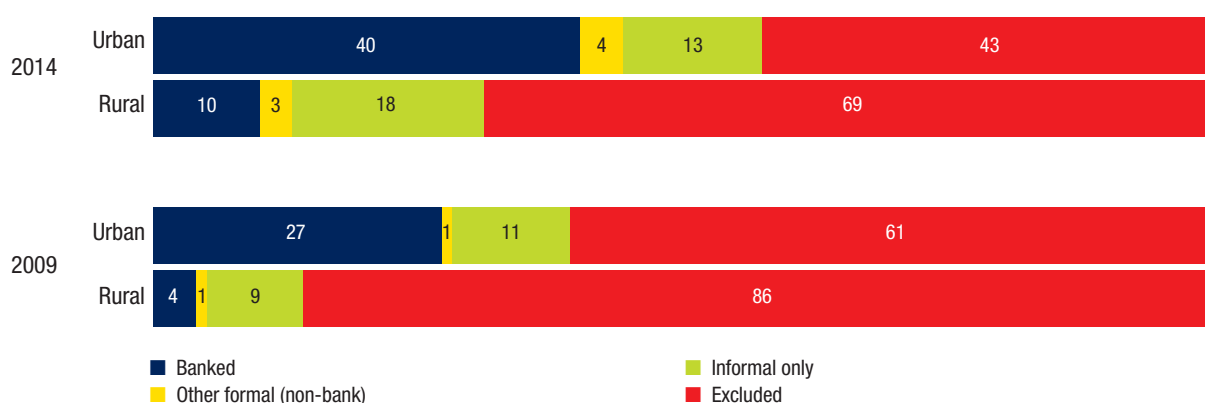
7 Formal banking products and services

7.1 Use patterns

People considered to be "banked" are those who have/use banking products or services i.e. they have a bank account or they use bank services (not necessarily theirs), have a contract with a bank such as a loan, as well as those who use banks to conduct a service such as transfer money or exchange currency. Graph 14 illustrates that although the formally banked population has increased since 2009 (from 11.8% to 19.7%), the percentage of people no longer banked has more than doubled. Graph 15 demonstrates the progress made through the process of bancarização (expansion of banking services to rural areas) with the proportion of banked in rural areas increasing from 23.4% to 33.8%.

Of the banked almost all are likely to have a bank account (a small percentage use banks for transaction purposes such as transferring money without being a client). It is important to understand how access is obtained and how many people are accessing services outside of Mozambique. Unfortunately this information was not solicited in 2014 but information obtained in 2009 demonstrates that access is obtained both through other peoples' accounts, sharing accounts and through banking services outside of Mozambique. A significant number of Mozambicans have accounts or access to accounts outside of Mozambique. Both the 2009 and 2014 results are consistent with the Bank of Mozambique's data on number of bank accounts per 1000 adults: in 2009 there were 141 bank accounts for 1000 adults and in 2014 there were 243 for every 100 adults. The difference in the 2009 and 2014 figures is accounted for by the fact that many clients have more than one account and that many accounts are in the name of companies and institutions, etc[24]. The study shows that 5% of the adult population previously had a bank account but no longer have one, up from 2% in 2009[25].

Graph 14 – Banking current situation

Year	Banked	Other formal (non-bank)	Excluded
2014	20	5	75
2009	12	2	86

■ Banked
■ Other formal (non-bank)
■ Informal only
■ Excluded

Graph 15 – Currently banked by area

Year	Urban	Rural
2014	66	34
2009	77	23

■ Urban
■ Rural

Table 15 presents the proportion of the formally banked population using the various banking products and services made available by the banks. The dominant product showing the biggest increase in usage is the current account (increasing from 42.2% to 53.1%) with a significant drop in savings (33% to 27.2%). Minimum upward movement has been noted in the use of other banking products such as debit cards with the exception of a salary account which is mandatory. This suggests that banking services, though having been accessed by a large proportion of the population are not being extensively used apart from deposits. Although credit is still low (apart from the use of credit cards (11%), it has increased significantly (with the exception of business loans) as a proportion of the 2009 levels, with increases in consumer loans.

Demand-side data such as FinScope may differ from supply-side data due to the different methodologies used in data analysis. The Bank of Mozambique's monthly survey of the banking system indicated a banked population of 24.3% at the time of the survey. The discrepancy can be explained in part due to the double counting of accounts owned by an individual from supply-side data in some instances.

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[24] Information obtained from commercial banks showed that most banks require savings accounts and term account holders to have current accounts in which to deposit interest income.

[25] This may be partly explained by the closure of a wide network of rural branches by the state-owned bank BPD following its privatisation in 1997.

Table 15 – Use of banking products and services

Strategies/Mechanisms	% of formally banked	
	2009	**2014**
Current account	42.2	53.1
Term deposit	8	5.2
Savings account	33	27.2
Savings Plan	8	5
Salary account	17	27.5
Loan Account	5.1	5
Debit card	25	30.9
Credit Card	8.5	11
Cheque book	7.8	4.5
Overdraft facility	3	1.5
Loan for < 1 year	1.4	4.6
Loan for > 1 year	2.2	–
Consumer Credit	0.8	2.2
Business Loan	1.8	1.1
Housing Loan	0.3	0.7
Agriculture Loan	0.3	0.5
Fixed asset Leasing	0.3	0.4
Movable asset leasing (cars, trucks, agricultural equipment, etc.)	0.2	0.1
Bank check	1.1	1.3
Standing order (payment of services)	1	0.4
Direct debit	–	1.1
Mobile banking (on wheels) (bank opportunity)	–	0
e-banking	–	0.2

In terms of current accounts, Millennium BIM is by far the most dominant bank (59.8% of current accounts and 70.2% of salary accounts). 95.8% of current accounts are controlled by the four top banks (Millennium BIM, BCI (21.8%), Barclays (7.7%) and Standard (6.7%)). The two remaining microfinance commercial banks Banco Oportunidade and Socremo account for 0.7% of the accounts (7.7% of the term accounts and 2.3 of the savings accounts). Little has happened in terms of smaller bank penetration: in 2009 79.4% of the current account holders belonged to the two biggest banks, while in 2014, the two banks accounted for 81.6% of the accounts. In 2009 the microfinance commercial banks and microbancos accounted for 6.2% of the current accounts while in 2014 only 0.7% of the accounts were held by the two remaining microfinance commercial banks Banco Oportunidade and Socremo[26].

It must be noted that although the percentages for savings and term deposit accounts show a decline, the absolute numbers show and increase between 2014 and 2009; 769 000 from 277 000 and 144 000 from 73 000 respectively.

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[26] The other two, Banco Pro Credit (0.8% of current accounts) having been taken over by Eco Bank and now operates as a conventional bank, while Tchuma has been purchased by Geo Capital. The two new *microbancos* Letshego and Bayport provide salary-based consumer loans and are expected to grow fast.

7.2   Reasons for having a bank account

Table 16 show developments related to having a bank account since the last survey. Although most reasons for having an account remained static, a significant increase was noted in using the bank as a channel for transferring money. This was possibly influenced by the increased coverage of banking services in areas previously only reachable by informal couriers/friends. Banks are also increasingly seen as important for accessing credit (increasing from 2.6% to 8.6%). The increased recognition of services other than safekeeping may account for the decrease in those who have accounts for safekeeping (53.2% to 45.3%). Those with bank accounts (28%) indicate that they are required to by their employers to have one.

Table 16 – Reasons for having bank account

Reasons (among those with bank account)	%	
	2009	2014
To keep money safe	53.2	45.3
To save and accumulate money	24.7	22
To pay accounts and expenses	10.1	10.7
To transfer and/or receive money	9.2	17.8
Required by my employer	7.3	28
To get debit card	5.5	5.8
To have a credit card	–	6.4
To get access to credit	2.6	8.6
Other	–	1.8

7.3   Barriers to banking

Table 17 has attempted to group the various reasons for not opening a bank account within 5 themes. The vast majority of the adult population appear not to want an account because they are unsuitable for their needs. The large majority were coded as not having enough money to afford an account. Unfortunately this response code is ambiguous as it is not clear from this whether the adult feels that he/she does not have enough money to open an account or to maintain an account. Until recently, minimum balances for many of the conventional banks were relatively high so there could well be a prevailing misconception that such high barriers remain. On the other hand, the majority of the poor would see little use for an account as there is never (or rarely) an opportunity when cash can be diverted from their daily struggle to survive (given that a large majority of the population earn less than 5,000MT per month). Nevertheless the percentage of those that do not have enough money to open an account dropped significantly from 78.7% to 65.3% which corresponds closely to the percentage of the population that were financially excluded at those times.

In addition to the unknown number of people who feel that they cannot open up an account, there is a small percentage of people who have other misconceptions relating to requirements or who simply do not trust banks. Access is a main issue for a significant number who live far away from banks or cannot afford the transport. Other issues of access include lack of documents and inconvenient hours. Illiteracy, not understanding the financial language used by banks, or how they work at all also plays a major role as barriers to banking. Intimidation about approaching banks is also an important barrier for a small but significant minority. Despite the government's policy of *bancarização* there appears to be an increase in the number of people indicating that they do not understand the benefits (2.4% to 7.6%), the feeling that banks are not relevant (5.3% to 10.8%), distance too far (15.2% to 19.7%) and surprisingly an increase in the number who do not understand how banks work (7.2% to 10.2%).

Table 17 – Reasons for not having a bank account

Category	Specific reason (amongst those with no bank account)	%	
		2009	2014
Unsuitability/ affordability	Does not have enough money to afford account	78.7	65.3
	Does not understand benefits from having an account with them	2.4	7.6
	Does not want it	1.4	1.5
	Does not need it	2.1	5.3
	They do not provide services needed	0.4	0.4
	Cannot maintain the minimum balance	3.9	7.2
	Bank fees are too high	0.6	0.6
Perceptions	Need permission from someone else to open it	2	3.1
	Their accounts are not for people like 'me'	5.3	10.8
	Does not trust these institutions	0.6	2.5
Access Issues	It is too far away	15.2	19.7
	Transport too expensive	4.5	4.2
	Their hours are not convenient	0.5	0.5
	Do not have appropriate documents	1.6	6.2
	Agency where had account closed	0.8	0.4
Illiteracy	Does not understand how banks work	7.9	10.2
	Does not know how to apply	2.8	5.4
	Does not understand the financial language used	2	1.5
Intimidation	Fear of embarrassment or refusal	0.4	0.5
	People can be jealous or think that a person has lot of money	–	0.4
	I do not want to be identified for tax purpose	–	0.1
	Can obtain from the community the service that I need	–	0.2
	They are not secure	–	0.1
Other		–	5.4

7.4 Perceptions and attitudes towards banks and their services

Chapter 6 demonstrated that a large proportion (41.4%) of the adult population had either never heard of a bank (22.5%) or had heard about them but did not know what it was (18.9%). Considerably larger percentages did not know what some of the more basic products and services of banks were.

The questionnaire attempted to get the perceptions of the adult population about whether certain statements could be associated with different types of financial service providers. Although most of them were unable to make these associations, enough (about 10%) responded in relation to banks to make some meaningful generalisations.

When all respondents were asked about the perceived advantages of having a bank account, the responses were similar to those indicated in Table 16. Having a bank account was seen as providing safety against theft (53.3%), followed by a convenient way to receive wages (16.6%), an easy way of receiving or sending money (22.95%; 12.8%), a means to access credit (12.5%), a safe way of receiving and sending money (11.9%; 9.8%) and a way to earn interest on a savings account (8.9%). About a quarter did not know what the advantages could be.

Table 18 ranks respondent perceptions of various statements (both positive and negative) about banks. As some statements were changed in 2014 they are not strictly comparable. However it should be noted that bank trustworthiness ranked high in both surveys but on the negative side so did the issue of long queues and waiting. Of note is the much higher ranking of the ease of getting a loan and reasonableness of bank charges.
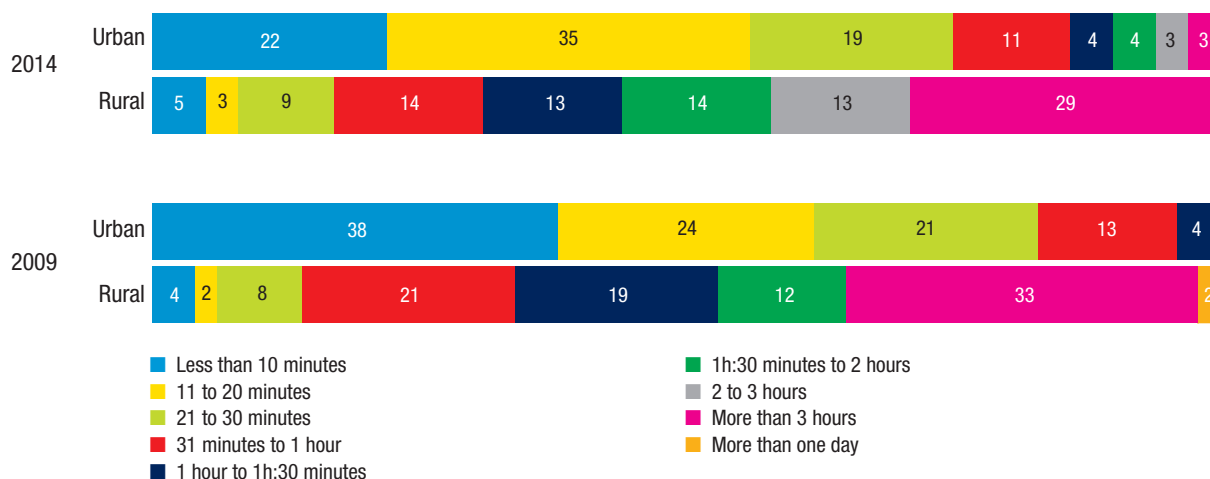
Table 18 – Perceptions of banks

Statement associated with bank (rank refers to the extent that adults agreed)	2014 (Rank)
Banks are the closest to where I live	1
The queues are long/you have to wait a long time to be served	2
They can be trusted	3
It is very easy to get a loan	4
The charges are reasonable	5
They take your property if you do not pay your loan	6
The interest rate on a loan is reasonable	7
They use words that you do understand	8
The loan is easy and you get into problems	9
They do not understand when you are not able to pay you loan	10
	2009
They can be trusted	1
They treat you with respect	2
Getting things done with them is easy	3
The queues are long/you have to wait a long time to be served	4
They operate at times that are convenient to you	5
They are your ideal place to go	6
It is quick to get service	7
They take your property if you do not pay your loan	8
Dealing with them gives you status in the community	9
They are for rich people and not for poor people	10
The charges are reasonable	11
It is quick for them to give you a loan	12
They use words that you do understand	13
The process for getting a loan is easy	14
The interest rate on a loan is reasonable	15
The interest rate on a loan is very high	16
They lend too easily and get you into problems	17
They are understanding when you cannot make your payments	18
The information that they give you is difficult to understand	19

7.5 Location and access

Of those who are aware of where banks are located, the chosen means of getting to them if they had to changed: in 2014 the dominant means is by public transport (40.2% vs 28.6% in 2009) while a third (31%) would choose to walk vs. 49% in 2009. 14.8% would use motorised transport owned by them or another household member (vs. 10.6% in 2009) and 13.8% would use a bicycle or other non-motorised means (vs 7.7% in 2009).

Graph 16 shows the approximate time taken to get a bank or formal institution and demonstrates the enormous differences in physical access to rural and urban facilities. Significant change in access has occurred with a reduction from one third (32.6%) of the rural adults being more than 3 hours away from the nearest bank to less than a quarter (22.9%). For urban residents, although access is much faster, the number of adults able to access their banks in less than 10 minutes decreased substantially (37.9% to 22%). This might be partially explained by increased traffic congestion, urban expansion or that banks might be closer but that the means of getting to them may have switched from motorised transport to walking.

Graph 16 – Rural/urban access to financial institutions

Legend:
- Less than 10 minutes
- 11 to 20 minutes
- 21 to 30 minutes
- 31 minutes to 1 hour
- 1 hour to 1h:30 minutes
- 1h:30 minutes to 2 hours
- 2 to 3 hours
- More than 3 hours
- More than one day

8   Remittances

Mozambique has been exporting migrant labour to neighbouring countries, especially South Africa for more than a century[27]. Urban-centred economic growth has also led to significant rural-urban migration. Consequently, it was assumed that there would be a tendency for the working members of households to send money to their spouses or dependents who, in most cases, live in rural areas. Historically, southern Mozambique south of the River Save has been a migrant-labour exporting region and studies have shown that despite poor agricultural conditions, rural households of southern Mozambique have become considerably wealthier than rural households north of the River Save largely due to the labour migration[28].
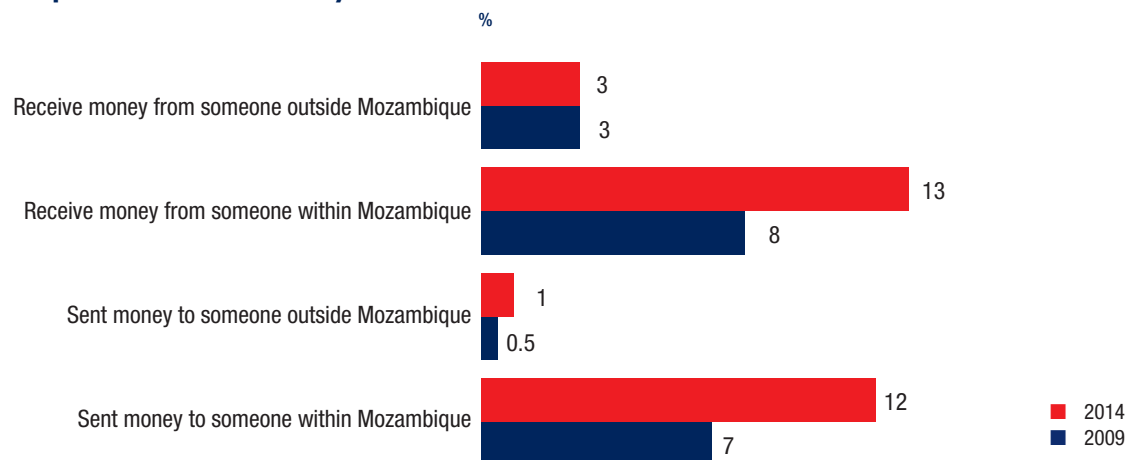
Graph 17 shows that 3.4% of adults receive remittances from someone outside the country (2.9% in 2009). Only 1% of households send money to someone outside of the country (0.5% in 2009). A significant 13.2% of the adult population received money from someone in the country, up from 8.4% in 2009. It was found that a similar number (11.8%) of the adults were found to be sending money to someone in Mozambique (7.1% in 2009). Graph 18 shows that most of the recipients of externally sourced remittances were urban and the circulation of money being sent between Mozambican recipients is mainly between urban areas.

Graph 19 demonstrates an encouraging trend for remittances to be sent through banks. In 2009 more than half (51.4%) of those sending remittances sent them via friends or family and only 42.9% transferred money through a bank. In 2014, the situation changed dramatically with just over a third (34.2%) using friends while almost two-thirds (64.3%) used banks. More usage was made of taxis and buses (increasing from 5.9% to 8.6%). Little use was made of post offices or money transfer services. However 1% had started transferring money electronically via mobile banks and this mechanism can be expected to increase significantly in the next few years. When asked what was perceived as the most reliable way to transfer money, an encouraging 94.5% indicated that the banks were reliable, while about a third (31.8%) felt that friends/relatives were reliable. Few felt that the post office, money transfer agents or motor transport were reliable.

In terms of risk, cost, ease and quickness of transferring money, the use of banks ranked well above the other channels, even friends and relatives. The use of taxis and buses ranked high in terms of risk, while cost and ease ranked about the same as friends and relatives in terms of risk.

The main reasons for remittances are centred on basic household needs and education. The following responses were given respectively by senders and receivers for remitting in 2014 vs. 2009: household expenses (42.7%; 56.4%), food (27.8%; 31.4%), education (34.0%; 19.0%), health (13.8%; 13.0%); emergencies (4.1%; 8.8%) and special events such as weddings (3.6%; 4.9%) and investments (1.5%; 4.5%) respectively.

Graph 17 – Remittances by source and destination

%

	2014	2009
Receive money from someone outside Mozambique	3	3
Receive money from someone within Mozambique	13	8
Sent money to someone outside Mozambique	1	0.5
Sent money to someone within Mozambique	12	7

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[27]   The 2007 IFAD study *Sending money home: Worldwide remittance flows to developing countries* estimated that Mozambican migrant workers sent 565 million US dollars back to Mozambique. This figure represents 7.4 per cent of the country's GDP.

[28]   See Fion de Vletter, 2007. *Migration and development in Mozambique: poverty, inequality and survival* Development Southern Africa Number Volume 24, Number 1, March 2007.

Graph 18 – Remittances by source and destination by area

%

Rural

Receive money from someone outside Mozambique
- 2014: 3
- 2009: 0.2

Receive money from someone within Mozambique
- 2014: 9
- 2009: 5

Sent money to someone outside Mozambique
- 2014: 9
- 2009: 5

Sent money to someone within Mozambique
- 2014: 2
- 2009: 1

■ 2014
■ 2009

Urban

Receive money from someone outside Mozambique
- 2014: 5
- 2009: 1

Receive money from someone within Mozambique
- 2014: 21
- 2009: 12

Sent money to someone outside Mozambique
- 2014: 18
- 2009: 16

Sent money to someone within Mozambique
- 2014: 2
- 2009: 5

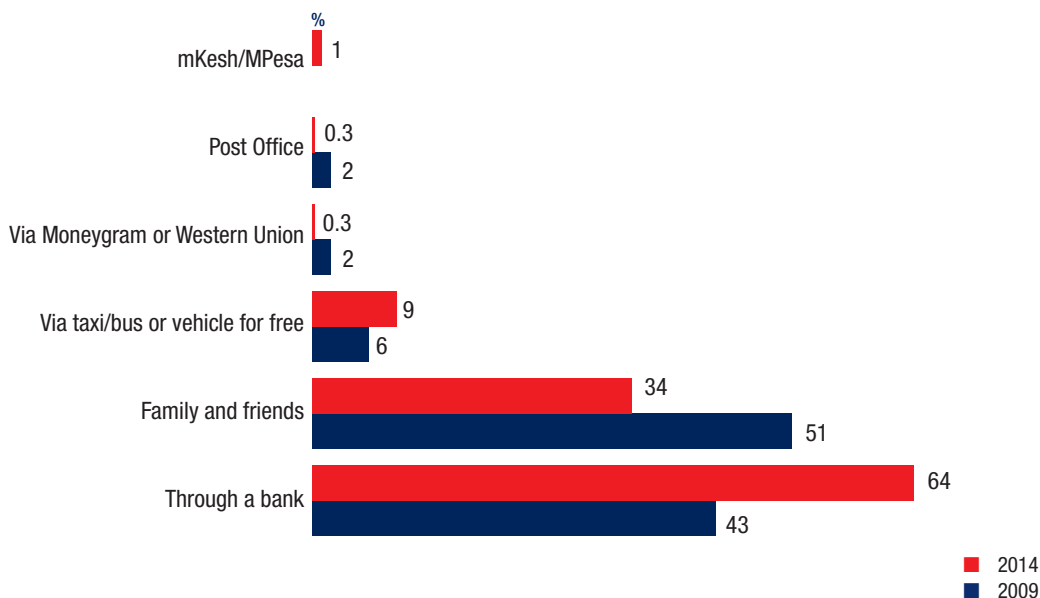## Graph 19 – Remittances – sending channels

%

mKesh/MPesa
- 2014: 1

Post Office
- 2014: 0.3
- 2009: 2

Via Moneygram or Western Union
- 2014: 0.3
- 2009: 2

Via taxi/bus or vehicle for free
- 2014: 9
- 2009: 6

Family and friends
- 2014: 34
- 2009: 51

Through a bank
- 2014: 64
- 2009: 43

■ 2014
■ 2009

Graph 20 – Remittance Strand

Year	Banked	Formal (non-bank)	Informal	Family/friends only	Do not remit
2014	12		3	8	77
2009	5	1	2	7	85

- ■ Banked
- ■ Formal (non-bank)
- ■ Informal
- ■ Family/friends only
- ■ Do not remit
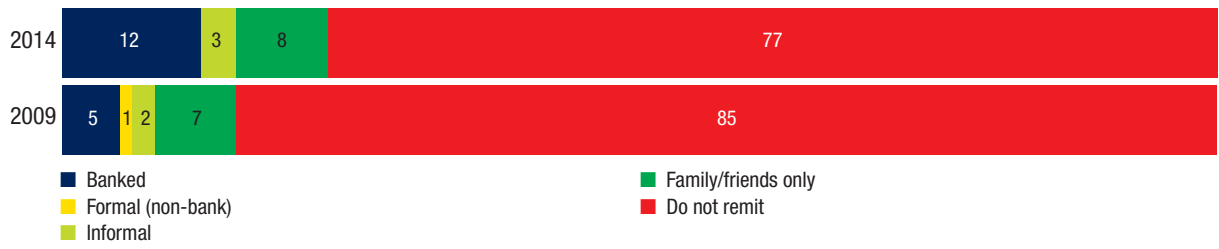
Graph 21 – Remittance Strand by area

Area	Banked	Informal	Family/friends only	Do not remit
Rural	6	4	9	82
Urban	24	3	6	67

- ■ Banked
- ■ Formal (non-bank)
- ■ Informal
- ■ Family/friends only
- ■ Do not remit

9   Savings

For the purpose of this study, "savings" refers to money or a store of value that is set aside for paying for something other than normal expenditures or transactions. It should therefore not be confused with the service of "safeguarding" money which is one aspect of savings but applies to any money kept in a bank or other financial institution (such as pension funds). Significantly, it excludes cash that is kept aside for anticipated expenses or money kept in current or salary accounts. The interpretation of why money is kept at home may account for significant variation on savings levels when compared to other FinScope studies[29]. As indicated earlier, "savings" also includes certain types of investments considered to be fairly easily convertible into cash. Investments included within the category of "other formal savings" include pensions, government bonds, stocks and bonds, while savings or investments included within "informal savings" savings with membership organisation like Xitques, and livestock (cattle) for the purpose of selling later for cash and not for consumption as well as investment in personally owned formal/informal business or agricultural equipment.

Savings products in banks include savings accounts, term deposit accounts and savings plans. Informal savings are usually done through a variety of groups (see chapter 13 for a more detailed discussion) but leaving money in the care of an employer or another person constitutes a form of informal savings[30]. Finally, savings can be done at home but, as mentioned above, these funds do not include cash that has been put aside to be used for day-to-day expenses such as remittances sent for household maintenance.

Graph 22 shows a significant increase (doubling) in "informal savings" from 11.2% to 22.5% while savings through banks has only increased marginally from 5.3% to 6.9% indicating that contrary to other bank products, Mozambicans are not being attracted to the savings products offered by banks (term deposits having significantly cut their interest rates in the past few years).

Graph 22 – Forms of saving
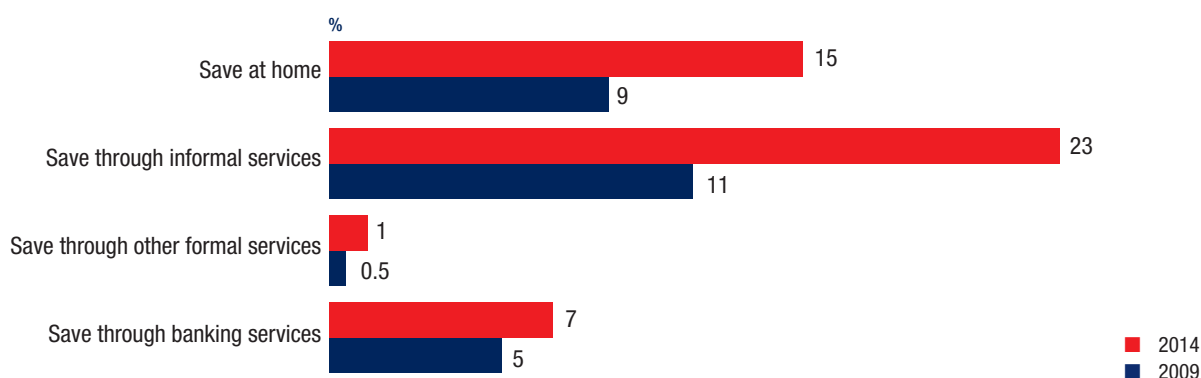
Savings are often held with more than one category resulting in a net percentage of 34.2% of the adult population being within the Savings Strand, significantly higher than in 2009 (20.4%) (Graph 23).

Graph 23 – Savings Strand

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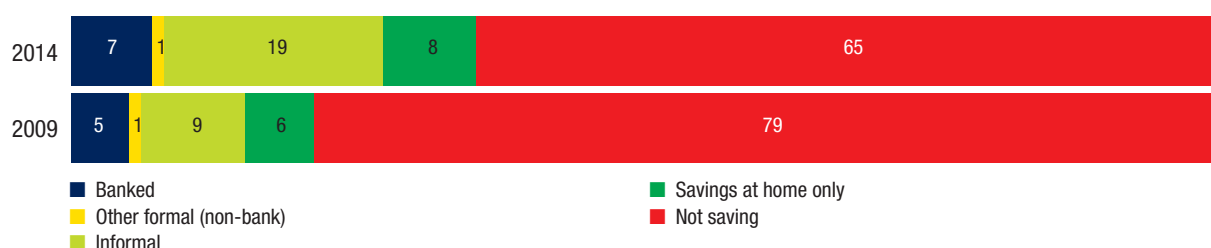
[29] Results for Malawi (2008), for example, found that 74% of adults save, most of whom saved at home. It is unlikely that in reality the behaviour of households between the two neighbouring and similarly poor countries would be so significantly different and is probably explained by how the question on savings was interpreted.

[30] In 2009 almost a fifth (19.5%) of the adults agreed with the statement that "You store some or all of your money with someone else so that they can keep it safe or guard it for you."

The Savings Strand works on the same basis as the Access Strand. The FinScope Survey uses the Saving Strand to compare utilisation of savings products across countries. It focuses on the savings products of a country in its broadest sense and assumes that all adults in the country will fall into one of five hierarchical segments: (i) saving through the use of banking products (but could also save through the use of other mechanisms); (ii) saving through the use of products provided by other formal financial institutions but are not using commercial banks products for the purpose of saving (could also use other saving mechanisms such as informal products); (iii) saving through the use of informal products such as a savings club; (iv) saving at home/in a secret hiding place only; or, (v) not saving at all.

Graph 24 and Graph 25 demonstrate several interesting trends. One is that the urban savings strand has not expanded much (32% to 41.7%) with an insignificant change in the percentage saving at home and only a small increase in those saving with banks (13.1% to 15.6%). The biggest increases occurred within informal savings and other formal savings. The rural savings strand more than doubles from 14.4% to 30.6% while showing significant expansion in all the sub-components (with a near tripling of its informal savings).

Formal savings is made up of savings accounts (6.5%), term accounts (1.4%), savings plans (1.4%) and savings with a credit and savings cooperative (0.6%). This is supplemented in a minor way by formal investment products.

Given its growing dominance in the savings strand as well as the financial access strand, it is important to understand how those using informal savings are composed: the largest component is savings through informal groups (58.6%) closely followed by livestock (cattle) ownership (29.5%), informal business holding/agricultural equipment (19.1%). In terms of financial service provision, it is the informal groups (discussed in chapter 13) that are of particular importance.

Graph 24 – Savings strand in rural areas
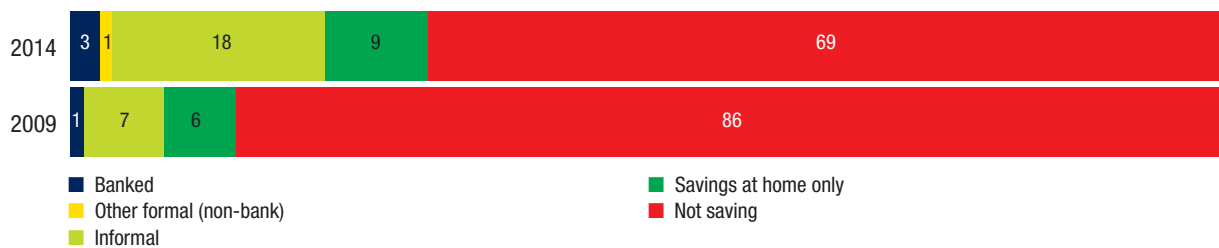
Graph 25 – Savings strand in urban areas
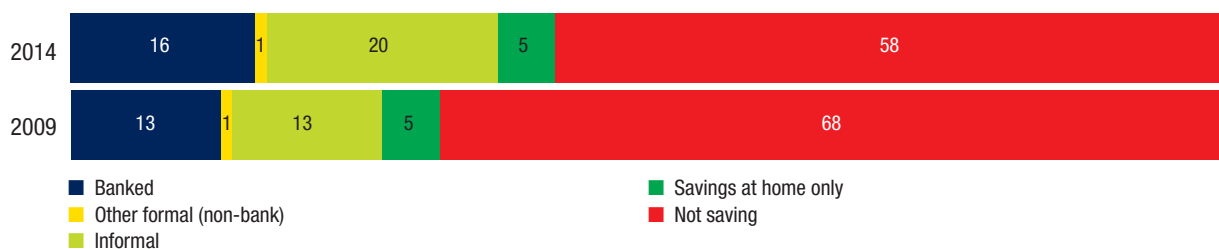
Graph 26 demonstrates that the three most important reasons for savings relate to preparedness for emergencies (medical, non-medical and the possibility of being without money for normal household expenses). Another major reason for savings (29.1%) is to increase the income derived from business. For many, especially those living in Maputo such savings will be done on a monthly basis (e.g. informal compulsory daily deposits known as *Xitique geral*) for working capital, but some savers will be using their money for capital investments to expand their businesses.

Graph 26 – Reasons for saving

%

Reason	2014	2009
To increase my income	38	n/a
Current expenses for the time when you need	31	31
For a medical emergency	22	35
For emergency not medical	17	32
Buy or build a house	11	8
Leave something for family when you die	11	10
Education of school fees	8	10
Start or expand your business	7	6
Buy cattle	6	1
Buy household appliances/furniture/goods	5	5
Buy bicycle/motorcycle/car or truck	5	2
Retirement for old age	4	2
Agriculture expenditure e.g seeds	4	1
Buy farm equipment or utensils	3	1
Funeral expenses	3	9
Vacation or trip	2	3
A marriage dowry/lobola	2	4
Acquire land	2	3
Buy a house or land to rent	1	2
Security collateral in cash	1	2
Debts	n/a	1

■ 2014
■ 2009

n/a* Question not asked in respective year

Safety and trustworthiness were cited as the most important factors to consider when choosing a savings mechanism (32.7%), closely followed by proximity (38.2%). Other issues included privacy (21.5%), convenience/ease of withdrawal (19.6%), keeping money clear of temptation (18.9%), should have low cost (16.0%) and simplicity (15.2%). The rate of interest was not a significant issue (4.3%).

Reasons for not saving were mainly related to not having any residual after paying for general living expenses (47.2%) followed by similar constraints such as all their money was contributed to the household pot (18.5%), or that they had no income and therefore nothing to save (19.0%). Almost a quarter indicated that they never thought about saving (22.2%) or did not see the point (6.9%) while a small percentage (5.2%) did not trust banks.

Table 19 – Saving mechanisms

Saving mechanisms (in absolute numbers)	2009	2014
Savings through investing in cattle or livestock	126 000	979 000
Savings with a membership organisation (Xitique, ASCAs, etc.)	194 000	1,01 million
Saving through investing in your own business	138 000	634 000
Savings in a secret place or at home	988 000	1,8 million
Savings account with bank	397 000	773 000
Corporate bonds	11 788	21 054
Treasury bills and government bonds	5 158	5 450
Shares	5 686	4 348

Graph 27 shows that the proportion of adults saving increases with the level of income and that the proportion of those saving in banks increases while the percentage of those saving with informal service providers decreases. With majority of adults earning less than 100,000MT and largely consume informal services, policymakers should focus more on these lower income groups in order to increase their income levels and find their way into formal use of financial services.

Graph 27 – Saving Strand by monthly income

Income	Banked	Other formal (non-bank)	Informal only	Saving at home only	Excluded
500 001 MT or more	100				
300 001 MT and 500 000 MT	41		59		
200 001 MT and 300 000 MT	100				
100 001 MT and 200 000 MT	43				57
50 001 MT and 100 000 MT	46		14	8	32
25 001 MT and 50 000 MT	33	5	18	12	32
5 001 MT and 25 000 MT	22	2	25	10	41
Less than 5 000 MT	4		20	8	68
Do not know	1		10	4	85
Refused	4	1	6	5	84

Legend:
- Banked
- Other formal (non-bank)
- Informal only
- Saving at home only
- Excluded

10 Credit

The FinScope methodology uses the Credit Strand to compare utilisation of credit/loan products across countries. The Credit Strand focuses on the credit/loan products of a country in its broadest sense and assumes all adults in the country will fall into one of five hierarchical segments: (i) borrowing from a bank (could also borrow from other sources); (ii) borrowing from other formal financial institutions but commercial banks (could also be borrowing from informal money lenders or friends and family); (iii) borrowing from informal mechanisms but not from formal sources (could also be borrowing from family and friends); (iv) borrowing from family and friends only; or (v) not borrowing at all.

Credit is available from banks, other formal institutions and through informal arrangements (all components of the financial access strand). However, the credit strand, as in the case of the savings strand, also includes a category not included in the financial access strand i.e. loans provided by family and friends. A variety of socio-economic studies have shown that, other than personal savings, the main source of funding for investments, especially activities in the informal sector has been family and friends. However, the results of this study suggest that many adults did not perceive money provided by family and friends as loans. The adults with higher levels of income tend to have the tendency to borrow from family and friends (see Graph 32). It is likely that poorer people are getting financial assistance from family and friends but whether or not such assistance is considered as a loan is not clear. Assistance that is considered as a loan from family and friends rarely involves interest.

Graph 28 shows a major change within the credit strand with the percentage of adults obtaining a bank loan increasing from 1.3% to 5%, while borrowing from friends and family remained unchanged, and borrowing from informal channels decreased from 2.6% to 0.2%. Borrowing from other formal institutions increased from 0.5% to 1%[31]. In all, 10.1% of the adult population has a loan or at least what they perceive as a loan (Graph 29) vs. 8% in 2009. Men tend to borrow more from women from all sources. Graph 30 demonstrates that, although still low, the percentage of rural adults borrowing from banks increased more than tenfold: from 0.3% to 3.2% while urban adults borrowing from banks increased from 3.2% to 8.6%. Perhaps reflecting the greater ease of obtaining consumer credit, the percentage of urban adults borrowing from friends or family decreased from 4.7% to 2.8% while in rural areas such borrowing increased from 3.7 to 4.9%.

Graph 32 depicts the significant percentage of adults borrowing from banks with monthly incomes higher than 5,000MT. These adults would normally be earning a regular salary against which obtaining a loan would be relatively easy, especially with the recent arrival of financial institutions such as Letshego and Bayport. Only 2.4% of those earning less than 5,000MT per month have a bank loan but this increases to 17.25% for the next cohort (5,000 – 25,000MT), 25% for the next (25,000 – 50,000MT) and to 39% (50,000 – 100,000MT).
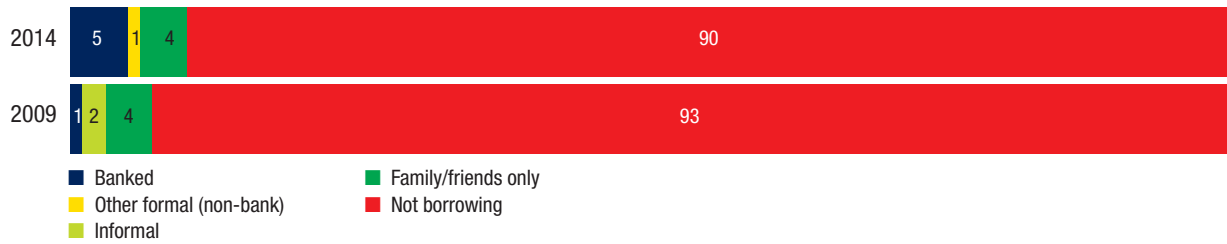
Experience from FinScope surveys indicate that people under report or do not necessarily admit to borrowing.

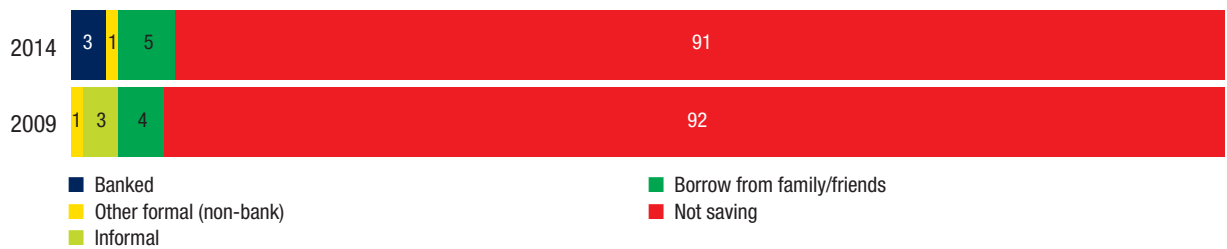## Graph 28 – Forms of credit
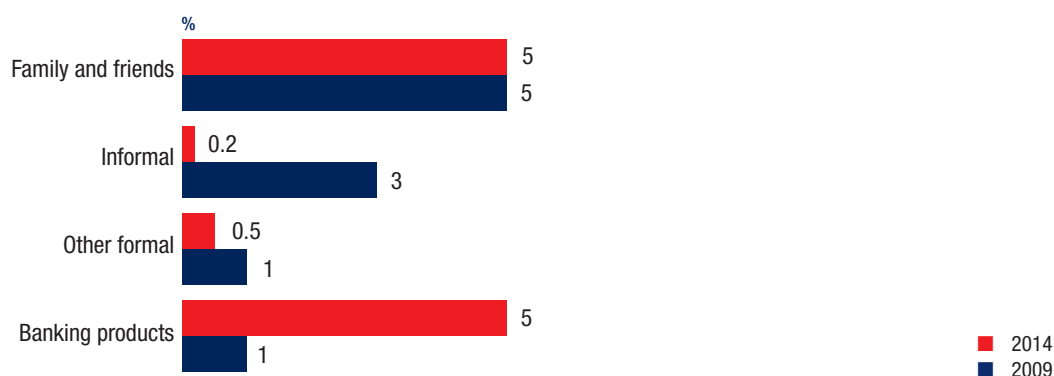
[31] Other formal institutions included farmer associations, *empresas de fomento* proving advanced agricultural input loans, microfinance operators, government specialized funds such as the FFPI, District Funds (7 *milhões*), development finance institutions, microfinance operators. About 60% of the other formal loans (90,032) was provided by the District Funds.
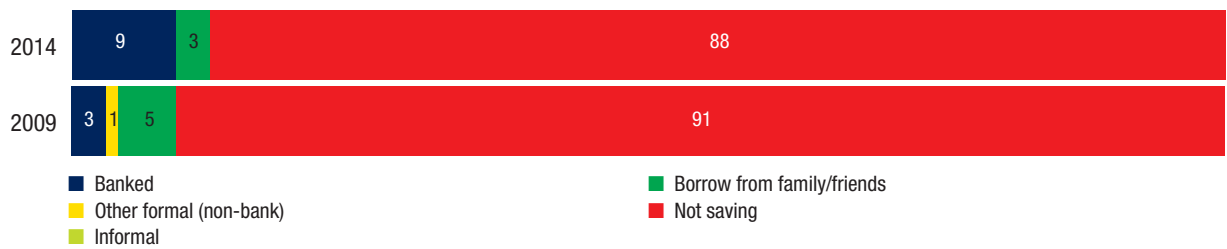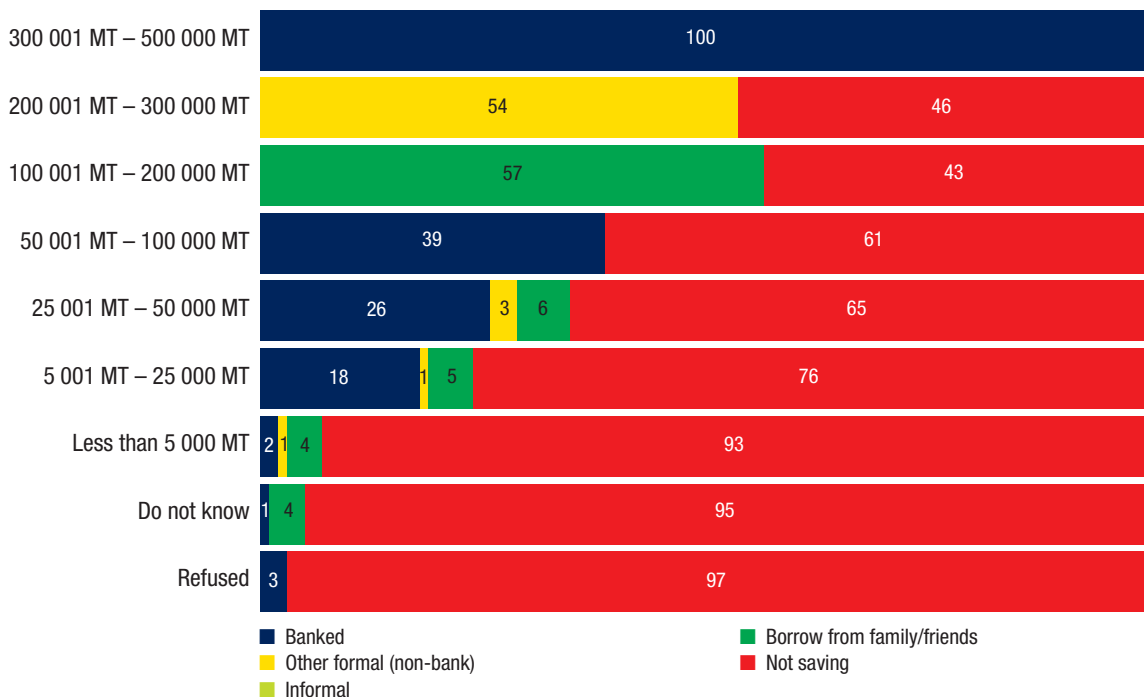
Graph 29 – Credit/Loan Strand

2014	5	1	4	90
2009	1 2	4	93

- ■ Banked
- ■ Other formal (non-bank)
- ■ Informal
- ■ Family/friends only
- ■ Not borrowing

Graph 30 – Credit/Loan Strand by area – rural

2014	3 1	5	91
2009	1	3	4	92

- ■ Banked
- ■ Other formal (non-bank)
- ■ Informal
- ■ Borrow from family/friends
- ■ Not saving

Graph 31 – Credit/Loan Strand by area – urban

2014	9	3	88
2009	3 1	5	91

- ■ Banked
- ■ Other formal (non-bank)
- ■ Informal
- ■ Borrow from family/friends
- ■ Not saving

Graph 32 – Credit/Loan Strand by income

300 001 MT – 500 000 MT	100
200 001 MT – 300 000 MT	54	46
100 001 MT – 200 000 MT	57	43
50 001 MT – 100 000 MT	39	61
25 001 MT – 50 000 MT	26	3	6	65
5 001 MT – 25 000 MT	18	1	5	76
Less than 5 000 MT	2 1	4	93
Do not know	1	4	95
Refused	3	97

- ■ Banked
- ■ Other formal (non-bank)
- ■ Informal
- ■ Borrow from family/friends
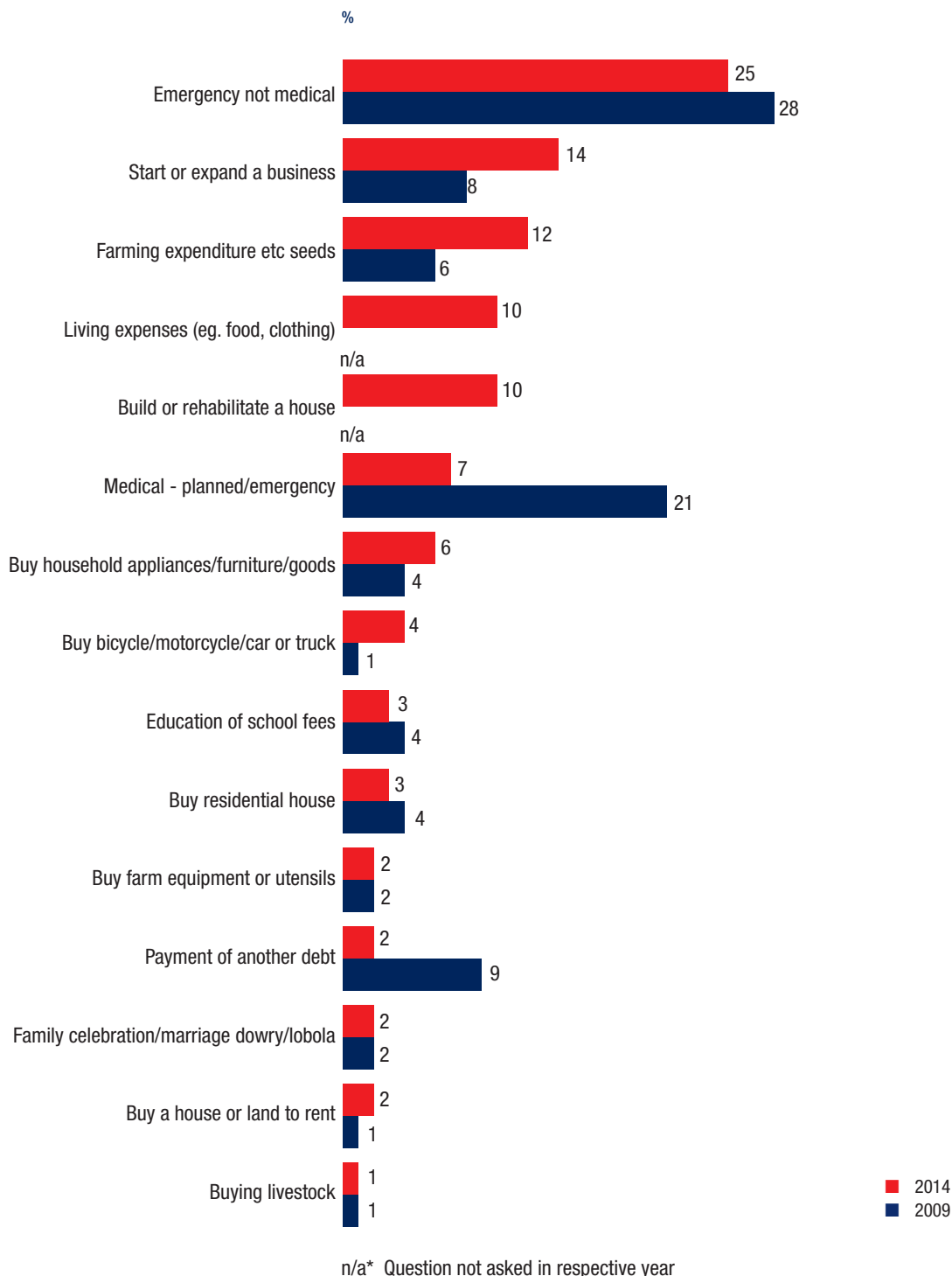- ■ Not saving

Graph 33 shows that the main reasons to obtain credit were (in descending order): emergency related, income generating, the acquisition or improvement of investment assets and consumer related goods.

Graph 33 – Reasons for having a loan or borrowing money

%

Reason	2014	2009
Emergency not medical	25	28
Start or expand a business	14	8
Farming expenditure etc seeds	12	6
Living expenses (eg. food, clothing)	10	n/a
Build or rehabilitate a house	10	n/a
Medical - planned/emergency	7	21
Buy household appliances/furniture/goods	6	4
Buy bicycle/motorcycle/car or truck	4	1
Education of school fees	3	4
Buy residential house	3	4
Buy farm equipment or utensils	2	2
Payment of another debt	2	9
Family celebration/marriage dowry/lobola	2	2
Buy a house or land to rent	2	1
Buying livestock	1	1

■ 2014
■ 2009

n/a* Question not asked in respective year

For those who had succeeded in obtaining a loan, 83% agreed that they know about the costs before borrowing and almost the same number agreed that they had been warned about the costs before taking the loan. Less than a quarter (22.3%) agreed with the statement that the repayment was more than had been anticipated. A third (31.0%) agreed with the statement that they received less than had been requested. Two thirds disagreed with the statement that the loan took a long time to get approved. Sentiments were divided about whether it was easy to obtain the documents for the loans and 59.4% disagreed that the loan process was difficult. A small minority (13.7%) agreed with the statement that it was difficult to obtain collateral, while less than a fifth (17.4%) were required to raise a deposit.

Important factors considered by those deciding where to borrow were heavily dominated by proximity (66.7%) followed by established client relationship (11.7%), ease or convenience (9.0%) and lower interest rates (7.6%).

For those requiring some form of guarantee, the most common forms were in descending order: salary slip, household goods, group guarantee, guarantor, term deposit, title deed and insurance policy.

For those without loans, the main reasons for not attempting to obtain a loan during the past year was the fear of debt (31.0%) followed by reasons relating to its unimportance i.e. have not thought about it (27.2%) or did not need loan (19.8%). 8.7% felt they would not be eligible and 8.4% felt that they would not be able to repay. Further, 9.4% did not know how to apply and 5.1% did not know how to apply. Only 2.7% said that the interest rate was too high and the same number said that they did not have adequate collateral.

Of the 3% who applied but were refused a loan, almost two-thirds (62.9%) were not given reasons or did not know (13.7%). A variety of other reasons were provided such as no employment (7.0%), income too low (5.6%), no guarantor (2.9%), no credible reference (2.6%), no fixed address (2.3%) and 1.5% due to insufficient collateral.

Less than a tenth of borrowers (8.5%) admitted to be late on their payments in the past year, the main reason being insufficient money (41.7%), sickness or caring for sick family member (21.1%), unexpected expenses (11.4%) and no salary (7.6%). Only 4.3% had lost collateral.

The use of moneylenders is not widespread in Mozambique. In response to a question on whether one would consider an agiota in the case of an emergency, only 13.5% agreed, while only 6.5% used them in the past. In terms of currently held loans by type, a money lender was only mentioned once and used by only 0.6% of the adult population.
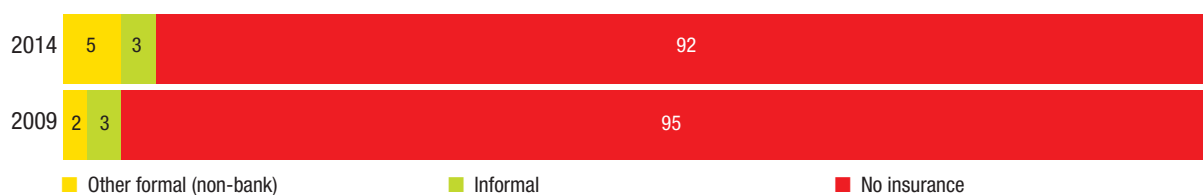
11   Insurance

Awareness of what insurance is appears to be low. In relation to why respondents did not have funeral cover provisions (only 5.7% had insurance), almost half (49.5% had not thought about it) while almost a third (29.0%) were not aware that one could have it. More than a fifth (21.7%) said that they had thought about it and could afford it.
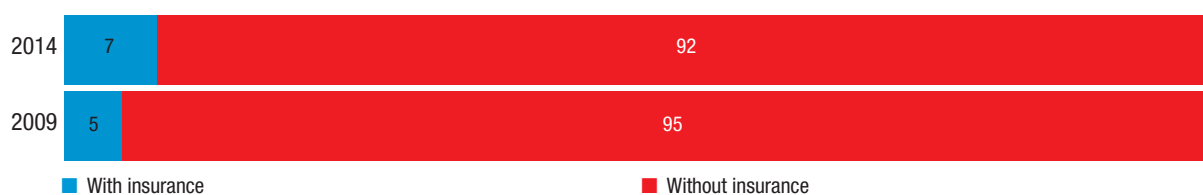
Graph 34 shows that only 7.7% of the adult population have insurance, increasing from 5.1% in 2009. Protection offered by formal coverage was used by only 5.1% of the population while even less (3.2%) had an informal insurance arrangement. In 2009 these were evenly split (2.3% and 2.9% respectively). Informal insurance includes cover from funeral associations, arrangements with church groups, *contas da família* (see next section), etc. A close examination of the types of insurance obtained from formal providers indicates that most insurance is not undertaken on a proactive basis as most of the coverage is done passively as benefits are provided by employers (accident insurance, medical aid, and funeral) or is compulsory (third party vehicle coverage). Pension payments are also required from legally contracted workers. Apart from funeral insurance, the only proactively obtained insurance of any significance in relation to other options is life insurance which is held by 0.9% of the adult population (vs 0.5% in 2009). It is likely that there is a great deal of under-reporting within the insurance strand especially in relation to INSS pension payments as only 0.9% reported being covered while 10.1% of the population earns a wage or salary[32] and only 0.5% respondents said they paid compulsory vehicle insurance while 6.7% of households were reported to have a car[33].

Funeral insurance is the most popular form of insurance used by 5.7% of the adult population and is a mix of formal and informal. On the formal side the main forms are offered by employers (15,8% of those ensured) and personal funeral insurance (36.5%) while informal coverage is provided by churches (10.9%), funeral associations (3.3%) and savings schemes (9.8%).
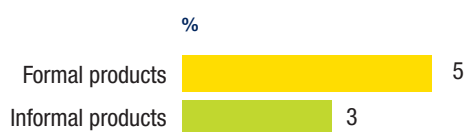
Graph 34 – Insurance Strand 2014

	Other formal (non-bank)	Informal	No insurance
2014	5	3	92
2009	2	3	95

Graph 35 – Total insured 2014 and 2009

	With insurance	Without insurance
2014	7	92
2009	5	95

Graph 36 – Formally and informally insured 2014

%

Formal products	5
Informal products	3

Awareness about insurance has not changed since 2009 and may have even worsened. The main reasons for those adults not having insurance relates to ignorance about it: more than half (55.1% up from 50.2%) said they never heard about insurance, while just over a quarter (26% vs. 23.2%) said they did not know how it functioned, while 28.9% had never thought about it. 13.1% did not see a need for it and 12.3% could not afford it.

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[32]   Data provided by INSS for 2013 provide figures that suggest 7.4% of the adult population are inscribed with the INSS and that 2.5% are active contributors.
[33]   Many car owners do not have compulsory 3rd party coverage but it is very unlikely to be the majority.

12 Informal finance groups and associations

Informal financial services and easily convertible "traditional" investments are accessed by 28% of the adult population and represents the segment of the FAS with the increase, almost doubling since 2009 (14.6%) mainly for savings and investment purposes. The appeal to use them is that the savings and investment products offered are not available from the banks which are being used proportionately less for savings purposes in relation to other services (credit, transfers, deposits, etc.) In terms of financial inclusion and potential for expansion, groups and associations play an important role for all elements of society including the wealthy, even more so than the poor. There are a variety of groups commonly referred to as "xitiques" which deals with money.

Informal groups which account for more than half of the adults within this segment (59.5% in 2009 and 55.7% in 2014) play a major role in the provision of financial products for all the population – poor or rich (e.g. rotational savings, periodic deposit taking, short term credit, insurance, etc.). Xitiques (revolving savings groups with members taking turns at sharing the pot)[34] are most important and have enjoyed the biggest increase, more than doubling from 5.7% of the adult population in 2009 to 13.1% in 2014. A big expansion from 0.3% to 1.6% was witnessed by xitique geral (compulsory savings contracts)[34] while those belonging to community based savings and credit groups (commonly known as ASCAs or VSLAs[36]) almost doubled from 0.6% to 1.1%. Informal groups of family members sharing an account (conta da familia[37]) decreased from 0.8% to 0.5% while those belonging to funeral associations dropped dramatically from 1.3 to 0.2%. Collectively, these informal groups, accounting for about 15.6% of the adult population (not accounting for overlap membership), are almost as important as the total banked population.

Generally, with the obvious exception of groups with family accounts, these informal groups have no linkage to the formal banking system: in 2009 it was found that only 5.9% of the *xitique* group members belonged to a group with a bank account or other banking product (e.g. cheque book) while 5.4% of the members claimed that their groups use an account belonging to a third party (such as a member or other group) to keep their money safe.

The main reasons for adults not belonging to these informal groups are: not having sufficient money (57.3%), not interested or do not see benefits (23.5%) and mistrust of members (9.3%).

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[34] Most adults (58.9%) belonging to *xitiques* belong to *xitiques* that operate on a monthly cycle and 33.1% belonged to groups with a weekly cycle. Few rotate on a daily basis. Member contributions vary considerably: but the amounts have increased significantly since 2009: in 2014 25.6% deposited values of more than 1,000MT vs. 16.1% in 2009 and 30% paid less than 200MT vs. 44.4%. The most common use to which the adult's last round was applied was for household goods (31.3%) or food (16%).

[35] *Xitique geral* has so far only been known to be practiced in Maputo, usually in the informal markets having started in the early 1990s, possibly inspired by someone who saw *susu* collectors in Ghana. Deposit amounts are contracted and made on a daily basis. At the end of the month the total deposits are collected minus one day's deposit which serves as the collector's fee. Daily deposits are usually small (30% of the members deposit 50MT or less per day vs. 40.2% in 2009) but a third (34.6% deposit more than 200MT per day (vs. 38.3% in 2009).

[36] ASCAs are normally found in rural communities, usually obliging members to save during a specific cycle (normally 6-12 months) with members borrowing at a fixed rate of 10% per month. Interest income is then shared amongst members at the end of the cycles. ASCA groups tend to be less than 20 members with only 13.7% belonging to a group exceeding 30 members. ASCAs usually cater for poor communities: more than half (52.8%) of the ASCA members deposited value of 50MT or less during the last group meeting. ASCAs also cater for wealthier traders: 14.2% deposited more than 1,000 MT during the last round. Most members use ASCAs for the purposes of savings but almost a third (30%) borrow from the deposited savings (23.3% in 2009).

[37] The number of families belonging to these groups ranged from 2 to more than 10. A little less than a quarter (22.7%) had more than 10 families contributing (vs. 32.8% in 2009). The main perceived uses of these accounts were (in descending order): funerals (91%), illness (42.8%), education (32.3%), weddings (27.1%) and accidents (23.1%).
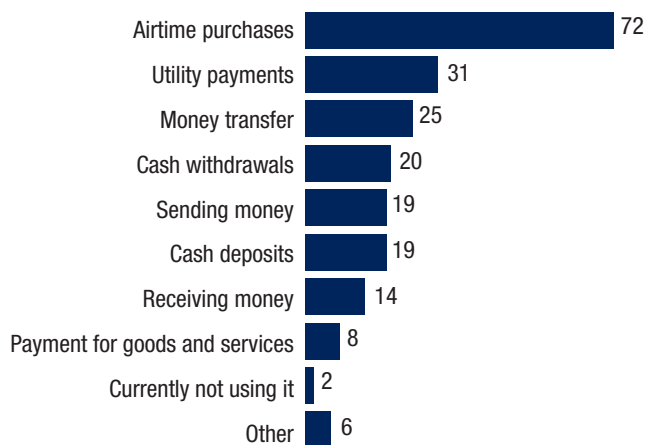
13 Cellphone usage and mobile money

One of the most significant changes that have occurred since 2009 is the advent of mobile money. So far the impact has been limited but, given other country experiences, the potential impact for financial inclusion is enormous. Two mobile money operators have started recently, mKesh (2011) and MPesa (2013). As indicated in chapter 4, the number of adults with a cellphone increased significantly with more than half the adult population having one (urban and rural). In terms of usage 19.7% of cellphone users use more than one of the three available providers with almost a third (29.2%) having more than one SIM card. More than three-quarter use pre-paid services, 1.7% have their own contracts and 2.5% have company-paid contracts.

Almost half (48%) send airtime to family and friends, 6.5% use their phones to check their bank balances and 5.4% transfer money or make payments with their phones. 20.9% of adults are aware of the mobile money operators and 3.5% have a mobile money account (2% with mKesh and 1.7% MPesa, with some having both).

Mobile money account holders were asked what transactions they were engaged in when visiting mobile money points (agents): 71.9% said they went to buy air time, 30.7% to pay utility services (electricity/water), 25.3% to make transfers, to withdraw cash (20.1%) and to deposit cash (19.4%) and for the payment of goods/services which are other goods or services such as groceries, fuel, etc. excluding electricity/water (7.6%). These results maybe ambiguous as some of these functions are dependent on the agent and do not necessarily relate to how they would use their mobile money accounts when away from the agents.

Most mobile money account holders were close to their agents with 84.6% being less than 30 minutes away. More than half (56.4%) spent less than 5 minutes during their visits to their agents and a quarter (25.6%) between 5 to 15 minutes.

Graph 37 – Cellphone usage and mobile banking

Category	Value
Airtime purchases	72
Utility payments	31
Money transfer	25
Cash withdrawals	20
Sending money	19
Cash deposits	19
Receiving money	14
Payment for goods and services	8
Currently not using it	2
Other	6

14 Financial access and living standards

14.1 Using a wealth index as a proxy for living standard

Based on the concept of Living Standard Measure (LSM) developed by South Africa Advertising Research Foundation (SAARF) and the concept of Wealth Index or Possession Index[38] using data from the Demographic Health Survey[39] we estimated a wealth (possession) index[40].

This wealth index is a composite measure of the cumulative living standard of a household. The wealth index is calculated using data relating to a household's ownership of selected assets, such as televisions, radios and bicycles, crops, livestock, materials used for housing construction, types of water access, sanitation facilities, etc. Generated with a statistical procedure known as Principal Components Analysis (PCA)[41], the wealth index places individual households on a continuous scale of relative wealth.

14.2 Access to financial services by level of wealth

Graph 38 below shows a clear relationship between the level of wealth, financial access and use of banking services. It is only among the wealthiest quintile that the majority of adults (71%) have access to financial services (vs. 51.4% in 2009). The percentage of banked decreases rapidly as one descends the wealth levels, from 51% for the "very well off" down to 23% for the "well off" and eventually down to only 4% for the "very poor". It is noteworthy that the percentage of the adults using informal services or investment products is not affected by wealth levels.

Graph 40 also shows a positive relationship between wealth and savings (with 22% of the wealthiest using banks vs. 19.8% in 2009) but decreasing rapidly with lower quintiles, demonstrating the generally low usage of banks as a savings service in relation to alternative channels (dominated in all quintiles by informal services and products. Graph 42 shows a much more positive relationship between credit and level of wealth with banks clearly being the preferred source of credit for the wealthier echelons and gaining a stronger position over time as evidenced from its virtual non-existence for all but the "very well off" in 2009.

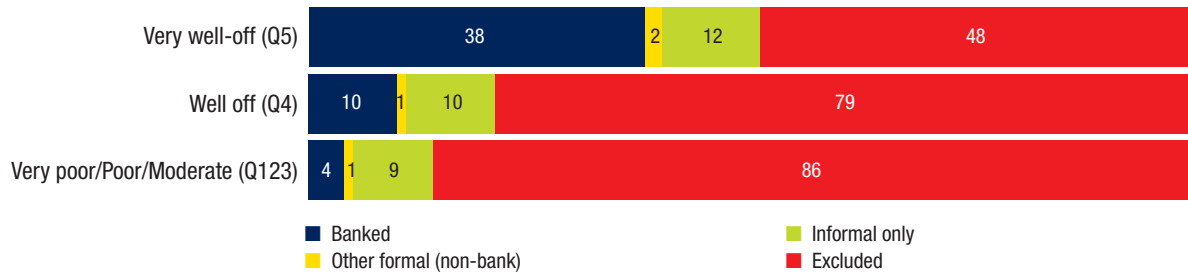### Graph 38 – Financial Access Strand by level of wealth, 2014
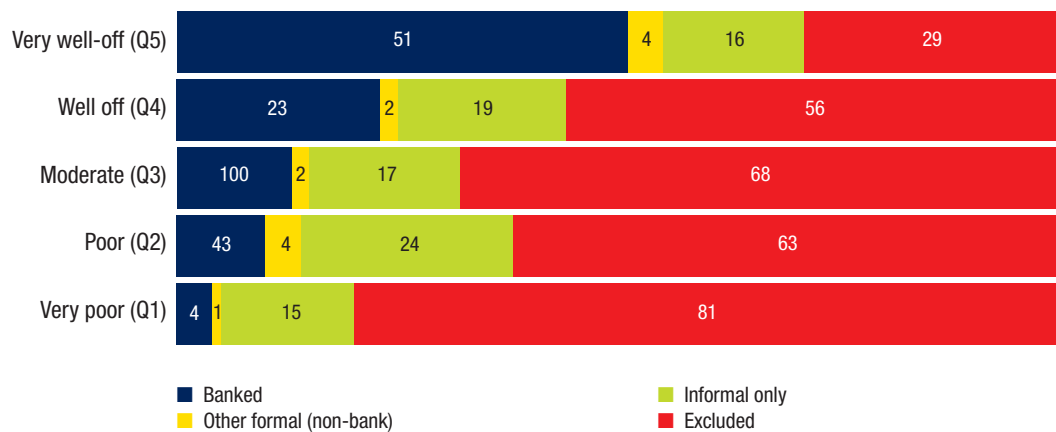
[38] Filmer, D. and, Patritch, L. 2001. Estimating Wealth Effects without Expenditure Data or Tears. An Application to Educational Enrolments in States of India; Demography 38 (1) 115/132.

[39] S. Rutstein, S. and K. Johnson, 2004. The DHS Wealth Index, DHS Comparative Reports No. 6, Calverton, MD; A. Deaton, 2001. Health, inequality, and economic development, WHO Commission on Macroeconomics and Health, NBER Working Paper No 8318.
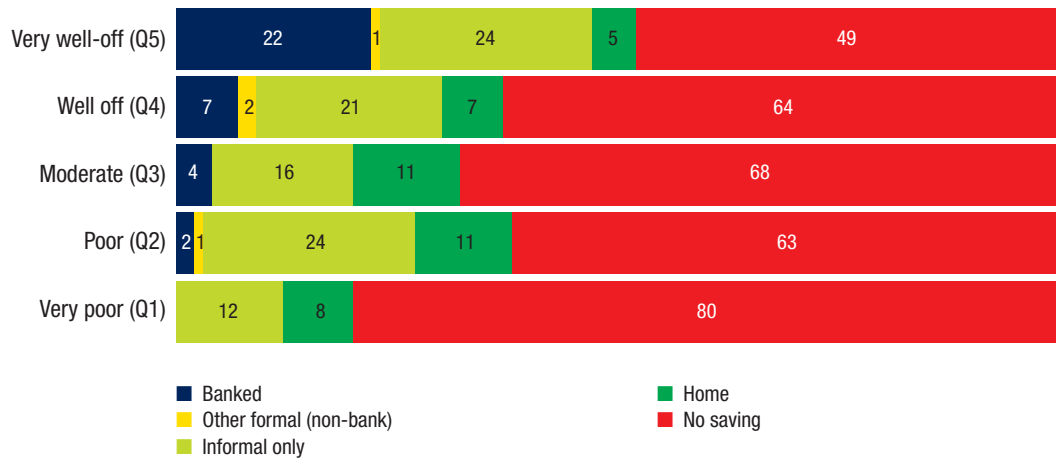
[40] World Bank and UNICEF uses wealth index as measure of socio economic status.

[41] Principal component analysis (PCA) involves a mathematical procedure that transforms a number of possibly correlated variables into a smaller number of uncorrelated variables called principal components. The first principal component accounts for as much of the variability in the data as possible, and each succeeding component accounts for as much of the remaining variability as possible. Many indicator variables are categorizations. To determine the weights and apply them to form the index, it is necessary to break these variables into sets of dichotomous variables (dummy variables). Filmer and Pritchett (see note 32) recommended using principal components analysis (PCA) to assign the indicator weights, the procedure that is used for the DHS wealth index. DHS uses the SPSS factor analysis procedure. This procedure first standardizes the indicator variables (calculating scores); then the factor coefficient scores (factor loadings) are calculated; and finally, for each household, the indicator values are multiplied by the loadings and summed to produce the household's index value. In this process, only the first of the factors produced is used to represent the wealth index. The resulting sum is itself a standardized score with a mean of zero and a standard deviation of one).
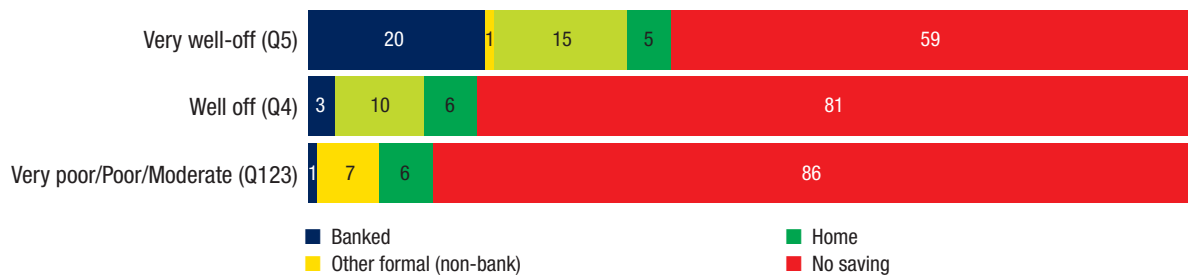
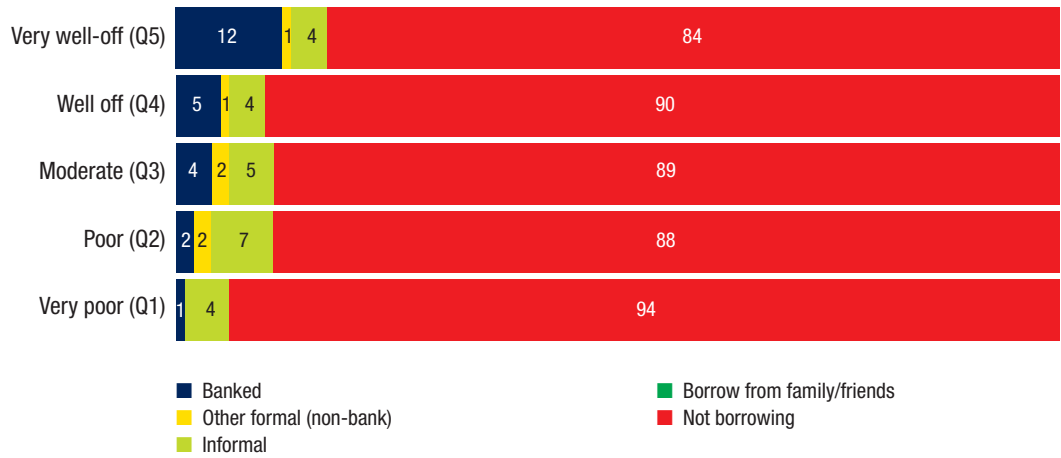## Graph 39 – Financial Access Strand by level of wealth, 2009

	Banked	Other formal (non-bank)	Informal only	Excluded
Very well-off (Q5)	38	2	12	48
Well off (Q4)	10	1	10	79
Very poor/Poor/Moderate (Q123)	4	1	9	86

- ■ Banked
- ■ Other formal (non-bank)
- ■ Informal only
- ■ Excluded

Graph 40 – Saving Strand by level of wealth, 2014

	Banked	Other formal (non-bank)	Informal only	Home	No saving
Very well-off (Q5)	22	1	24	5	49
Well off (Q4)	7	2	21	7	64
Moderate (Q3)	4		16	11	68
Poor (Q2)	2	1	24	11	63
Very poor (Q1)			12	8	80

- ■ Banked
- ■ Other formal (non-bank)
- ■ Informal only
- ■ Home
- ■ No saving

Graph 41 – Saving Strand by level of wealth, 2009

	Banked	Other formal (non-bank)	Home	No saving
Very well-off (Q5)	20	1	15 / 5	59
Well off (Q4)	3		10 / 6	81
Very poor/Poor/Moderate (Q123)	1	7	6	86

- ■ Banked
- ■ Other formal (non-bank)
- ■ Home
- ■ No saving

Graph 42 – Credit strand by level of wealth, 2014

	Banked	Other formal (non-bank)	Informal	Not borrowing
Very well-off (Q5)	12	1	4	84
Well off (Q4)	5	1	4	90
Moderate (Q3)	4	2	5	89
Poor (Q2)	2	2	7	88
Very poor (Q1)	1		4	94

■ Banked
■ Other formal (non-bank)
■ Informal

■ Borrow from family/friends
■ Not borrowing

Graph 43 – Credit strand by level of wealth, 2009

	Banked	Other formal (non-bank)	Informal	Borrow from family/friends	Not borrowing
Very well-off (Q5)	5		2	4	89
Well off (Q4)	1	2		5	92
Very poor/Poor/Moderate (Q123)	1	2		4	93

■ Banked
■ Other formal (non-bank)
■ Informal

■ Borrow from family/friends
■ Not borrowing
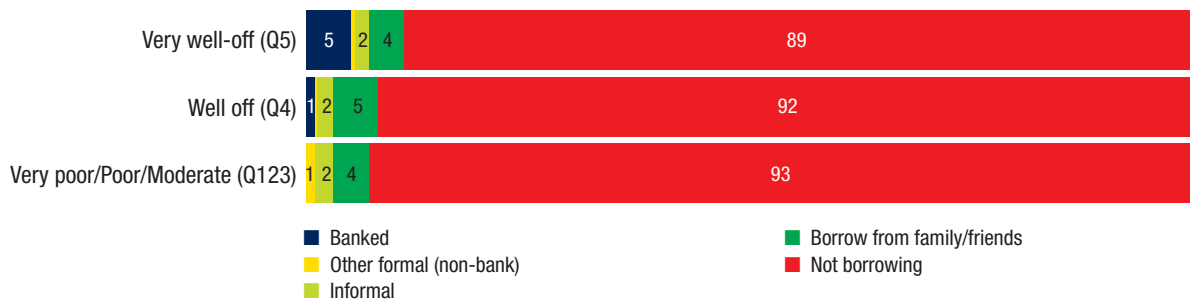
15 Conclusions and recommendations

15.1 Conclusions

15.1.1 Disparities

Mozambique suffers from two levels of disparity – regionally (South/Centre/North) and zonally (urban/rural). The regional disparity is clearly demonstrated by Figure 1 depicting the distribution of bank branches which are concentrated in the South, reflecting an economy that, historically, has been closely linked to South Africa and the port of Maputo. With time, the combination of political pressure, resource-driven growth and the expansion of the agricultural sector in the centre and north of the country will see this disparity diminish. In terms of the urban/rural divide, the FinScope Survey 2009 noted that "chasm between urban and rural is being closed through infrastructural investment which has spread the coverage of the electricity grid, telephone service, cellphone networks, transport systems and, more lately, the banking system". Although still huge, the FinScope Survey 2014 found encouraging indicators of narrowing gaps such as the closer proximities of infrastructure, percentage of formally banked, cellphone ownership, increasing school attendance, etc. On the other hand, income disparities are still huge and the level of financial awareness in rural areas alarming low. One interesting phenomenon that the 2014 results have divulged, and which could be considered an important indicator of increased welfare especially in rural areas, is the reduced dependence on borrowing or hand-outs from friends and other family members in times of need either in response to calamities or for planned activities. Coping for such events is now much more likely to occur through the selling of household assets such as cattle.

15.1.2 Access issues

The FinScope Survey 2009 has been one of the most cited reports over the past 5 years with focus on the percentage of people accessing financial services. This reflects the prevailing donor and government interest to promote "financial inclusion". The growth of the formally banked in the FinScope Survey 2014 comes as no surprise and could have been quite accurately predicted by using the Bank of Mozambique's indicator of the number of bank accounts per 1000 adults. What was less predictable was the significant growth of what has been labelled "informal financial services" which includes savings mechanisms that are traditional stores of wealth and would vary from country to country, making inter-country comparisons of dubious merit. What is important is to have a consistent definition over time in order to make reliable inter-temporal comparisons. As such, we note that two major drivers of expanded financial access have been i) the growth of informal groups offering members the possibility to save and, to a much lesser degree to borrow and insure and ii) the growth in the number of adults choosing to hold cattle as a savings/investment vehicle.

15.1.3 Access and cost

The government's policy of *bancarização* has clearly had an impact, reflected by the increased percentage of the rural formally banked in relation to the urban banked (increasing from less than a quarter to more than a third – despite representing two-thirds of the population). But the provision of banking services to rural areas is expensive and mainly done with the purpose of obtaining rural deposits to feed urban loan needs. With commercial banks claiming to be (if not too) liquid, the incentive to expand banking services to rural areas is largely driven by competition (market-share) factors and not current needs. The advent of agent banks can therefore be expected to have a major impact on rural access to formal banking services as costs for offering basic banking services will be drastically cut. One microfinance commercial bank is considering proposing the creation of hybrid between a fully fledged bank branch and agent bank which would essentially offer the services of an agent bank but as a bank outlet with bank staff and logos. By reducing the costs of financial service provision, one can expect to see breakthroughs in rural penetration, going well beyond the branches found in the larger rural towns. The widespread popularity of *xitique* groups and ASCAs is, in large part, due to the minimal costs associated in setting them up. The costs of setting up ASCAs (currently ranging between about USD30 and USD80 per member – depending on the remoteness of the group) is financed by donors and implemented by between 20 – 30 NGOs specializing in ASCA promotion.

15.1.4 Product use

Despite its importance as an indicator for measuring financial inclusion, access is not the most important aspect of financial inclusion. Although 20% of the adult population is formally banked, only about 7% use their accounts (mainly current or salary accounts) for any transactional purpose other than withdrawal and one can assume that a large proportion of those holding debit cards (about a third of the banked) do not use them for payment purposes. The 2014 results show increasing use of banks for the purposes of credit and money transfer. However, probably reflecting steep declines in term deposit rates, there has been only a slight increase in the use of banks for savings with people preferring to investment their money into income generating activities, housing or alternative stores of wealth such as cattle and other livestock.

One of the most significant findings of the 2014 study found that bank loans jumped from the second smallest source of loans in 2009 (1.2%) to the most important (5%), surpassing loans from friends and family (4.7%). The findings also show a positive relationship between the levels of income and wealth and bank loans. With increasing liquidity in recent years, banks have been actively chasing consumer (mainly salary-backed) and housing loans. Some banks, recognising the growing importance of commercial agriculture are cautiously building up their agricultural portfolios (with the help of donor financed guarantee funds, low interest credit lines and grant schemes) outside of the low-risk, highly collateralised agribusinesses. The recent arrival of the *microbancos* Letshego and Bayport, augurs for considerable expansion of salary-based loans but evokes the spectre of over-indebtedness – the dark side of financial inclusion. The 2014 study has also highlighted what the Association of Mozambican Microfinance Operators (AMOMIF) has dubbed the "crisis of microfinance". Two of the four microfinance commercial banks have transformed and abandoned microfinance and, although the other two are growing satisfactorily (with one demonstrating good profits), the microfinance industry as a whole has not taken off the way it was expected to, with most operators finding it difficult to attain break-even volumes.

Informal services are still largely used for savings purposes although ASCAs located in more economically active areas usually distribute much if not all of their savings collections as loans to members.

Insurance is a clear challenge and remains essentially a product for the wealthier echelons of society, with lower income groups adhering to schemes either through employer initiative, government requirement (INSS) or by law (compulsory vehicle insurance). Funeral insurance is the most proactively purchased. The 2014 results suggest that insurance through informal groups (funeral associations, church groups and contas da família) is in decline while those covered formally has increased.

15.1.5 Technology and innovation

Perhaps the most important change in people's lives has been the phenomenal growth in cellphone ownership (19% – 50%) and usage. Of the half owning phones, only 3.5% have mobile bank accounts but are generally still fairly tentative in fully exploring their potential services. This is nevertheless a major step towards opening up financial access which allows users to digitalise and safe keep their money, transfer funds and to make purchases. There is little doubt that during the next 5 years the number of mobile money accounts will rise substantially. Although still early days in the experimentation phase[42], the potential for mobile banking to provide services for ASCA groups with large and vulnerable savings stocks is enormous.

ASCA (community based savings and credit groups) growth has taken off since they were first introduced as innovations in the late 1990s in Nampula. Due to the confusion of terminology by respondents, ASCAs are probably much more prevalent than what the 2014 results show. ASCAs continue to receive strong donor support and are likely, in the medium term, to reach a critical mass, that would allow for its growth to self-combust as a well-accepted "traditional" practice such as xitiques. Linking ASCAs to the formal banking system (as promoted by GIZ's ProEcon Programme) is important for security reasons but also for credit leveraging of the more economically active members.

Within the formal banking sector new banking technologies such as internet banking as well ATM access to mobile money are important services but still used by very small segments of the population. As discussed below, the development of cell phone apps are likely to have important ramifications for agricultural input loans and weather-indexed insurance.

15.1.6 Gender issues

The 2014 results highlight two important gender trends in financial inclusion: one is that the ratio of banked women to men has decreased and the second is that women have a greater propensity to join informal financial groups than men. One factor is that there are less women in wage employment and therefore less likely to have a salary account. Bank accounts are also likely to be in the name of the household head which is three times more likely to be a man.

42 The ASCA promoter Ophavela and mKesh have piloted a scheme to introduce mobile money accounts to selected ASCA groups in Nampula.

15.2   Recommendations

15.2.1 Differentiate financial education by target group

With two thirds of the adult population earning less than 5,000MT per month, many qualify to be served by banks. Currently, banks allow for the opening of an account from as low as 100MT. The 2014 survey found low levels of financial literacy among rural adults which, given low levels of formal education and remoteness from banking services, is not surprising. Nor is it important that they, or at least the majority, be targeted for financial education about the banking system if it is not relevant to them. The government's national Savings Campaign has been a good instrument through which to raise awareness, especially of banking services but perhaps not broad enough to include the range of alternatives that might be more relevant to the majority of the population. Informing current adults of the types and availability of financial services that exist in their area would be best done through community radio broadcasts which are listened to by a very large number of rural Mozambicans. To make rural adults better aware of the range of possible financial services that could benefit them could be effectively done by developing appropriate material in the local languages of the transmission areas as well as indicating what services exist and which organisations or institutions provide them. Radio plays could be designed around the different methodologies and products.

Financial education packages should obviously target students as future bank clients, making them familiar with terms and different services and products available.

15.2.2 Promote of better and cheaper ASCAs

With two thirds of the population living in rural areas and two thirds of the adult population earning less than 5,000MT per month coupled with high levels of illiteracy, ASCAs are likely to be the most appropriate type of financial service provider for a large segment of the financially excluded adults particularly for those in the remote areas far from formal financial services. Their popularity has been proven in areas where they have been promoted and in some areas where promoters have withdrawn, groups have continued to multiply. Two issue are of concern: one is the quality of promotion and the survival rate of newly formed groups to attain independence and the second is the cost of creating new groups which in Mozambique is considerably higher than many other African countries[43]. The promotion of the ASCAs works well when backed up with a formal financial institution to ensure that the amounts deposited or borrowed are retained in the formal system. This helps to improve security in money custody and also contribute to the effectiveness of monetary policy.

Donors need to be more vigilant in monitoring the work of ASCA promoters, perhaps linking final payment on post project assessment. In terms of cost-cutting, recent experience in various African countries has shown that the use of cell phone apps can substantially reduce and increase the efficiency of ASCA training as well as increase ASCA efficiency replacing written ledgers with digital accounting apps[44].

Some donor initiatives such as GIZ's ProEcon programme are attempting to link ASCAs to banks, either for safekeeping purposes or for graduating the more entrepreneurial members to access bank loans. Other initiatives promoted by mKesh and MPesa are to encourage ASCAs to open mobile money accounts to reduce the risks of storing paper money.

15.2.3 Promote agricultural credit to smallholders

Despite big efforts to promote microfinance in rural areas through the Rural Finance Support Programme (RFSP), very little has been achieved in providing credit to smallholder farmers which the 2014 results show as becoming increasingly commercialized since 2009. High risk and lack of collateral have been cited as the main constraints to obtaining input loans. However, the recent experience of the Banco Oportunidade of Mozambique (BOM)[45], in smallholder lending has convinced them to expand their agricultural portfolio. With time, microfinance for agricultural is likely to expand with the support of guarantee funds, low interest lines of credit and possibly the introduction of a warehouse receipts system. The use of new technologies would facilitate cheaper monitoring and the possible adoption of weather indexed insurance (see below). Expanding larger scale agribusinesses with off-taker arrangements with smallholders is also likely to reduce loan risks. Cell phones are being provided to out-growers supplying one of the largest trading companies to monitor input applications and provide extension advice via WhatsApp.

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[43]   Personal communication Paul Rippey, renowned expert in ASCA promotion. In Mozambique ASCAs are estimated to cost about USD 50 in peri-urban areas and USD 70 in remoter rural areas vs. about USD 20 in some countries.

[44]   At the time of writing FSD Moz was preparing a request for proposals for ASCA promoters for pilot innovative ways to improve training and operational efficiency.

[45]   BOM, using the USAID/DCA Loan Guarantee Fund to provide input loans to solidarity groups of smallholders without collateral resulted in a 93% repayment rate.

15.2.4 Promote technology and innovation

Developments in mobile phone technology are likely to have the greatest impact on financial inclusion. Future areas to explore include cross-border transfers of mobile money to facilitate the lives of the hundreds of thousands of Mozambicans working in South Africa. Kenya has led the way in this regard, allowing for cross-border mobile money remittances in 2014. Mobile technology can also help agricultural lending through the monitoring of input applications and crop production. Such technology could then be applied to weather indexed insurance (see below).

Financial inclusion programmes such as FSD and ProEcon could provide seed money for the promotion of innovation.

15.2.5 Improve consumer protection

Consumer protection plays a major role in the Financial Sector Development Strategy[46]. With growing numbers of formally banked it becomes increasingly important to ensure that consumers are protected against unscrupulous or negligent practices. Much has been done in terms of increasing transparency of banking charges and fees but much still needs to be done to reduce the exploitation of unwitting clients. Consumer protection needs to be more rigorously outside of the conventional banking system. One common abuse is to charge microfinance clients fixed rates of interest rather than declining without telling the client what the effective rate is. Others charge high hidden fees and some "cooperatives" charge joining fees even if the "member" has only joined for the sake of obtaining a loan and failed to get the loan.

15.2.6 Develop more appropriate insurance products

Getting insurance to the poorer echelons of society remains a challenge but there are inspiring examples of potential possibilities. MicroEnsure is a global leader in the provision of insurance products through mobile network operators and is said to attract 50,000 new subscribers a day. Micro insurance is being developed in Mozambique to be provided through microfinance institutions and ASCA promoters. BOM has indicated that it would not provide smallholder agricultural input loans without the backing of a guarantee fund unless backed by a weather-indexed insurance (WII) product. WII is currently being piloted with several banks, the Cotton Institute and the insurance company EMOSE. Interest in launching WII on a wider basis has been expressed by other insurance companies.

15.2.7 Establish an open working group on financial inclusion

The dissolution of the successful cross-sectional stakeholder microfinance working group into disparate groups (government, donor and operator) resulted in the failure of getting a consensual approach to microfinance. The lesson hopefully learned would be to initiate an open financial inclusion working group to meet on a monthly basis allowing donors, NGOs, financial service providers, government, researchers and consultants to meet on a monthly basis and to discuss the financial inclusion on a semi-structured basis. This would allow initiatives such as the FSD Moz and GIZ's ProEcon to proactively involve interested stakeholders on a voluntary basis to test proposed innovations and strategies and for other initiatives linked to financial inclusion to be tabled and discussed. The GIZ's recent Financial Services for Rural Areas conference (October 2014) presented a fascinating array of international experiences in agent banking, mobile money and linkage banking. The continued interaction between stakeholders and international experts or spokespersons through the working group could be an effective way of launching new ideas to Mozambique.

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[46] See World Bank, 2013 Mozambique: Diagnostic Review of Consumer Protection and Financial Literacy Vols 1 & 2.

16 Annex 1

INSTITUTO NACIONAL DE ESTATÍSTICA

Sampling recommendations for the FinScope Consumer Survey Mozambique 2013/14

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16.1   Background

Mozambique is an example of successful 'turnaround' country. A sustained recovery from the brutal civil war of 1977 – 92 has been built on macroeconomic and structural reforms, political stability and increasingly cohesive donor assistance. GDP has grown, poverty reduced from 69 to 54 percent between 1995 and 2003, gross enrolment rate in primary school increased, decrease on infant mortality and roads in fair condition have risen. While these are truly impressive results, significant challenges remain.

There is general agreement among stakeholders in Mozambique that there is a serious problem of constrained access to financial services among lower income and rural households and smaller scale enterprise. The Government of Mozambique has made considerable efforts devoted to addressing this problem which impacts directly on the livelihoods of poorer people and economic growth, through the Action Plan for the Reduction of Absolute Poverty **(PARPA)** 2001 – 2005. The PARPA 2001 – 2005 is Mozambique's first Poverty Reduction Strategy Paper (PRSP), which explained the strategic vision for reducing poverty.

The Mozambican Government has however, revised its poverty reduction strategy **(PARPA III)**, to include in its priorities a greater integration of the **national economy** and **increasing productivity**," and thus points to the need for "i**mproving the financial system**".

The stakeholders have recognised the widespread complaints about the withdrawal of the banking system from rural areas after privatisation, hence PARPA puts special stress on expanding the banking system both for deposits and for loans, and with special attention to small and medium enterprises. An economic goal is a "real increase" is saving and lending. A "modernisation and expansion of the financial system, with new instruments and better regional coverage is required, especially in rural areas."This is also reflected in the development of the "Strategy to Expand the Financial System to Rural Areas", which was published in January 2007 by the Mozambican Central Bank.

Currently, there is no clear quantitative measure of the extent of access to financial services in Mozambique.

Better access indicators could be very valuable in promoting wider access to financial services for the poor in Mozambique by:

(a)   Raising the profile of the issue and allowing for inter-country comparisons, thus providing a solid empirical basis to track progress and provide an impetus for necessary reforms;
(b)   Providing information to policymakers about the main barriers to access;
(c)   Providing information to the private sector about market opportunities; and
(d)   Providing data for use in academic research into the impact of access to financial services on growth and poverty reduction.

16.2   Objectives

The primary objective of the survey is to measure access to finance by individuals across the country, contributing to the development of a comprehensive understanding of the landscape of financial service in Mozambique. The project will provide a benchmark measure of effective access to financial services. Drawing on this work a further objective is to develop a better understanding of people economic management, the drivers of financial behaviour and the constraints to access. A final objective is to develop an appropriate segmentation or continuum of the financial market in terms of access to financial service from those who have full access - the 'fully banked' - through to those who have no access at all.

16.3   Sampling frame

The sampling frame for FinScope 2013 will be based on the definitive results from the 2007 Mozambique Census of Population and Housing. These definitive population results by province and strata are presented in Table 20.

Table 20 – Definitive 2007 Mozambique census results for total population by province and area of residence

Province/Domain	Total	%	Rural	%	Urban	%
Niassa	1 169 348	5.8	901 177	4.5	268 171	1.3
Cabo Delgado	1 605 649	7.9	1 271 173	6.3	334 476	1.7
Nampula	3 985 285	19.7	2 845 531	14.1	1 139 754	5.6
Zambézia	3 848 276	19.0	3 299 810	16.3	548 466	2.7
Tete	1 783 967	8.8	1 522 569	7.5	261 398	1.3
Manica	1 412 029	7.0	1 055 042	5.2	356 987	1.8
Sofala	1 642 636	8.1	1 014 167	5.0	628 469	3.1
Inhambane	1 252 479	6.2	989 172	4.9	263 307	1.3
Gaza	1 226 272	6.1	922 382	4.6	303 890	1.5
Maputo Province	1 205 553	6.0	376 875	1.9	828 678	4.1
Maputo City	1 094 315	5.4	0	0.0	1 094 315	5.4
Mozambique	20 225 809	100.0	14 197 898	70.2	6 027 911	29.8

A stratified two-stage sample design will be used for FinScope 2013. The primary sampling units (PSUs) to be selected at the first stage will be the EAs delineated for the 2007 Mozambique Census. The EA is the smallest operational area defined for the census with well-defined boundaries, corresponding to the workload of one census enumerator. The EAs were defined to have an average of about 100 households each, but the EA size varies by urban and rural strata, as described later in this section. Following the first stage selection of EAs, a household listing will be conducted in the sample EAs. A sample of households will be selected from the listing at the second stage.

The number of households in each EA will be used as the measure of size for selecting the sample EAs with probability proportional to size (PPS) within each stratum.

Table 21 shows the distribution of the Total Number of Households in the definitive Sampling Frame from the 2007 Mozambique Census by Province, Urban and Rural Strata, with Corresponding Percent of Urban Households from 1997 Mozambique Census.

Table 21 – Distribution of the total number of households in the preliminary sampling frame from the 2007 Mozambique census by province, urban and rural strata, with corresponding percent of urban

Province/Domain	Households					
	Urban	%	Rural	%	Total	%
Niassa	51 830	1.2	200 720	4.6	252 550	5.8
Cabo Delgado	65 540	1.5	325 731	7.4	391 271	8.9
Nampula	231 702	5.3	689 119	15.7	920 821	21.0
Zambézia	143 380	3.3	731 208	16.7	874 588	20.0
Tete	43 888	1.0	336 086	7.7	379 974	8.7
Manica	65 499	1.5	204 218	4.7	269 717	6.2
Sofala	125 085	2.9	195 966	4.5	321 051	7.3
Inhambane	57 282	1.3	216 273	4.9	273 555	6.2
Gaza	57 528	1.3	183 007	4.2	240 535	5.5
Maputo Province	158 290	3.6	89 740	2.0	248 030	5.7
Maputo City	210 798	4.8	0	0.0	210 798	4.8
General total	1 210 822	27.6	3 172 068	72.4	4 382 890	100.0

In order to review the variability of the EAs by size, Table 3 shows the number of EAs by number of households for the urban and rural strata. It can be seen that most of the EAs are concentrated around the mean, but there are also some very small (12% with less than 49 households) and large values (more than 300hh, which represents 0.8%). A total of 5,190 EAs have less than 50 households, and 338 EAs have 300 or more households. Since the listing of households in most of the sample EAs will be used to select a separate sample of households for FinScope 2013, it is recommended to form segments with a minimum size of 50 households. In case of any EA with less than 50 households that is selected for FinScope 2013, it is recommended to combine it with a neighbouring EA, for example, one in the same census supervisory area (AC). In the case of very large EAs (such as those with more than 300 households) that are selected for FinScope 2013, it will be possible to subdivide them into smaller segments, and one segment can be selected with PPS to be listed for the survey.

Table 22 – Distribution of EAs in definitive 2007 Mozambique census frame by number of households, urban and rural strata

Number of Hhs. in frame	Number of EAs		
	Total	Urban	Rural
<49 Hhs.	5 190	490	4 420
50 – 99 Hhs.	18 853	3 357	15 216
100 – 149 Hhs.	13 509	3 972	9 257
150 – 199 Hhs.	3 973	1 533	2 160
200 – 299 Hhs.	1 298	405	613
300 – 499 Hhs.	338	154	184
Total	43 161	11 356	33 571

Following the first sampling stage a new listing of households will be conducted in each sample EA, and a sample of households will be selected from the listing at the second stage.

In each sample household only one person age 16 years will be selected with equal probability.

16.4   Stratification

One of the most important features of an efficient sample design is the stratification of the sampling frame into homogeneous areas. The sample selection is carried out independently within each stratum, although it is also desirable to order the PSUs by certain criteria within each stratum to provide further implicit stratification when systematic selection is used. The nature of the stratification depends on the most important characteristics to be measured in the surveys, as well as the domains of analysis.

The first level of stratification generally corresponds to the major geographic domains defined for the survey. The results of FinScope 2013 will be tabulated at the provincial level, the national level and urban level.

Therefore the sampling frame of EAs will be stratified by province, urban and rural areas. Within each strata, the EAs will be ordered geographically (by distrito, posto administrativo, localidade and bairro and EA number) in order to provide implicit geographic stratification. This ordered frame will ensure that the sample is proportionally representative of the areas at each administrative level.

16.5   Sample size and allocation

The sample size for any survey is determined by the accuracy required for the survey estimates for each domain, as well as by the resource and operational constraints. The accuracy of the survey results depends on both the sampling error, which can be measured through variance estimation, and the nonsampling error, which results from all other sources of error, including response and measurement errors as well as coding, keying and processing errors. The sampling error is inversely proportional to the square root of the sample size. On the other hand, the nonsampling error may increase with the sample size, since it is more difficult to control the quality of a larger operation. It is therefore important that the overall sample size be manageable for quality and operational control purposes.

The total sample of 3,928 households selected in 447 PSU was allocated between rural e urban for each target province as domain of estimation. Adjustments to the proportional distribution were made when reasonable comparison could not be achieved between stratum or domains.

Within each province, the allocation of the sample EAs to the urban and rural strata should be relatively proportional to the number of households in each stratum, but giving a higher weight to the urban stratum. Given the higher transportation costs in rural areas and the higher variability of socioeconomic characteristics in urban areas, it is reasonable to use a higher sampling rate for the urban strata.

It is recommended to select 10 households in urban EAs and 8 households in rural EAs. The experience from the previous surveys indicates that this workload per EA was operationally practical, and this cluster size is within the optimum range for this type of socioeconomic survey.

Based on these various considerations, the proposed number of sample EAs and households by province, urban and rural stratum, is presented in Table 4.

Table 23 – Proposed number of sample EAs and households to be selected for FInScope 2013 by province, urban and rural strata

Province/Domain	Households					
	Urban	%	Rural	%	Total	%
Niassa	324	100	224	38	10	28
Cabo Delgado	388	100	288	46	10	36
Nampula	512	240	272	58	24	34
Zambézia	416	160	256	48	16	32
Tete	328	80	248	39	8	31
Manica	292	100	192	34	10	24
Sofala	334	150	184	38	15	23
Inhambane	292	100	192	34	10	24
Gaza	276	100	176	32	10	22
Maputo Province	386	250	136	42	25	17
Maputo City	380	380	0	38	38	0
General total	3 928	1 760	2 168	447	176	271

According to the TOR of FinScope 2013 Survey, reporting domains are expected to range from national, National urban, National Rural and provincial level. So, *with this sample (3928 households and equal number of eligibles) is possible to obtain estimates for National domains, Provincial domain, National Urban and National rural.* The coefficients of variation (CVs) for the principal variables at the provincial level are expected be below 14 percent and below 10% for the National and national urban and National Rural levels.

In order to maintain the effective sample size and the interviewer workload in each sample EA, a sample of four potential replacement households will be selected for each urban EA and three replacement households for each rural EA. In order to avoid selection bias in the field, the list of replacement households will be provided to the supervisors to be used in case one of the original sample households cannot be interviewed. The supervisor will first make a strong effort to complete the interview for the original sample household before deciding to replace it.

16.6   Sample Selection Procedures

The sample selection methodology for FinScope 2013 is based on a stratified two-stage sample design. The procedures used for each sampling stage are described separately here.

16.6.1 First Stage selection of sample EAs

At the first sampling stage the sample EAs for FinScope 2013 will be selected within each stratum (province, urban/rural) systematically with probability proportional to size (PPS) from the ordered list of EAs in the sampling frame. The measure of size for each EA is based on the number of households in the sampling frame based on the definitive 2007 Mozambique Census data. The frame of EAs within each stratum will be sorted geographically by district, posto administrativo, localidade, bairro, supervisory area (AC) and EA codes. With systematic sampling, this ordering of the sample EAs will provide a high level of implicit geographic stratification and ensure an effective distribution of the sample. Within each stratum the following first stage sample selection procedures will be used:

(1)   Cumulate the measures of size (number of households) down the ordered list of EAs within the stratum. The final cumulated measure of size will be the total number of households in the frame for the stratum (M_h).

(2)   To obtain the sampling interval for stratum h (I_h), divide M_h by the total number of EAs to be selected in stratum h (n_h) specified in Table 4:

$$N_h = M_h / n_h$$

(3)   Select a random number (R_h) between 0 and I_h, with 2 decimal places.

The sample EAs in stratum h will be identified by the following selection numbers:

$$S_{hi} = R_{h +} [I_h \times (i - 1], \text{ rounded up,}$$
where i = 1, 2, ..., n_h

The i-th selected EA is the one with a cumulated measure of size closest to S_{hi} but not less than S_{hi}.

A prototype Excel file was developed for selecting the sample of EAs for FinScope 2013 following these procedures, based on the allocation of the sample EAs specified in Table 4. A separate spreadsheet will be used for each stratum, containing the sorted frame of EAs with the definitive 2007 Mozambique Census information. The spreadsheet will document the first stage systematic selection of sample EAs with PPS within each stratum. The file has a summary spreadsheet with the frame information for the sample EAs. The basic sampling weights can also be calculated in this spreadsheet.

16.6.2 Listing of households in sample EAs

A new listing of households will be implemented in all the sample EAs for selecting the households at the second stage. It is important that good quality EA maps be provided to the listing staff, and they should completely cover all the households within the EA boundaries.

The listing of households will be used for selecting 10 household in each urban area and to select 8 household in each rural area.

16.6.2 Selection of sample households within sample EA

It is recommended to use random systematic sampling (with equal probability) to select the households for FinScope 2013 Survey. For example, in the case of an urban sample EA, assuming that 10 sample effective households and 4 replacement households will be selected, a total of 14 households can be selected systematically at first. A systematic subsample of 4 of the 14 households would then be selected as possible replacements, and the remaining 10 sample households would be assigned for the FinScope 2013 interviews in that EA. A spreadsheet will be developed for selecting the systematic sample of households for FinScope 2013.

A systematic sample of households will be selected from the new listing for each sample EA, using the following procedures:

(1)   All the households listed in a sample EA should be assigned a serial number from 1 to M_{hi} the total number of households listed.

(2)   To obtain the sampling interval for the selection of households within the sample EA (I_h), divide M_h by the number of households to be selected, m_{hi} and maintain 2 decimal places.

$$N_h = M_h / n_h$$

(3)   Select a random number (R_{hi}) with 2 decimal places, between 0.01 and I_h

The sample households within the sample EA will be identified by the following selection numbers:

$$S_{hi} = R_{h +} [I_h \times (j - 1], \text{ rounded up,}$$
where j = 1, 2, ..., m_{hi}

The j-th selected household is the one with a serial number equal to S_{hij}

16.7   Selection of eligible within each sample household

Within each sample household, only one eligible age 16 or more years will be selected with equal probability using a Kish table.

16.8   Weighting Procedures

In order for the sample estimates from the FinScope 2013 to be representative of the population, it is necessary to multiply the data by a sampling weight, or expansion factor. The basic weight for each sample household would be equal to the inverse of its probability of selection (calculated by multiplying the probabilities at each sampling stage). The FinScope 2013 sample will be approximately self-weighting within stratum; that is, the weights for the sample households will be similar within each stratum. The sampling probabilities at each stage of selection can be maintained in the Excel spreadsheet with the information from the sampling frame so that the overall probability and corresponding weight can be calculated for the sample households in each sample EA. The overall probability of selection for sample households includes factors for the two sampling stages, expressed as follows:

$$P_{hi} = \frac{n_h \times M_{hi}}{M_h} \times \frac{m_{hi}}{M_{hi}}$$

where:

P_{hi} =   probability of selection for the sample households in the i-th sample EA in stratum (province, urban/rural) h

n_h =   number of sample EAs selected in stratum h for FinScope 2013 shown in Table 4

M_h =   total number of households in the frame for stratum h (based on the definitive 2007 Mozambique Census frame)

M_{hi} =   total number of households in the frame for the i-th sample EA in stratum h (based on the Definitive 2007 Mozambique Census frame)

m_{hi} =   number of sample households selected in the i-th sample EA in stratum h (10 households in urban EAs and 8 households in rural EAs)

M'_{hi} =   total number of households listed in the i-th sample EA in stratum h

In the case of a sample EA with less than 50 households that is combined with a neighbouring EA, it will be necessary to combine the measures of size (number of households in the frame) for the combined EAs in order to calculate the correct probability and weight.

The basic sampling weight, or expansion factor, is calculated as the inverse of this probability of selection. Based on the previous expression for the probability, the weight can be simplified as follows:

$$W_{hi} = \frac{M_{hi} \times M'_{hi}}{n_h \times M_{hi} \times M_{hi}}$$

where:

W_{hi} =   basic weight for the sample households in the i-th sample EA in stratum h

If m_{hi} is constant for each stratum (for example, 10 households for urban, 8 for rural), the sample will be approximately self-weighting within each stratum. These weights will actually vary slightly based on the difference between the number of households in the frame and the listing for sample EAs.

Although the non-interview sample households will be replaced, it is still important have a weight adjustment factor to take into account the different types of non-interview. If a sample household moves or the house is demolished and a replacement household is interviewed, this case would be treated differently in the weight adjustment from in-scope sample households that are refusals, respondent not at home, etc. Since the weights will be calculated at the level of the sample EA, it would be advantageous to adjust the weights at this level. The final weight (W'hi) for the sample households in the i-th sample EA in stratum h can be expressed as follows:

$$W'_{hi} = W'_{hi} \times \frac{m'_{hi}}{m''_{hi}}$$

where:

$m'_{hi} =$ total number of valid (occupied) sample households selected in the i-th sample EA in stratum h (that is, the number of interviews plus the number of in-scope non-interviews in the sample segment); this should exclude any unoccupied or demolished housing units

$m''_{h} =$ total number of interviewed sample households in the i-th sample EA in stratum h, including replacement households.

It can be seen from this expression that when only in-scope households are non interviews in the sample EA (such as refusals and not-at-home), the weight adjustment factor will generally be equal to 1. However, when demolished or unoccupied housing units in the sample are replaced, it is possible to have a weight adjustment factor smaller than 1. When it is not possible to replace all the non-interviews, the weight adjustment factor may be higher than 1.

Due the fact that within each sample household only one eligible will be selected with equal probability, the final weight at the household level must the multiplied by the number of eligible within each sample household to have the final weight for sample eligible. Is to say that, the final weight for one eligible will be done by following formula

$$W_E = W'_{hi} \, x\# \, Eleg - hh = W'_{hi} = \frac{m'_{hi}}{m''_{hi}} \, x\# \, Eleg$$

where:

$W_E =$ # *Eleg,* is total number of eligible within each sample hh.

16.9 Estimation, calculation of standard errors and confidence

16.9.1 Estimation

The total θ in two stage, stratified sample design like FinScope 2013 Survey is estimated by

$$\hat{\tau}_{st} = \sum_h \hat{t}_h = \sum_h N_h \hat{\mu}_{st} = \sum_h N_h \hat{\mu}_h$$

where:

$N_{hi} =$ The number of elements in stratum h, h=1,…,H

$\mu_h = \quad \mu_h = \sum_{I=1}^{N_h} \dfrac{y_{hi}}{N_h}$ average for variable Y in stratum h, h=1,…,H.

The proportion in two stage, stratified sample design is estimated by

$$\hat{p}_{st} = \sum_h \frac{N_h}{N} \hat{p}_h$$

And the total for one attribute is estimated by

$$\hat{\tau}_{atr} = \sum_h N \hat{p}_h = N \sum_h \hat{p}_h$$

The ratio estimation for two random total Y and X is given by

$$\hat{R} = \frac{\hat{\mu}_y}{\hat{\mu}_x} = \frac{\hat{\tau}_{yHT}}{\hat{\tau}_{xHT}}$$

Where both numerator and denominator are random estimates based on Horvitz-Thompson estimates.

16.9.2 Calculation of standard errors and confidence intervals

For the analysis and publication of the FinScope 2013 results, it is important to measure the sampling errors and confidence intervals for key indicators. The sampling error of an estimate is measured by the standard error, or square root of the variance of the estimate. The variance estimator should take into account the stratification and clustering in the sample design. In this survey will be used the Jackknife n, for stratified multi-stage sample design in WESVar Statistical Package, using replicates methods.

16.9.2 Variance estimation using replication methods (Jackknife n)

Replicate variance estimation is a robust and flexible approach that can reflect several complex sampling and estimation procedures used in practice. According to many researchers, replication can be used with a wide range of sample designs, including multi-stage, stratified, and unequal probability samples. Replication variance estimates can reflect the effects of many types of estimation techniques, including among others non-response adjustment and poststratification. Its main drawback is that it is computationally intensive. Especially in large-scale surveys, its cost in time may be prohibitively large.

The underlying concept of the replication approach is that based on the originally derived sample (full sample) we take a (usually large) number of smaller samples (sub-samples or replicate samples). From each sub-sample we estimate the statistic of interest and the variability of these 'replicate estimates' is used in order to derive the variance of the statistic of interest (of the full sample).

Let's denote by θ an arbitrary parameter of interest, $\hat{\theta} = f$ (Data) the statistic of interest (the estimate of θ based on the full sample) and $Var(\hat{\theta})$ the corresponding required variance.

Then the replication approach assesses $Var(\hat{\theta})$ by the formula

$$\hat{Var}(\hat{\theta}) = c \sum_{a=1}^{A} h_a \left(\hat{\theta}_a - \hat{\theta}*\right)^2$$

where:

$.\theta$ is the estimate of θ based on the a-th replicated sample

A   is the total number of replicates

$\hat{\theta}_a$ replicates estimators of θ based on a-th replicate (subsample)

$\hat{\theta}* = \dfrac{1}{A} \sum_{a=1}^{A} \hat{\theta}_a$ alternative estimator of θ based on $\hat{\theta}_a$

C   is a constant that depends on the replication method, and h_a is a stratum specific constant (required only for certain sampling schemes- eg stratified sample design)

The Jackknife idea is division of sample into disjoins parts, recalculation of the statistic of interest based on the sample without each part in turn, and the combination of these recalculated statistics to estimate properties of original statistic. The basic idea is also to form random groups in such a way that each random group has the same sample design as the parent sample. In brief, the Jackknife procedure divides the (first-phase) sample into A randoms groups and the estimates variances (or mean squared errors) by:

(i) deleting one group at a time from the sample;

(ii) computing A "replicate" estimates in an appropriate manner, and

(iii) taking the sum of the squared differences between the A replicate estimates and the original estimate multiplied by [A)a-1)]$^{-1}$ or multiplied by (A-1)/A)"

For a=1,…,A we have:

$\hat{\theta}_a = A\hat{\theta} A - 1)\hat{\theta}_a$

θ is a probabilistic estimator (Horvitz-Thompson estimators) that depends on the global samples. If the global sample is divided into A random groups, we can conclude that

$$\hat{\theta}_{(a)} = A\hat{\theta}_{HTs - sa}$$

The Jackknife variance estimation for stratified multi-stage sample design is based on the following formula

$$\hat{Var}_{JK}(\hat{\theta}) = \sum_{h=1}^{H} \left[\frac{(A_h - 1)}{A_h} \right] \sum_{a=1}^{A_h} \left[\hat{\theta}_{(ha)} - \hat{\theta} \right]^2$$

A very important strength of replication is that it allows the user to define nearly any statistic and compute the variance of it using (1) without having to modify the software. WESVar does this in two ways. First, the user can specify a "compute" statistic as function of variables on the data set. Second, the user can specify a "compute" statistic as a function of estimated quantities in the cell of a table. So, in replication, the simplify is possible because the variance is estimated using one formula almost all types of statistics.

In practice, the fundamental principle of selecting independent replicates is somewhat relaxed. For one thing, replicates are selected using sampling without replacement instead of with replacement. For unequal probability designs like FinScope 2013 Survey, the calculation of basic weights and the adjustment for nonresponse and poststratification usually are performed only once for the full sample, rather than separately within each replicate. In stratified multistage-sampling, the replicates often are formed by systematically assigning the PSU to the A replicates in the same order that the PSU were first selected, to take advantage of stratification effects. So, in FinScope 2013 Survey we have 447 replicates for global sample.

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