



MOBILE MONEY ECOSYSTEM IN SOUTH SUDAN

Exploring current and future potential of using mobile money for effective humanitarian and development cash-programming

Prepared by Altai Consulting for the World Bank | South Sudan – June 2019

Juba, South Sudan

Unless specified otherwise, all pictures in this report are credited to Altai Consulting.

CONTENT

CONTENT	3
1. INTRODUCTION.....	11
2. METHODOLOGY.....	13
3. TELECOMMUNICATION SERVICES IN SOUTH SUDAN.....	15
3.1. Background.....	15
3.2. Access to telecommunications in South Sudan	20
4. FINANCIAL SERVICES IN SOUTH SUDAN.....	29
4.1. Background.....	29
4.2. Financial literacy	31
4.3. Financial behaviors	31
4.4. Perceptions of financial services providers	35
4.5. Focus on factors shaping financial behaviors	36
5. MOBILE MONEY IN SOUTH SUDAN	37
5.1. Background.....	37
5.2. Access to proxy services of mobile money	43
6. DEMAND FOR MOBILE MONEY IN SOUTH SUDAN	52
6.1. Mobile Money For Aid Delivery	52
6.2. Demand of Mobile Money for the general population.....	58
7. BENEFITS OF MOBILE MONEY.....	63
7.1. Benefits Associated with Leveraging Mobile Money in Cash-Based Programming	63
7.2. Benefits Associated with Wider Mobile Money Uptake	66
7.3. Focus on Vulnerable Groups.....	69
8. BARRIERS PREVENTING THE ADOPTION OF MOBILE MONEY.....	70
8.1. Structural barriers.....	70
8.2. Socio-economic barriers	72
8.3. Behavioral Barriers	75
8.4. Barriers to the Adoption of Mobile Money for Vulnerable Groups	79
9. RISKS OF MOBILE MONEY	81
9.1. Endogenous Risks	81
9.2. Exogenous Risks.....	83
9.3. Mitigation strategies.....	87
10. LEARNING FROM OTHER CONTEXTS.....	90
11. CONCLUSION AND RECOMMENDATIONS.....	91
10.1. Recommendations for humanitarian and development partners	92
10.2. Recommendations for the Government.....	96
10.3. Recommendations for MNOs and third-party mobile money service providers.....	97

TABLES

Table 1: Sampling methodology summary for urban areas, rural areas and PoC sites	15
Table 2: Breakdown of FGDs	15
Table 3: Private actors of the telecommunications sector	19
Table 4: Cost of telecommunications in South Sudan, compared to peer countries	22
Table 6: Three-tiered requirements to open an electronic money account	39
Table 7: South Sudan’s Electronic Money Regulation and alignment with best practices.....	40
Table 8: Mobile money business models - comparison with peer countries	41
Table 9: Average monthly amount sent through proxy services	60
Table 10: Values of transaction and WTP for Vulnerable Groups	62
Table 11: Currencies used to perform financial transaction, in Somalia and South Sudan.....	86
Table 12: Mitigation strategies for endogenous and exogenous risks	88

FIGURES

Figure 1: Counties selected for the research	14
Figure 2: 2G Coverage	18
Figure 3: Sociodemographic determinants of phone ownership (N=1,648)	21
Figure 4: Phone penetration in selected African countries	21
Figure 5: Barriers to phone ownerships among those who do not own one (N=770)	22
Figure 6: Operators' coverage per county, based on SIM card distribution (N=1,230).....	24
Figure 7: Type of ID used to purchase a SIM card, for registered SIM cards (N=855).....	25
Figure 8: Barriers to owning a phone faced by people who do not own a phone, different vulnerability levels (N=1,493)	25
Figure 9: Phone and SIM card penetration by gender (N=1,648).....	26
Figure 10: Phone and SIM card penetration for IDPs and non IDPs (N=1,648)	27
Figure 11: Phone and SIM card penetration for rural residents and non rural residents (N= 1,648) ...	27
Figure 12: Phone and SIM card penetration for urban poor and non-urban poor (N=1,648).....	28
Figure 13: Absence of knowledge of specific financial services in the population (N=1,648).....	31
Figure 14: Percentage of respondents who do not feel financially included, across vulnerable groups (N=1,648)	32

Figure 15: Barriers to bank account ownership, among those who do not have a bank account (N=1,425)	33
Figure 16: Perceived advantages and disadvantages of banks and cash (N=1,648).....	36
Figure 17: Sociodemographic factors affecting financial behavior (N=1,648).....	37
Figure 18: Functioning of money transfer operators for domestic transfers.....	44
Figure 19: Satisfaction in the population with money transfer operators (N=1,648)	45
Figure 20: Functioning of airtime trading	46
Figure 21: Reasons why people trade airtime among those who trade airtime (N=96)	47
Figure 22: Perceived advantages of airtime trading (N=1,648).....	48
Figure 23: Functioning of foreign mobile money services for OTC transactions.....	49
Figure 24: Subscription rates to mobile money services per counties (N=1,648), and most used operators for subscribers (N=254).....	50
Figure 25: Current ways of receiving cash-based transfers among beneficiaries (N=265)	56
Figure 26: Issues with current methods of delivering humanitarian aid among those who are dissatisfied (N=93)	58
Figure 27: Enabling conditions for the take up of mobile money services (N=1,648).....	63
Figure 28: Benefits of mobile money as a cash transfer mechanism (N=1,648)	65
Figure 29: Benefits of mobile money as a cash transfer mechanism, across beneficiaries and non-beneficiaries (N=1,648).....	66
Figure 30: Mobile money & financial inclusion across mobile money users and non-users (N=1,648)	68
Figure 31: Structural barriers for mobile money as perceived by respondents (N=1,648)	72
Figure 32: ID ownership in South Sudan among those who own any type of ID (N=1,015).....	74
Figure 33: Socioeconomic barriers to adoption of mobile money as perceived by respondents (N=1,648)	75
Figure 34: Behavioral barriers to adoption of mobile money as perceived by respondents (N=1,648)	77
Figure 35: Trust levels towards MNOs, by County and Type of Residence (N=1,648)	78
Figure 36: Top reasons why mobile money for aid delivery would not be beneficial, for those who think so (N=227).....	78
Figure 37: Structural and socioeconomic barriers across vulnerable groups (N=1,648).....	79
Figure 38: Main endogenous risks for the entire sample (N=1,648)	83
Figure 39: Market functioning across counties and zones of residence (N=1,648).....	84
Figure 40: Main exogenous risks for the entire sample (N=1,648).....	87

FOCUS BOXES

Focus Box 1: The independence of the BoSS with regards to international practices	30
Focus Box 2: How mobile money revenues are taxed in East African countries.....	43
Focus Box 3: Women and proxy services.....	52
Focus Box 4: Demand of mobile money services from vulnerable groups.....	61
Focus Box 5: ID ownership and ID system in South Sudan	73
Focus Box 6: Socio-economic barriers in Somalia.....	75
Focus Box 7: Barriers to the adoption of mobile money for aid beneficiaries	78
Focus Box 8: Mobile money and inflation	85
Focus Box 9: Why mobile money is so successful in Somalia?	90
Focus Box 10: Lessons learnt from Ethiopia	95
Focus Box 11: Partnerships to address market failures in the ICT sector.....	99

ABBREVIATIONS

AML	Anti-Money Laundering
B2B	Business-to-Business
BoSS	Bank of South Sudan
C2B	Consumer-to-Business
C2C	Consumer-to-Consumer
CWG	Cash Working Group
DCA	Danish Church Aid
EA	Enumeration Area
ECB	European Central Bank
ERPSN	Ethiopia Rural Productive Safety Net
EMR	Electronic Money Regulation
FCV	Fragility, Conflict and Violence
FeD	Federal Reserve
FGD	Focus Group Discussions
FSP	Financial Service Provider
GBV	Gender-Based Violence
GoSS	Government of the Republic of South Sudan
GRSS	Government of the Republic of South Sudan
ICT	Information and Communication Technology
ID	Identification Document
IDI	In-Depth Interview
IDP	Internally Displaced Persons
IFC	International Finance Corporation
IVTS	Informal Value Transfer Systems
KII	Key Informant Interview
KYC	Know Your Customer
LAP	Libyan African Portfolio Investments
MNO	Mobile network Operator
MoTPS	Ministry of Telecommunications and Postal Services
MoICTPS	Ministry of Information, Communication, Technology and Postal Services

MoU	Memorandum of Understanding
NCA	National Communications Authority
NSS	National Security Service
OTC	Over-the-counter
P2P	Peer-to-Peer
PEPs	Politically Exposed Persons
PIU	Project Implementation Unit
POC	Protection of Civilians
PPPs	Public-Private Partnerships
SNSDP	Safety Net and Skills Development Project
SPLA	Sudan's People Liberalization Army
SPLM	Sudan's People Liberalization Movement
SS	South Sudan
SSP	South Sudanese Pound
TSCTP	Tigray Social Cash Transfer Program
UNMISS	United Nations Mission in South Sudan
WB	World Bank
WFP	World Food Programme
WTP	Willigness To Pay

GLOSSARY

Agent – A person or business that is contracted to facilitate transactions for users. Different financial service providers – such as banks, mobile network operators or remittance companies – can have agents.

Aggregator – An entity that consolidates financial transactions for processing, such as providing a single platform to execute payments via multiple Financial Service Providers (FSP).

Bulk payment – A simultaneous transfer of funds from an entity to many recipients. In this report, this term is used to describe the mobile money services used for humanitarian programmes (as opposed to person-to-business or person-to-person payments).

Cash assistance – The provision of unrestricted assistance in the form of money - either physical currency or *e-cash* - to recipients (individuals, households or communities).

Delivery mechanism – Means of delivering a cash or voucher transfer (e.g. smart card, mobile money transfer, cash in hand, cheque, ATM card, etc.).

Digital financial services – The broad range of financial services accessed and delivered through digital channels, including payments, credit, savings, remittances and insurance. Digital channels refer to the internet, mobile phones (both smartphones and digital feature phones), ATMs, point of sale terminals, chips, electronically enabled cards, and any other digital system.

Digital payments – Transfers of value which are initiated and/or received using electronic devices and channels to transmit the instructions. This includes credit card payments, wire transfers, but also mobile banking payments or mobile money payments.

Digital ID – A set of electronically captured and stored attributes and credentials that can uniquely identify a person and serve as government-recognized forms of digital ID. It may be centrally provided by the government, or in partnership with the private sector.

Financial inclusion – Being able to access useful and affordable (formal and informal) services that meet people's financial needs.

Interconnection – The physical and logical linking of public electronic communications networks used by the same or a different undertaking in order to allow the users of one undertaking to communicate with the users of the same or another undertaking or to access services provided by the parties involved or other parties who have access to the network.

Interoperability – In the context of mobile money, the Consultative Group to Assist the Poor (CGAP) distinguishes between several different types of interoperability: (i) platform-level interoperability, which permits customers of one service to send money to customers of another service, (ii) agent-level interoperability, which permits agents of one service to serve customers of another service, and (iii) customer-level interoperability, which permits customers to access their account through any SIM. In this study, interoperability refers specifically to platform-level interoperability.

Know Your Customer – Rules related to Anti-Money Laundering/Combating Financial Terrorism which require providers to carry out procedures to identify a customer.

Masteragent – A person or business that purchases e-money from an operator wholesale and then resells it to agents, who in turn sell it to users. Unlike a superagent, masteragents are responsible for managing the cash and electronic-value liquidity requirements of a particular group of agents.

Mobile banking – A service in which a mobile phone is used to access a bank account and banking services. It is therefore different from mobile money, as owning a bank account is a prerequisite.

Mobile money – A service in which a mobile phone is used to access financial services such as payments, transfers, insurance, savings, and credit and is available to the unbanked (people who do not have access to a formal account at a financial institution). Mobile banking or payment services that offer the mobile phone as just another channel to access a traditional banking product are not included.

Trader (also and interchangeably merchant or vendor) – Supplier of goods and services. Traders may be contracted by a humanitarian organization to participate in a cash-based intervention.

1. INTRODUCTION

1. South Sudan's recent conflict and ongoing insecurity have eroded development potential, increased vulnerability, and exacerbated the need for humanitarian assistance. Hundreds of thousands of people have lost their lives, close to a fifth of the population has been displaced,¹ and a little over half of the population continues to be severely food insecure.² The on-going economic crisis has also aggravated already weak poverty and macroeconomic indicators, resulting in extremely high levels of inflation,³ rapid currency devaluation, and near universal rates of poverty that undermine people's access to basic resources and livelihood opportunities.⁴ Meanwhile, significant gaps in governance capacity persist, limiting the ability of public institutions to effectively respond to growing humanitarian and development needs.

2. While a revitalized peace agreement was signed in September 2018, the long-term prospects for a peaceful resolution to the ongoing conflict are tenuous. The agreement was expected to reinforce a permanent ceasefire, create an enabling environment for humanitarian assistance delivery, institute critical reforms, and establish a new transitional government of national unity by May 2019. However, conflict persists in parts of the country, and key milestones for establishing power-sharing arrangements have been missed. Consequently, the pre-transition period has been extended from May to November 2019.⁵ It is uncertain whether this is realistic given the complexity in establishing new security arrangements and agreeing on a new structure for subnational governments. Recent developments in Sudan is also likely to affect the peace process, because it played an important role in facilitating the signing of the peace agreement and has a stake in the economic development of South Sudan. Overall, progress on key reforms has been slow, and more is required before peace is consolidated.

3. In this setting, cash assistance could provide a flexible and cost-efficient means of providing effective and dignified assistance to poor and vulnerable households. Cash assistance can allow recipients to assess their own needs, and where conditions permit, strengthen local markets and economic activity. A scale-up of cash assistance is thus being considered by many humanitarian and development agencies working in South Sudan, underpinned by a wider global commitment to increase the use of cash for delivery of humanitarian and development assistance, as appropriate.⁶ Given the role that cash plays in many national social protection schemes globally and in the region, humanitarian cash assistance can also strengthen linkages with longer-term development approaches.⁷ In South Sudan, an increase in predictable and reliable cash-assistance could therefore facilitate the roll-out of safety nets that build local resilience.

4. However, scale up of cash assistance comes with a host of operational risks in Fragility, Conflict and Violence (FCV) affected contexts. The political situation remains highly volatile, with frequent outbreaks of local-level violence. In such a politically unstable context, any leakages risk benefitting warring parties, and/or fueling conflict. Due to very limited physical and virtual

¹ OCHA. "South Sudan Situation Report". May 2019

² World Food Programme. "WFP South Sudan Crisis - Report #240." March 2019. 54% of the population faced acute food insecurity in January 2019

³ Inflation rates reached 153 percent in 2015, 410 percent in 2016, 125 percent in 2017, 131 percent in 2018, and is estimated to reach 49 percent in 2019. (World Bank. "South Sudan Economic Brief". April 2019).

⁴ Based on the US\$ 1.90 2011 purchasing power line, 82 percent of the population was poor in 2017. (World Bank. "South Sudan Economic Brief". April 2019).

⁵ Dialogue is now ongoing to possibly extend the deadline for a full year.

⁶ In 2016, largest donors and humanitarian partners acknowledged during the Humanitarian Summit the underutilization of cash assistance worldwide, after which they committed to its more extensive use in appropriate contexts.

⁷ Cash Learning Partnership. The State of the World's Cash Report. February 2018

infrastructures, cash needs to be physically transported from one location to another, which is not only costly, but risky for those who undertake it. Moreover, an influx of cash assistance could also place beneficiary populations at risk of predatory violence.

5. E-payments, notably mobile money, could offer promising means of improving the delivery of cash assistance in South Sudan, while increasing financial inclusion. Based on similar experience from elsewhere in East Africa, notably Somalia and Somaliland,⁸ mobile money can help reduce leakages by eliminating the need for ‘middlemen’ or ‘gate-keepers’. It can also provide a more secure mean of receiving and storing cash for the recipient – e.g. by decreasing the visibility of cash distribution, thereby protecting beneficiaries from threats, violence or theft. Where network coverage permits, mobile money can facilitate cash distribution in remote or inaccessible areas, as well as reduce transfer and related logistical costs. By delivering assistance directly to a recipient’s mobile device, mobile money can also help mitigate the ‘push-and-pull’ effect associated with set cash distribution points. Additionally, using mobile money could encourage uptake of digital financial services, thereby expanding financial inclusion among the un-banked. Given the current low level of financial inclusion in South Sudan, access to and uptake of mobile money services could also yield much broader benefits, including increased access to services. This could unlock growth and job creation, and strengthen resilience to shocks - assuming stability and peace.

6. Somalia is a good example of the role that mobile money can play to increase financial inclusion and build greater resilience to shocks.⁹ Humanitarian response for the 2016/17 drought largely used mobile money to transfer cash to the most affected, channeling key resources and income and supporting critical purchases, thereby helping people to be less acutely affected by the drought. Mobile money also enhanced financial inclusion and is regularly used to transfer money domestically and internationally, conduct payments and receive loans.

7. Greater use of mobile money could also be a small but important step towards creating a more formal economy. A large proportion of the economy and trade in South Sudan remains informal and cash-based. However, mature mobile money systems could foster the formalisation of the economy, integrating informal sector users into business networks, formal banking and insurance, and linking to the Government through social security, tax, and secure wages payments. As of June 2019, no formal mobile money services were available in South Sudan. However, two companies have been licensed and have started advertising the imminent launch of mobile money services (allegedly by the end of June 2019).

8. The World Bank Group has commissioned a research project to explore the current and future potential of using mobile money for more effective humanitarian and development cash assistance in South Sudan. Research undertaken employs a mixed methods research methodology. By conducting a market assessment that looks at both the supply and demand sides, this study hopes to provide a complete picture of the existing mobile money landscape.

9. Research undertaken is based on four main research components: i) background research and a desk review of South Sudan’s telecommunications and financial sectors; ii) qualitative supply-side research based on Key Informant Interviews (KIIs) with government actors, representatives from the private sector, as well as humanitarian and development partners, and based on In Depth Interviews (IDIs) with traders, money transfer agents and airtime resellers; iii) a demand-side quantitative household survey; and iv) qualitative demand-side research based on Focus Group Discussions (FGDs) with vulnerable groups to complement the household survey .

⁸ Cash Learning Partnership. Cash Transfer Programming in Somaliland. Learning Event. March 2018.

⁹ Altai research commissioned by the World Bank. *Mobile Money Money Ecosystem Thematic Extension*. 2019. Not yet published.

10. This report presents findings from the supply-side and demand-side research undertaken. The purpose of this report is to provide a snapshot of the current mobile money ecosystem in South Sudan, and to shed light on the demand for mobile money, as well as on the benefits, barriers, and risks associated with future adoption. It therefore focuses on the potential of using mobile money as a transfer mechanism for cash assistance in South Sudan's current political, economic, and regulatory environment.

2. METHODOLOGY

11. The desk review aimed to provide insights on South Sudan's telecommunications and financial sectors, benchmarking the regulation and use of mobile money in South Sudan against other emerging economies (e.g. Somalia, Uganda or Kenya), and providing detailed information about the regulatory context in the country. This formative research drew on a comprehensive review of literature and meta-analysis of relevant existing data and reports. The list of sources reviewed is detailed in Annex 3.

12. KIIs took place with government representatives, private sector actors in the telecommunications and financial sectors, and humanitarian and development partners engaged in cash assistance. KIIs with government representatives were carried out to understand their role in regulating the provision of financial services across the country. KIIs with actors in the telecommunications and financial sectors included interviews with Mobile Network Operators (MNO) and commercial banks to collect information on the current status of mobile money in South Sudan, the broader political and regulatory environment, and the barriers to, and opportunities for, scale-up. KIIs with humanitarian and development partners were conducted to understand the role that mobile money services might play in the provision of cash assistance in South Sudan, given the current operational and logistical challenges faced in cash transfers.¹⁰ The full list of stakeholders interviewed is available in Annex 2.

13. IDIs were carried out with airtime resellers and mobile money agents, money transfer agents,¹¹ and traders. The objectives of IDIs with airtime resellers, mobile money agents and money transfer operators were three-fold: (i) to map the use of proxy services, such as airtime trading or the use of mobile money through foreign operators; (ii) to understand how financial services are structured and operate at a local level; and (iii) to examine how existing structures might be utilized in the event that mobile money services are introduced. The purpose of the interviews with traders was to capture their views and possible concerns in relation to the introduction of mobile money and its potential impact on local markets.¹²

14. A household survey was carried out with 1,648 households in 9 counties to collect primary quantitative data on the potential demand for, and current use of, mobile money services. These counties were selected to include the seven counties targeted by the World Bank-funded Safety Net and Skills Development Project (SNSDP). Two more counties (Wau, Malakal) were added to enhance

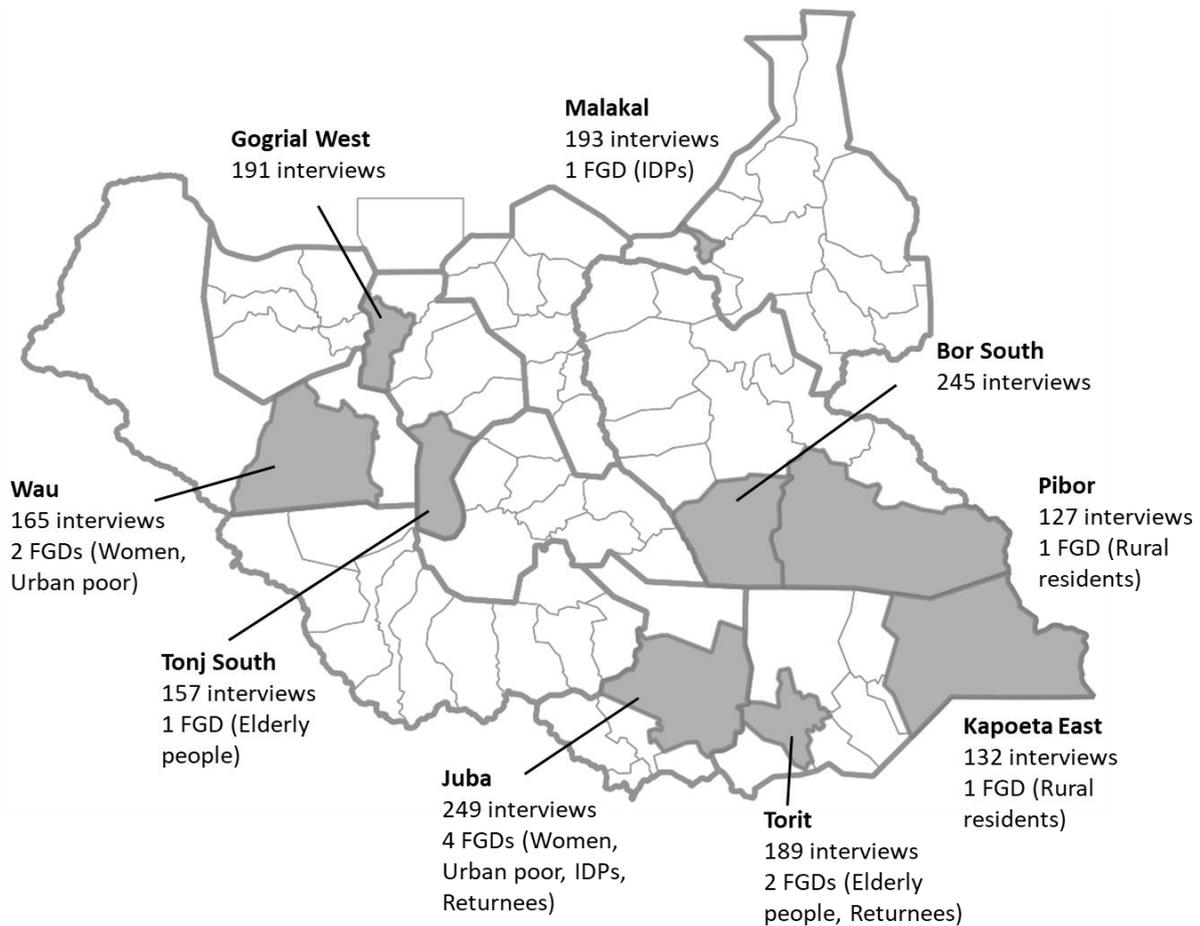
¹⁰ A total of 38 KIIs were conducted, in the capital city, Juba, between January 21 and May 21, 2019. They encompassed 9 interviews with actors from the government, 11 with actors from the financial and telecommunications sector, and 7 with development and humanitarian partners.

¹¹ Money transfer services refer to any systems, mechanisms, or networks of people that receive transactions or money for the purpose of moving funds to a third party in another geographic location. They include informal value-transfer systems as well as formal value-transfer systems, such as Dahanbshil.

¹² A total of 38 IDIs were conducted in the nine selected counties, over the period January 21, 2019 – May 11, 2019 (see **Error! Reference source not found.**). They comprised 14 interviews with airtime resellers and mobile money agents, 11 with money transfer operators, and 13 with traders

representation of conflict-affected households. Figure 1 presents an overview of selected counties. It is important to note that the survey is representative only at the county level. Yet, it provides a robust understanding of the country’s population as a whole, as it: i) covers the three greater regions in South Sudan, including both urban and rural areas; ii) includes IDPs and ethnically diverse households; and iii) covers some areas that have been severely impacted by the conflict, including more recent waves of displacement following the increased violence throughout the country after July 2016.

Figure 1: Counties selected for the research



15. The survey was based on a stratified four-stage cluster sample, with 3 strata – covering households in urban and rural areas, as well as in Protection of Civilians (PoC) sites. Table 1 details the sampling frame that was adopted. The sample size (1,648 households) guarantees that the margin of error of estimations is less than 5% both at the strata and gender level, with a 95% confidence level. More details can be found in Annex 1. The survey is, however, not statistically representative of South Sudan as a whole, but only of the nine selected counties. In addition, rebel-controlled areas are likely to be under-represented in the survey, as some opposition-controlled Enumeration Areas (EAs) had to be replaced because access could not be granted with satisfactory security assurances. All replacements were reflected in the sampling and post-sampling weights.

Table 1: Sampling methodology summary for urban areas, rural areas and PoC sites

		Sampling Strategy	Selection Stages
Stratification Type of residence	Counties		1st stage Purposive
	Enumeration Areas		2nd stage PPS
	Households		3rd stage Random walk
	Respondents		4th stage Randomization tool

16. Twelve FGDs were conducted, targeting different vulnerable groups of interest. The purpose of the FGDs was to allow for deeper exploration of key themes, thus complementing the quantitative survey results. For each group of interest, 2 FGDs were carried out with 8 participants each on average, in selected locations. Table 2 presents the breakdown of the FGDs conducted.

Table 2: Breakdown of FGDs

Women	Urban poor	Rural residents	IDPs	Returnees	Elderly people
Wau, Juba	Wau, Juba	Kapoeta East, Pibor	Malakal, Juba	Torit, Juba	Tonj South, Torit

3. TELECOMMUNICATION SERVICES IN SOUTH SUDAN

17. South Sudan’s telecommunications sector is among the least developed in the world, and therefore provides a challenging environment for the uptake of mobile money services. This section presents recent developments in the telecommunications sector, as well as its key actors and regulations. It then assesses the current level of access and barriers to telecommunications in the country.

3.1. BACKGROUND

3.1.1. RECENT HISTORY OF THE TELECOMMUNICATIONS SECTOR IN SOUTH SUDAN

18. At the time of independence in 2011, increased liberalization and competition in various sectors, including the telecommunications sector, signaled potential for high growth and service expansion. Private telecommunications providers were taking steps to expand service and increase their investment in infrastructure. Prior to the outbreak of the conflict on December 2013, the telecommunications industry was thus deemed to be one of the fastest growing sectors in the country.¹³

¹³ African Development Bank (AfDB) Group. “Chapter 10: Creation of a Communications Network”, in: *South Sudan: An Infrastructure Action Plan: A Program for Sustained Strong Economic Growth*. 2013.

19. The telecommunications sector's expansion began prior to independence, and was characterized by the progressive entry of several new international and national players. Market entrants contributed to the expansion of network coverage, beyond urban hubs such as Juba and Yei, to the different states:

- **The first operator to enter the market was the Ugandan telecommunications group Gemtel, also known as the 'Green Network,'** and was licensed by the Government of the Republic of Southern Sudan (GoSS) in 2006. Upon entry, it launched services in Juba and Yei, and progressively began rolling-out services in other major cities across Southern Sudan.¹⁴ In 2010, 80 percent of Gemtel was acquired by the Libyan African Investments Portfolio (LAP), the Libyan government's investment vehicle, *via* its telecommunication arm, LAP Green Network. This takeover led to additional investments, further expanding network coverage.¹⁵
- **The second company to enter the market was Vivacell.** With a 75 percent stake, the Lebanese Fattouch Investment Group was Vivacell's main shareholder. The remaining 25 percent was held by Wawat Securities, owned by the Sudan's People Liberation Movement (SPLM).¹⁶ Vivacell launched its operations in January 2009.¹⁷
- **However, the market entry of several international operators, including Sudatel, Zain Sudan, and MTN Sudan, was the main catalyst for larger network expansion.** In May 2008, the GoSS and the Government of National Unity signed a Memorandum of Understanding (MoU) allowing north-based operators to serve the south.¹⁸ Sudatel launched operations in early 2008, Zain Sudan in April 2008, and MTN Sudan at the end of 2008. Sudatel was owned by the Sudanese government (30 percent), Sudanese investors (21 percent), as well as foreign investors (49 percent).¹⁹ Zain Sudan was owned by the Zain Group of Kuwait, and MTN Sudan by the MTN Group of South Africa.²⁰ After launching, both Zain and MTN rapidly announced large investment plans, which resulted in considerable infrastructure development.²¹

20. The telecommunications market on the eve of the 2013 conflict was characterized by multiple competing actors and sustained investment in telecommunications infrastructure, although the regulatory framework led to a rather uneven playing field and regulatory uncertainty prevailed. After independence, Sudatel ceased to operate in South Sudan, but other operators continued to expand their services. However, at that time, the rules and regulations in place – notably those governing licenses and spectrum dues – were not consistent across all the MNOs operating in the country. For instance, MTN and Zain had licenses that were issued by the Sudanese regulatory authority, while others such as Gemtel and Vivacell had licenses issued by the GoSS.²² After the South gained independence, MTN and Zain were permitted to continue providing services in South Sudan

¹⁴ TeleGeography. GlobalComms Database. March 2018.

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ The Fattouch Investment Group acquired their license from the Government of the Republic of Southern Sudan, thanks to the purchase of a license that had originally been granted to Network of the World, after the latter failed to launch services.

¹⁸ Under the Comprehensive Peace Agreement (CPA), the Government of the Republic of Southern Sudan shared responsibilities for the telecommunications sector with the Government of National Unity.

¹⁹ TeleGeography. GlobalComms Database. March 2018

²⁰ Zain website. "Shareholders & Dividends." Consulted on 13/03/2019. Available at: <https://zain.com/en/investor-relations/shareholders-dividends/>.

²¹ For example, Zain first installed an initial base of 80 stations in 2008, and progressively rolled out more cell sites, becoming the second operator to offer mobile services in Jonglei and Western Equatoria in 2009 (after now-defunct Gemtel). TeleGeography. GlobalComms Database. March 2018

²² African Development Bank. South Sudan: An Infrastructure Action Plan. 2010

under the 2008 MoU, while awaiting the formal award of official operating licenses from newly independent South-Sudanese regulatory authorities. This has yet to take place as of June 2019.

21. Following the outbreak of the conflict in 2013, progress quickly stalled – eventually reversing many of the gains that had been made heretofore.

- **First, network coverage markedly declined.** Many towers were destroyed or damaged during the course of fighting. According to KIIs, others were y shut down by government authorities. This was epitomized by the temporary shut-down of the network in the Upper Nile in January 2014 and more recently across the entire country in January 2018.²³
- **Second, investments decreased.** Instability and market failures discouraged many investors, preventing further growth. Insecurity, coupled with the weak infrastructure,²⁴ increased prices for key inputs (e.g., fuel and other related transportation costs of equipment), which limited commercial interest for deploying infrastructure, particularly in rural areas. In addition, the unpredictable and volatile political environment deterred many investors (detailed below).
- **Finally, the client base shrank,** due to both massive displacement and economic turmoil. The steep devaluation of the South Sudanese Pound (SSP) and a sharp rise in inflation²⁵ due to the 2013 and 2016 conflict, triggered a hike in call rates. Many consumers were forced to restrict their spending to essential items, which often did not include airtime for mobile communications.²⁶ As a result, the wireless market contracted by some 24 percent in 2016. For example, between 2013 and 2017, Zain’s client base almost halved.²⁷ Consequently, MNOs struggled to keep their operations up and running, especially after the July 2016 violence.²⁸ Many essentially entered ‘survival mode’, while suffering major losses.²⁹

22. In recent years, the sector has been characterized by low degree of liberalization, leading to greater market concentration and weaker competition.

- **Gemtel stopped operating in early 2016,** due to what appears to be politically motivated reasons.
- **In March 2018, Vivacell, the country’s largest MNO (and according to many, the one providing the best network coverage) was shut down by the government.**³⁰ The official reason given was due to their failure to pay taxes,³¹ however some KIIs have claimed that this may have also been politically motivated. Following the shutdown of Vivacell, many former subscribers were absorbed by Zain and MTN. As these operators have scrambled to adjust to an unexpected increase in subscribers, network access has deteriorated, even in urban

²³ <https://radiotamazuj.org/en/v1/news/article/south-sudan-government-shuts-down-3g-network>

²⁴ South Sudan is among the world’s most underdeveloped road networks in the world, with a total estimated track-length of around 90,200 kilometers, adding to high costs of transportation. (South Sudan Logistics Cluster. “2.3. South Sudan Road Network.”. May 2018; REACH Initiative. “Media and Telecommunications Landscape Guide.” August 2017).

²⁵ Inflation skyrocketed from 153 percent in 2015 to 410 percent in 2016. (World Bank. “South Sudan Economic Brief”. April 2019).

²⁶ TeleGeography. GlobalComms Database. March 2018.

²⁷ Ibid. Figures fell from 812,000 at the end of 2013 to 482,000 in December 2017.

²⁸ REACH Initiative. “Media and Telecommunications Landscape Guide.” August 2017.

²⁹ In August 2016, Zain said it had been forced to scale back its operations and cut the number of its expatriate staff in a bid to survive the ongoing political and economic problems. The company decided to focus operations solely on major towns – including Juba, Yei, Bor and northern Upper Nile, where South Sudan’s largest oilfields are located. During this same period, MTN was forced to cut jobs and cancel expansion plans due to the economic crisis. (TeleGeography. GlobalComms Database. March 2018).

³⁰ IDIs with traders.

³¹ TeleGeography Authoritative Telecom Data. “South Sudan.” Available at: <https://www.telegeography.com/products/commsupdate/lists/country/south-sudan/>

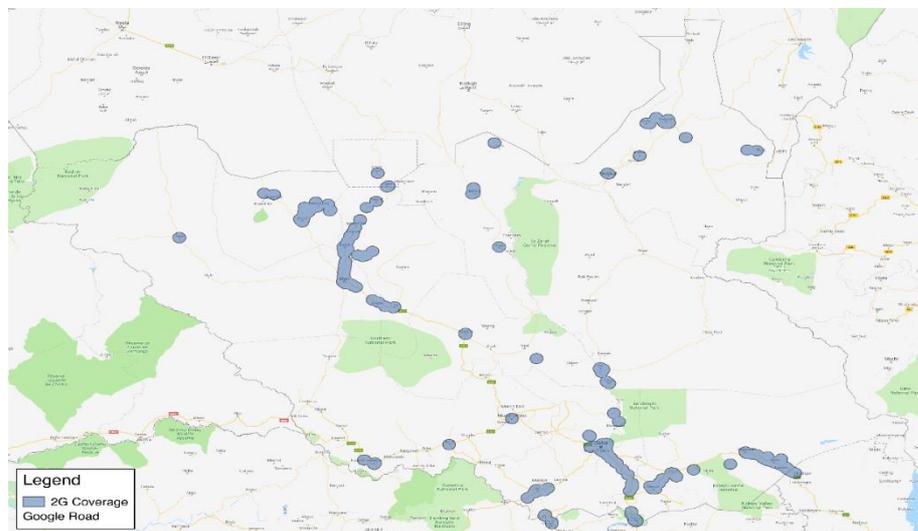
centers.³² Moreover, the discontinuation of Vivacell’s operations has also led to patchy infrastructure and network coverage elsewhere.

- **In July 2017, the Ministry of Information, Communication, Technology and Postal Services (MoICTPS) officially announced the launch of a new telecommunications company, Niletel,**³³ **in which the state holds a 25 percent share.**³⁴ The company claims to be the "*fourth and youngest operator*" to enter South Sudan and aims to become the country’s "*leading telecom operator*".³⁵ However, Niletel is yet to offer any services, and thus does not appear to be operational.
- **Lack of competition has been noted to have stifled investment and innovation.** Notably, the Vivacell shutdown significantly raised risks of further shutdowns, discouraging private sector investment in capital-intensive infrastructure and services due to the risk of decreased expected profits stemming from the mobile sector.

23. South Sudan telecommunications sector is currently among the weakest in the world, as detailed below.

- **Network coverage is poor in most parts of the country, and nearly absent in many rural areas** – so much so that civil society groups petitioned the Government over dismal telecommunications services in January 2019.³⁶ Cellular coverage (2G) is confined to major urban centers such as Juba, Yei, Wau, and Malakal, as well as major transport arteries (see Figure 2).³⁷ Similarly, 3G data service is restricted to major towns and cities, including Juba, Wau, and Malakal. Accordingly, rural areas, where 91 percent of the population live according to the last census,³⁸ are either un- or under-served.

Figure 2: 2G Coverage³⁹



³² In depth interviews with traders, KIIs with representatives of the telecommunications sector

³³ The National Communications Authority issued Niletel’s license in 2018.

³⁴ TeleGeography. GlobalComms Database. March 2018.

³⁵ Niletel website. Consulted on 13/03/2019. Available at: <http://www.niletel-ss.com/>

³⁶ <https://radiotamazuj.org/en/v1/news/article/civil-society-groups-petition-minister-over-poor-telecom-services>

³⁷ Styles, Lucy. "3.4 South Sudan Telecommunications." Logistics Cluster, June 2016.

³⁸ South Sudan Centre for Census, Statistics and Evaluation. *Southern Sudan Counts: Tables from the 5th Sudan Population and Housing Survey*. November 2010. It should be noted that these figures do not reflect the widespread displacement that has occurred since the start of South Sudan’s conflict on December 15, 2013.

³⁹ Source: <https://www.opencellid.org/#zoom=16&lat=37.77889&lon=-122.41942>: open database of cell towers

- **Interconnection is missing.** Typically, an area is covered either by Zain or MTN, rarely both. While calls can be conducted from one operator to another, no national roaming agreement exists. This implies that when an area is only covered by one operator, users of the other operator cannot access the mobile networks. The National Communication Authority (NCA), the telecommunications regulator, recently indicated that they signed a harmonization agreement between the two MNOs to expand coverage and reinstate bay stations that had been shut down for security reasons. However, the extent to which the agreement will address network coverage and interconnection remains to be seen.

3.1.2. KEY PRIVATE ACTORS IN THE INFORMATION AND COMMUNICATION TECHNOLOGY SECTOR

24. In sum, as of May 2019, three operators formally existed in South Sudan, of which two offer services. Table 3 details the key private actors of the South Sudanese telecommunications sector.

Table 3: Private actors of the telecommunications sector

Name	Launch in South Sudan	License	Shareholder structure	Current status of operations in South Sudan
Gemtel (Green Network)	2006	Licensed by the GoSS in 2006	Owned by Ugandan tycoon Augustus Caesar Mulanga until 2010. Then, owned by Lybian LAP Green Network (80 percent) and Augustus Caesar Mulanga (20 percent)	Ceased to operate in 2016
Vivacell	2009	Purchased a license issued by the GoSS from Network of the World	Owned by Lebanese Fattouch Investment Group (75 percent) and Wawat Securities (25percent)	Ceased to operate in 2018
Sudatel	2008	Not licensed by the GoSS. Launched under the March 2008 MoU between Sudan’s Ministry of Information and Communication (MoIC), and South Sudan’s Ministry of Telecommunication and Postal Services (MOTPS)	Owned by the Sudanese government (30 percent), Sudanese investors (21 percent) and foreign investors (49 percent)	Ceased to operate in 2012
Zain	2008	Not licensed by the GoSS. Launched under the March 2008 MoU between Sudan’s MoIC, and South Sudan’s MOTPS. National licensing is yet to take place	Owned by the Zain group of Kuwait (100 percent)	Active
MTN	2008	Not licensed by GoSS. Launched under the March 2008 MoU between Sudan’s MoIC, and South Sudan’s MOTPS. National licensing is yet to take place	Owned by the MTN Group of South Africa (100 percent)	Active
Niletel	2017	Licensed by the Government of the Republic of South Sudan (GRSS) in 2017	Owned by Sudan-based group Ashraf (75 percent) and the Republic of South Sudan (25 percent)	Not yet operational

3.1.3. REGULATION OF THE INFORMATION AND COMMUNICATION TECHNOLOGY SECTOR

25. The Government began drawing up its own independent regulations for the telecommunications sector after the country officially seceded from Sudan on July 9, 2011. The MoICTPS (previously known as the Ministry of Telecommunication and Postal Services (MOTPS) until it was merged with the Ministry of Information and Broadcasting in April 2016) is tasked with the coordination and implementation of national policies, plans and programs related to the development of the Information and Communication Technology (ICT) sector in the country.

26. The institution in charge of regulating the ICT sector is the NCA, which was established in 2011 by the National Communications Bill. The mandate of the NCA is to: (i) promote and regulate the ICT sector, (ii) establish a conducive environment that favors ICT services, encouraging competition and investment, and (iii) ensure accessible, reliable, and affordable communication services and technologies, nationwide. It is in charge of licensing communication networks, equipment, and broadcasting services; approving pricing and costing methods, as well as regulating tariffs; and establishing procedures for interconnectivity between operators. Based on the statutes in the Bill, the NCA should also aim to “*protect national security*”, and is ultimately “*answerable*” to the President of the Republic of South Sudan as well as the MoICTPS.

27. In addition to the National Communication Bill, the Government has also passed a resolution on SIM-card registration to prevent criminal use of mobile phones. The June 2011 resolution mandated that all SIM-cards be registered by the end of February 2013.⁴⁰ According to a key informant, unregistered SIM cards have apparently been blocked following that regulation. As documented further in Section 3.2.4, SIM card registration seems successfully enforced.

3.2. ACCESS TO TELECOMMUNICATIONS IN SOUTH SUDAN

3.2.1. ACCESS TO PHONES

28. Penetration of mobile phones is low and uneven across areas. Overall, 45 percent of the population owns a phone, but this varies across locations. While 63 percent of urban residents and 64 percent of PoC site residents own a phone, only 38 percent of rural residents do.⁴¹

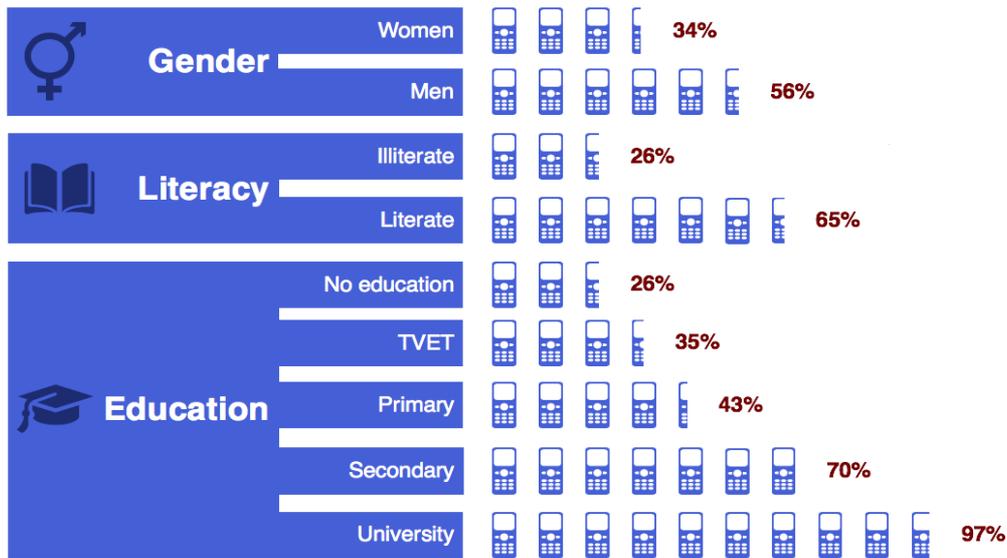
29. Phone ownership is also very unbalanced against main socio-economic characteristics, as Figure 3 highlights. A high gender gap prevails, as 56 percent of males own a phone, against 34 percent of females. Literate people also have significantly higher rates of phone ownership. Similarly, the likelihood of owning a phone increases with education level. Phone ownership is, however, homogeneous across different age groups. Access to phone ownership is therefore mostly limited to privileged groups (literate, educated males). By comparison, in Somalia, where phone penetration is as high as 92 percent, digital gaps are much lower (3 percent gap between literate and illiterate people, gender gap reversed with a higher share of women than men who own a phone)⁴². This highlights that much efforts will be needed in South Sudan to fill the digital gaps that are creating obstacles to mobile money adoption.

⁴⁰ TeleGeography. GlobalComms Database. March 2018.

⁴¹ All differences in statistics presented in this report are significant at the 5 percent level.

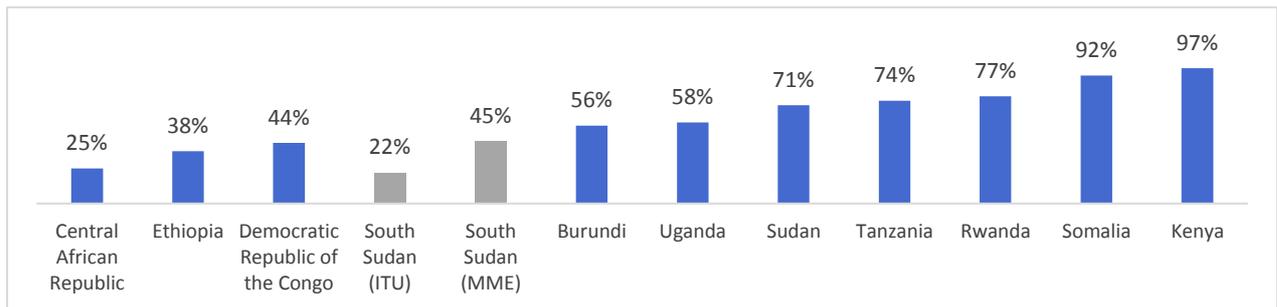
⁴² Altai research commissioned by the World Bank. *Thematic Extension of the Mobile Money Ecosystem*. 2019.

Figure 3: Sociodemographic determinants of phone ownership (N=1,648)



30. While South Sudan does not have the lowest mobile phone penetration in Africa, it still compares poorly to most East African countries, as Figure 4 emphasizes.

Figure 4: Phone penetration in selected African countries⁴³



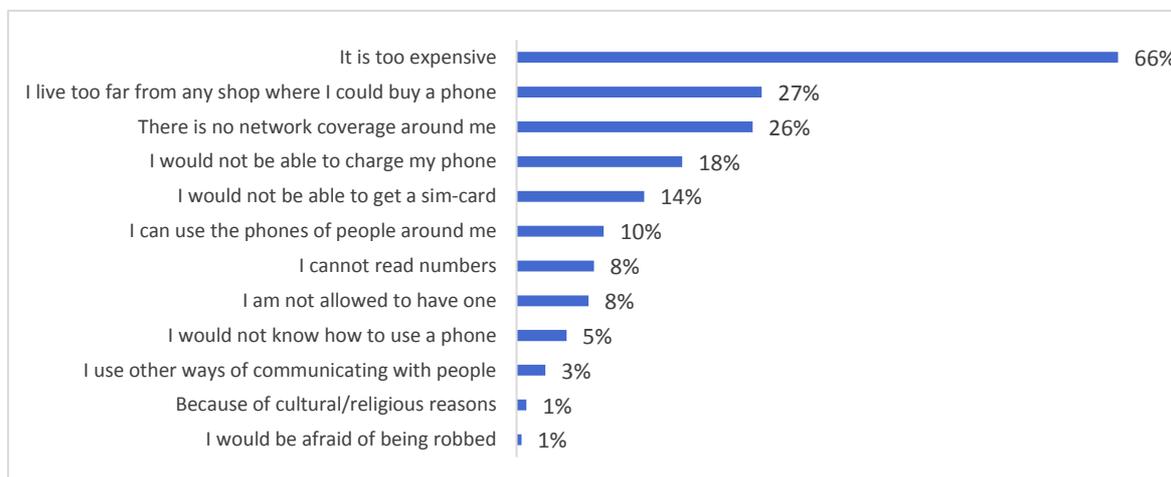
31. The main barriers to phone ownership are linked to supply-side challenges, with first and foremost being high prices of mobile handsets. Sixty-six percent of the people in South Sudan who do not own a phone noted that they are too expensive; 27 percent mentioned that they lived too far from where they could buy a phone; and 26 percent considered that it would not be useful as there is no network coverage where they live. This compares to 18 percent who mentioned not being able to charge their phone due to poor access to electricity; 14 percent who would not be able to get a SIM

⁴³ Estimates for Central African Republic, Ethiopia, the Democratic Republic of the Congo, Uganda, Sudan, and Kenya are based on the 2017 ITU country profiles. Estimates for Somalia are based on the thematic extension of the *Mobile Money Ecosystem in Somalia* (2018). Estimates for South Sudan are based on the data collected for this research (2019) and on the 2018 ITU estimates. Please note that those estimates should be interpreted and compared with caution. First, ITU's estimates are based on information collected from countries' regulatory authorities, which originates from the operators. These rates count the number of active data-enabled SIMs, rather than measure unique subscribers, and thus tend to over-estimate penetration levels. This is notably the case in many African countries, where a significant share of people use more than one SIM card. Therefore, national representative demand-side data, from household and individual user surveys, are more accurate ways in pre-paid mobile markets to establish the exact number of people who have access to broadband services. Second, South Sudan MME estimates are representative at the level of the nine selected counties, rather than at the country level. This could partly explain why the MME estimates are higher than the ITU estimates, as the selected counties were arguably better-off than the rest of the country.

card; 10 percent who can use other people’s phones; 8 percent who cannot read numbers; 8 percent who are not allowed to have phones; and 5 percent who would not know how mobile phones work (see

32. Figure 5).

Figure 5: Barriers to phone ownerships among those who do not own one (N=770)



33. Unaffordability of phones can mostly be explained by extremely low purchasing power, and to some extent by an unfavourable taxation regime. Indeed, as Table 4 shows, a basic phone costs around 5,000 SSP in Juba (approximately US\$ 20), which compares to an average monthly income of 3550 SSP (approximately US\$ 13.67). Telecommunications expenses are therefore considered as high, and only affordable once all other subsistence expenses have been covered. Table 5 below provides a breakdown of the cost of telecommunication in South Sudan. Furthermore, while telecommunications services are charged with an excise duty at a rate of 15 percent, in line with other countries in East Africa, the import tax rate on mobile phones is high at 20 percent.⁴⁴ This compares to only 10 percent in Kenya⁴⁵.

I only buy airtime when I have money remaining, after buying goods from the market. So I guess telecommunications expenses are not a priority.

FGD with women, Juba

Table 4: Cost of telecommunications in South Sudan, compared to peer countries

Item	South Sudan - Zain	Kenya - Safaricom	Uganda - MTN
Price of a basic phone	5,000 SSP (US\$ 20)	1,500 KES (US\$ 15)	55,000 UGX (US\$15)
Price of a SIM card in an official branch	300 SSP (US\$ 1.15)	100 KES (US\$ 1)	2000 UGX (US\$ 0.5)
Price of a SIM card in an informal shop	400 SSP (US\$ 1.50)	N/A	N/A

⁴⁴ South Sudan Financial Act, 2017/18

⁴⁵ <https://customsdutyfree.com/customs-or-import-duty-for-mobile-phones-to-kenya/>

<p>Price of airtime</p>	<p>Zain to Zain: 4.950 SSP per minute (US\$ 0.02)</p> <p>Zain to MTN: 6.050 SSP per minute (US\$ 0.02)</p> <p>Zain to One Network: 19.210 SSP per minute (US\$ 0.07)</p>	<p>Safaricom to Safaricom: 5 to 7 KES per minute (US\$ 0.05 to 0.07)</p> <p>Safaricom to other operators: 11 KES per minute (US\$ 0.11)</p>	<p>MTN to any other operator: 180 UGX per minute (US\$ 0.05)</p>
--------------------------------	--	---	--

34. Socio-economic characteristics, though not perceived as such, also seem to constitute barriers to phone ownership. Indeed, literacy and gender are the main drivers of phone ownership, before income and the location of residence. The impact of gender on the likelihood of owning a phone could reflect lower access to personally owned resources for women, who often share a phone with another woman in their household. It could also reflect the perceived higher risks associated with owning a phone for women.

35. Given the barriers to phone ownership, phone sharing seems to be a common practice, particularly within a household. Indeed, 17 percent of the population do not own a phone, but share a phone with someone who does. Of these, 60 percent of those who do not own a phone but share one, do so with someone within the household. Phone sharing is considered as a convenient way to pool resources between household members, as mobile handsets are unaffordable for many individuals. Phones can also be considered as a resource to share within the community and in case of need.

My phone got damaged, and the cost of fixing is very expensive. [...] So I just put my SIM card in my sister's phone and we share her phone.

FGD with women, female, Wau

Yes the phone is mine, although I share it with my neighbors when they ask for help.

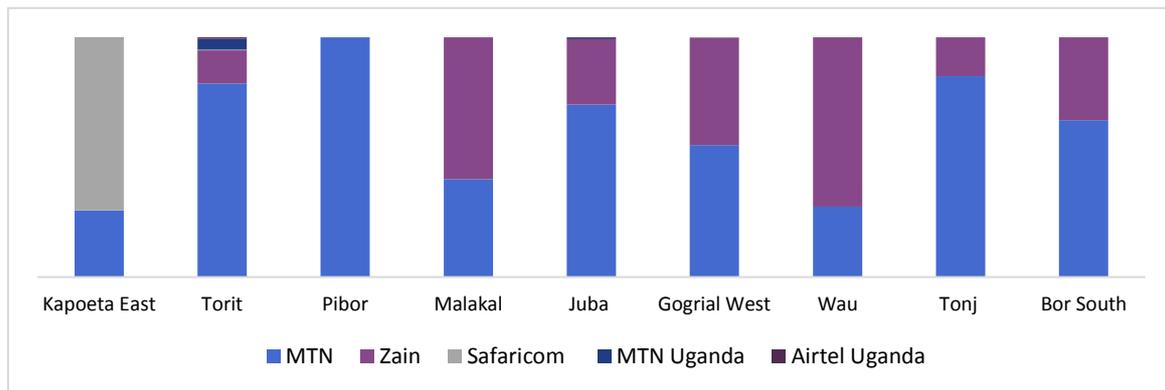
FGD with returnees, male, Juba

3.2.2. ACCESS TO SIM CARDS

36. Similarly to phones, penetration of SIM cards is low and uneven across geographic zones. Overall, 48 percent of the population owns a SIM card. This penetration rate hides high disparities across geographic locations: 66 percent of urban residents and 61 percent of the PoC site residents declared owning a SIM card, compared to 41 percent of rural residents.

37. SIM card owners also often own SIM cards from several operators, as a way to mitigate the main operators' uneven coverage and lack of interconnection. Among SIM card owners, 37 percent own two SIM cards. Some geographic patterns are also easily identifiable. As Figure 6 shows, MTN dominates the market in certain counties such as Pibor, Tonj and Torit, while Zain dominates the market in Wau or Malakal. Residents in areas neighboring Kenya or Uganda also use Kenyan (Safaricom) and Ugandan (MTN Uganda, Airtel Uganda) operators.

Figure 6: Operators' coverage per county, based on SIM card distribution (N=1,230)



3.2.3. ACCESS TO MOBILE BROADBAND

38. Consumption of mobile data is extremely limited. The large majority of phone owners, or 71 percent, possess basic phones that do not allow access to the internet. Furthermore, among the 29 percent who own a feature phone⁴⁶ or a smartphone,⁴⁷ 27 percent do not use internet-enabled functions of their phones. Consumption of mobile data predictably varies a lot across geographical areas, being higher in urban areas, but also in some counties such as Juba, Gogrial West and Tonj. On the contrary, it is very low in others like Kapoeta East and Pibor. This reflects the uneven internet coverage that MNOs provide, as they have prioritized extending internet coverage in major cities and towns.⁴⁸

3.2.4. KNOW YOUR CUSTOMER REGULATION AND IDENTIFICATION DOCUMENT (ID) REGISTRATION IN PRACTICE

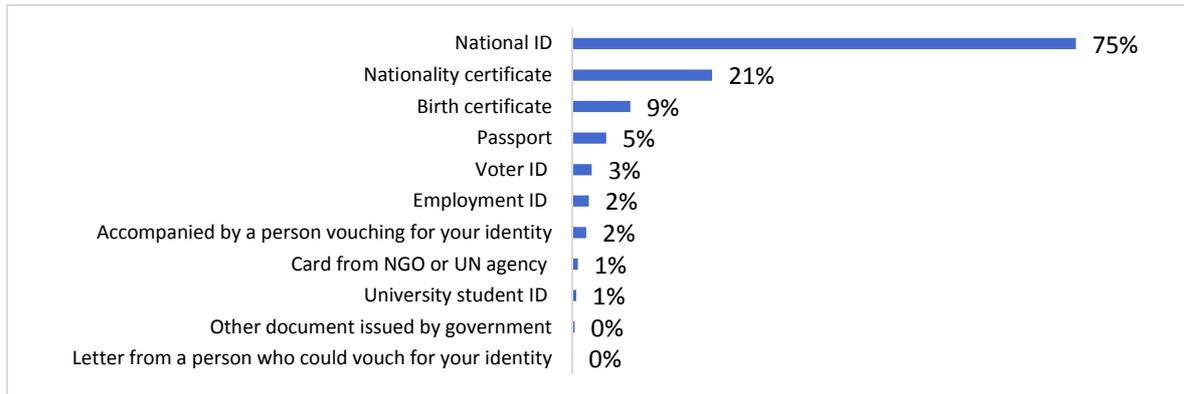
39. According to the results of the household survey, the Know Your Customer (KYC) regulation introduced in 2011 seems to be well enforced. Indeed, 94 percent of SIM cards were registered, mainly upon presentation of a national ID (see Figure 7). This is notable given low ID penetration (as will be further detailed in Section 8.2, 41 percent of the population does own any form of ID). ID owners are over-represented among SIM card owners, which suggests that current KYC requirements are a barrier to phone ownership for the most vulnerable, that are less likely to own an ID. Remarkably, the survey found that the regulation is not only enforced in MTN and Zain official branches, but also in informal small shops and airtime resellers shops, where 39 percent of SIM cards are purchased and where 90 percent of SIM cards were also registered. However, although SIM card sharing is not as common as phone sharing (5 percent of the population has access to a shared SIM card), it could nonetheless challenge traceability of transactions.

⁴⁶ A feature phone was defined in the questionnaire as a “phone that allows to use internet services without enabling applications downloading”.

⁴⁷ A smartphone was defined in the questionnaire as a “phone that allows to download internet services and to download applications”.

⁴⁸ TeleGeography. GlobalComms Database. March 2018.

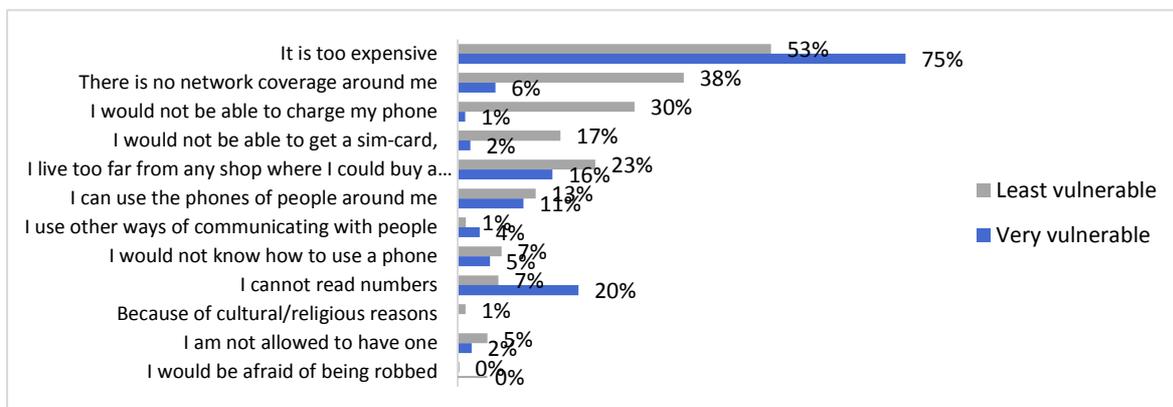
Figure 7: Type of ID used to purchase a SIM card, for registered SIM cards (N=855)



3.2.5. FOCUS ON VULNERABLE GROUPS

40. Vulnerable groups have less access to phones and face specific constraints. For respondents with similar types of residence and income, a higher vulnerability level⁴⁹ is significantly and negatively correlated with the probability of owning a phone.⁵⁰ Vulnerable groups and individuals also face specific constraints (Figure 8). Both the most and the least vulnerable are deterred by the cost of phones, but the most vulnerable are also mainly deterred by their lack of numerical literacy, whereas the least vulnerable mainly report the lack of network coverage. This suggests that personal barriers are more at play for the most vulnerable, which would require specific mitigation measures to increase uptake.

Figure 8: Barriers to owning a phone faced by people who do not own a phone, different vulnerability levels (N=1,493)



41. A significant gender gap also remains in access to phones, with as much as 22 percentage point difference between phone ownership by men and women. Moreover, women share phones

⁴⁹ The vulnerability level was built based on the existing literature and international organizations' best practices. It ranges from 0 to 1, with 1 being minimum vulnerability, and sums 4 indexes, each having the same weight. It takes into account food intake in terms of quantity and diversity, extreme coping strategies and livelihood conditions. Based on the vulnerability level, we also refer to three different groups: the least vulnerable (or the 50 percent who are the least vulnerable in the population), the vulnerable (or the 40 percent who are neither the least nor the most vulnerable), and the most vulnerable (or the 10 percent who are the most vulnerable). More details can be found in Annex 4.

⁵⁰ Here, we estimate a probit model where the probability of owning a phone is regressed on the type of residence (urban, rural or PoC), the level of income and the vulnerability index. Holding everything else equal, being more vulnerable has a negative and significant impact on the probability to own a phone.

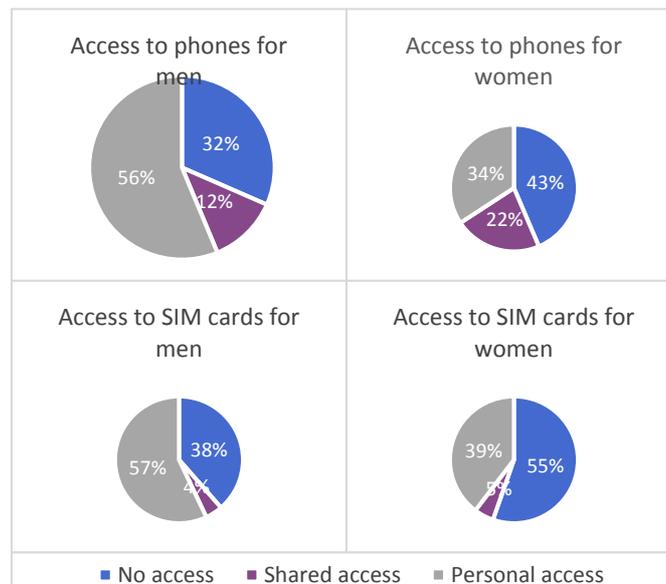
more often than men, generally with someone in the household (Figure 9). This does not compensate, however, for their lower access to personal phones. On the contrary, men have access to personal phones more often than women. When men share a phone with someone, they also usually share it outside of the household. A similar gender gap is at play for SIM card ownership, of 18 percentage points.

42. Men and women report similar reasons for not owning a phone. Women nonetheless tended to say more often that they are not allowed to own a phone (10 percent of women who do not own a phone) than men (5 percent). Women who report not being allowed to own a phone, however, are in average younger by four years than those who report other reasons (24 years old in average). This could therefore reflect the fact that girls and young women are more discouraged to own a phone.

I share my phone with my daughter. Not because I don't want her to own a phone, but because she is still in high school. I don't think it's a priority for her now. So sometimes her friends call me to pass a message for her.

FGD with women, Wau

Figure 9: Phone and SIM card penetration by gender (N=1,648)



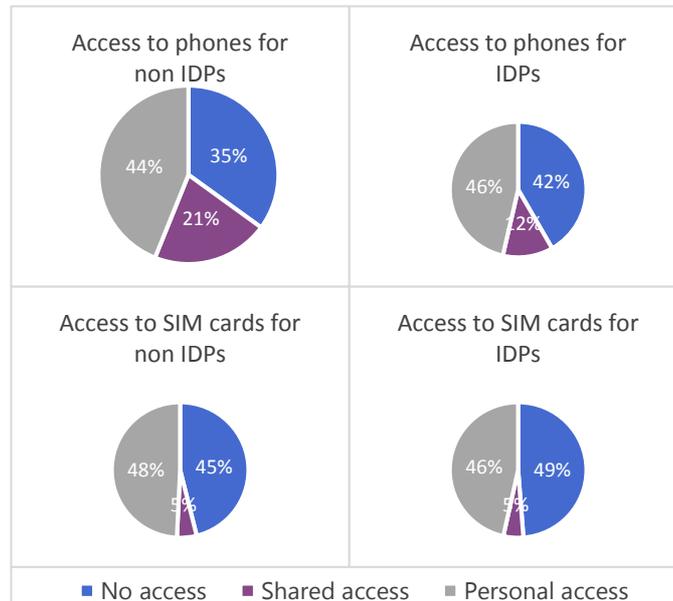
43. IDPs⁵¹ have less access to phones and SIM cards than the rest of the population (Figure 10). This trend that is mainly driven by reduced sharing practices, while ownership rates are similar. Overall, IDPs mentioned similar barriers to owning a phone as the rest of the population, but tended to declare more often that they were not be allowed to own a phone (10 percent) than the rest of the population (5 percent). They also tended to report less often personal barriers, namely that they cannot read numbers, would not know how to use a phone, or would not need one. This suggests a higher perceived usefulness of, and familiarity with, phones, than for the rest of the population. After one or several displacement incidents, telecommunications are indeed perceived as a necessary means of keeping contacts with family and relatives.

⁵¹ People who declared that they had been displaced within South Sudan after December 2013 due to conflict, violence, human rights violence, natural or man-made disasters, and people living in PoC sites.

Telecommunications expenses are a priority for me. My family is not with me in Juba, so the only way to keep contact with them is through phones.

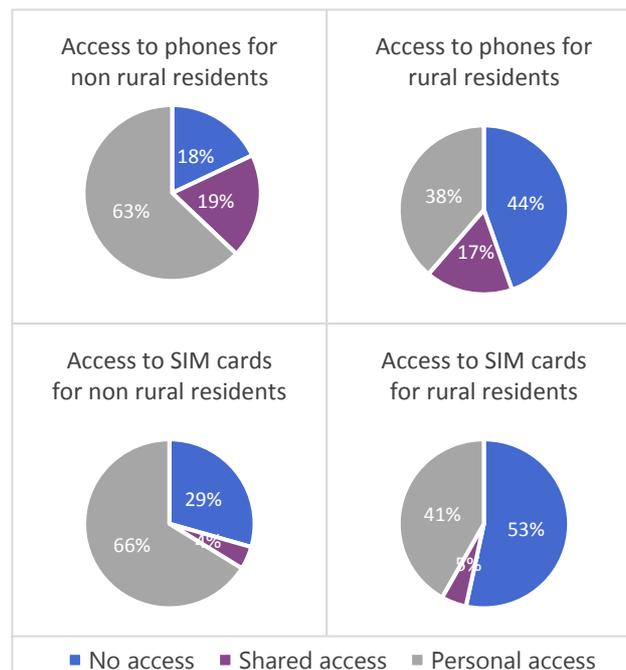
FGD with IDPs, Juba

Figure 10: Phone and SIM card penetration for IDPs and non IDPs (N=1,648)



44. Rural residents also have a reduced level of access to phones (Figure 11). This reflects the lack of network coverage in rural areas, the lack of access to electricity and the difficulty in obtaining a SIM card due to remoteness of services. These features of the weak telecommunications sector are indeed mentioned significantly more often by rural residents as reasons for not having a phone. Similarly, they also have less access to SIM cards.

Figure 11: Phone and SIM card penetration for rural residents and non rural residents (N= 1,648)



We walk long distances to charge phones, but sometimes, we do not have the money to pay for electricity and charge our phones.

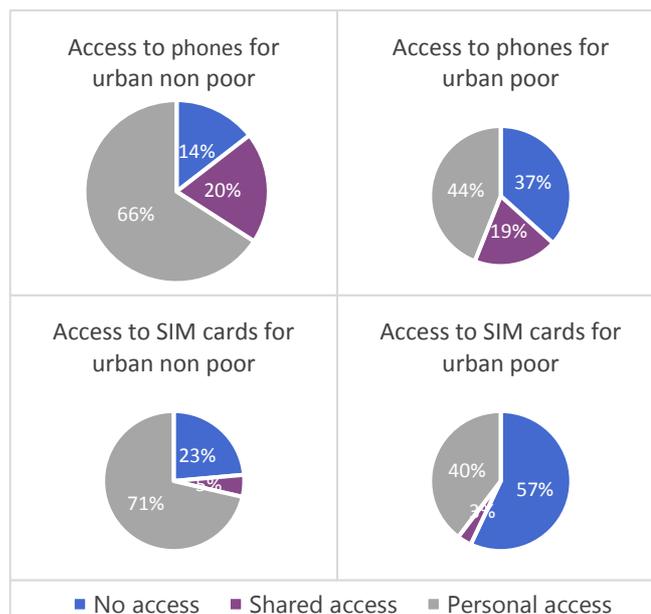
FGD with rural residents, Pibor

45. The urban poor⁵² have low access to phones compared to the rest of the urban population, and the same goes with SIM cards (see Figure 12). The main barrier seems to be an economic, as 65 percent of the urban poor report that phones are too expensive. Indeed, compared to other urban residents, they tend to under-report personal barriers. Additionally, there is no difference between urban non poor and urban poor when it comes to structural constraints. Contrary to the rest of the population, urban residents, including the urban poor, benefit from a privileged access to network coverage, shops selling a phone and SIM cards, and informal places to charge their phones.

It is not easy to charge phones because there is no public electricity. I take my phone to specific places for charging around the neighbourhood. I charge my phone at my neighbor's, who has solar panels in his house.

FGD with urban poor, Juba

Figure 12: Phone and SIM card penetration for urban poor and non-urban poor (N=1,648)



46. Given the above dynamics, it appears that limited and poor provision of telecommunications services has compounded the ability of South Sudanese people to access mobile services. Access to phones and SIM cards is low, even compared to other countries in the region. This is further

⁵² Urban poor were defined as people living in urban areas whose living conditions do not meet three out of five different criteria: i) durable housing of a permanent nature that protects against extreme climate conditions; ii) sufficient living space which means not more than three people sharing the same room; iii) easy access to safe water in sufficient amounts at an affordable price; iv) access to adequate sanitation in the form of a private or public toilet shared by a reasonable number of people; v) security of tenure that prevents forced evictions. More details can be found in Annex 5.

exacerbated by the limited usage of phones, including very low usage of mobile broadband. Vulnerable groups in particular face specific barriers to access telecommunication services, likely to affect mobile money provision, as access could be undermined for a large part of the population. This therefore calls for mitigation measures that are tailored to the needs and barriers of specific vulnerable groups.

4. FINANCIAL SERVICES IN SOUTH SUDAN

47. South Sudanese people have low access to formal financial services and predominantly rely on cash to conduct transactions, largely due to lack of other options. This section describes the financial sector and its recent history. It then presents main financial practices and their drivers.

4.1. BACKGROUND

4.1.1. RECENT HISTORY OF THE FINANCIAL SECTOR IN SOUTH SUDAN

48. Independence in 2011 cut South Sudan off from pre-existing financial networks and institutions, such as the Central Bank of Sudan based in Khartoum, requiring the creation of new local structures. Many hoped that a local financial sector boom would consequently be possible, which would be capable of driving the country's development. The Bank of South Sudan (BoSS) was subsequently created to regulate the nation's new currency and banking sector.

49. The financial sector rapidly developed post-independence, featuring a plethora of new market entrants, alongside plans to expand existing range of financial service providers.⁵³ At the time of independence, there were only eight commercial banks present in South Sudan⁵⁴ Some two years later, 28 commercial banks, 10 microfinance institutions, 86 forex bureaus, and a handful of insurance companies were licensed and operating within the country.⁵⁵ However, financial sector expansion was not driven by local consumer demand, as less than 1 percent of the population was banked (based on figures from 2012).⁵⁶

50. As of today, South Sudan's financial sector continues to suffer from the consequences of years of conflict and financial mismanagement. Faced with a challenging political instability and macroeconomic situation, commercial banks have had to scale down in the aftermath of the 2016 conflict.⁵⁷ For example, Kenya's Equity Bank Group closed more than half of its branches in South Sudan in 2017.⁵⁸ The credit sector has also prioritized short-term financing, on a timeline of weeks or months. However, the latest World Bank's Economic Brief (2019) pointed to gradual improvement of the business sentiment and slow recovery of the financial sector, with deposits and lending activities picking up in the second half of the 2018 fiscal year.⁵⁹ The recent momentum in the development of new financial services such as mobile banking, developed further in Section 5, could be as a result of this recent recovery.

⁵³ Ding, Shannon; Wyett, Kelly; and Werker, Eric. *South Sudan: The Birth of an Economy*. 2012.

⁵⁴ These included the Kenya Commercial Bank, the Nile Commercial Bank, the Buffalo Commercial Bank, Ivory Bank, Equity Bank, the Commercial Bank of Ethiopia, the Agricultural Bank of Sudan, and Mountains Trade Development Bank.

⁵⁵ Bank of South Sudan. *South Sudan Investment Conference 2013: South Sudan's Financial Sector*. 2013. Based on the number of banks in November 2013.

⁵⁶ Ferullo, Mark. *Banking on War: Ending the abuse of South Sudan's banking sector by political elites and pushing for peace*. October 2018.

⁵⁷ World Bank. *South Sudan Economic Brief*. April 2019.

⁵⁸ Reuters. *Kenya's Equity closes bank branches in war-torn South Sudan*. May 2017.

⁵⁹ World Bank. *South Sudan Economic Brief*. April 2019.

51. In spite of a large number of actors, the banking sector is dominated by a handful of players. KCB South Sudan Limited, Equity Bank, Ecobank South Sudan Limited, Cooperative Bank of South Sudan, Nile Commercial Bank and Charter One Bank appear to dominate the banking sector.

4.1.2. REGULATION OF THE FINANCIAL SECTOR

52. The financial sector is regulated by the BoSS, which was established in July 2011 by the Bank of South Sudan Act. Its primary objective is to ensure monetary and domestic price stability. Other objectives include: (i) holding and managing the State's foreign exchange reserve; (ii) licensing, regulating and supervising banks and other regulated entities;⁶⁰ (iii) establishing and enforcing minimum bank reserve requirements; (iv) collecting economic and financial data; and (v) receiving deposits, and maintaining account for units of government, foreign central banks, and international institutions.⁶¹

53. While the BoSS acts both as the central bank and bank of the Government, its current governance arrangements call its independence into question. The Bank of South Sudan Act asserts that the BoSS should be independent. However, the Governor of the BoSS (who serves as chairman of the Bank's board) is appointed by the President of the Republic. Moreover, the Bank's Board is proposed by the Governor and must be approved by the President. The BoSS also acts as Banker and advisor to, and as fiscal agent of, the Government.

Focus Box 1: The independence of the BoSS with regards to international practices

There are no commonly accepted best practices regarding the optimal design of Central Banks. The Federal Reserve (Fed) in the United States and the European Central Bank (ECB) constitute two different models, both in terms of governance and objectives. On the one hand, the Board of the Fed is nominated by the President, and the Fed's objectives are to maintain stability of the financial system in general (with objectives of stability of prices and of full employment, which is sometimes contradictory) and to serve as the government's bank. On the other hand, the Board of the ECB is appointed upon recommendation of the European Council for non-renewable terms, and the mandate of the ECB is to ensure the stability of prices, all other objectives being subordinated to that. The ECB is therefore traditionally considered as independent from the European political agenda, while the Fed is answerable to the national political agenda. In its design, the BoSS is closer to the Fed than to the ECB and its independence is somehow limited by the approach of the 2011 Bank of South Sudan Act. While this is not problematic in absolute terms, the proximity between the BoSS and the Government within the South Sudanese political economy exposes it to the clout of PEPs. Literature (The Sentry, 2018) and KIIs with representatives from the financial sector suggest that indeed the BoSS's policies have been partly shaped by political and personal interference.

54. A number of new regulations have been passed in recent years to improve the financial sector regulatory environment. The 2017/2018 Finance Act established the custom tax rates applicable to various imported goods, as well as withholding tax, sales tax and excise tax rates. Notably, the excise duty for telecommunication services increased from 10 percent to 15 percent, in connection with this Act. This led to an increase in the price of telecommunications, as the burden of the increased taxation was transferred to the customers.⁶² In 2017, the BoSS also introduced a new monetary policy,

⁶⁰ Regulated entities include banks, foreign exchange dealers, money service providers, electronic money institutions and payment system operators.

⁶¹ Government of South Sudan. *Bank of South Sudan Act*. 2011.

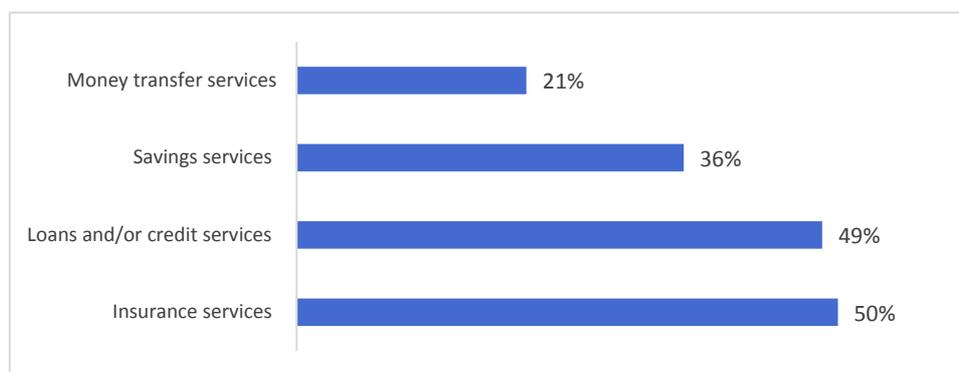
⁶² South Sudan Tribune. "South Sudan call rates to increase, says regulatory body". 1 February 2018. Available at:

aiming to tackle soaring inflation, regulate foreign currency trading and combat money laundering.⁶³ The extent to which these measures will have an impact on the telecommunication sector is yet to be determined.

4.2. FINANCIAL LITERACY

55. Financial literacy is low in South Sudan, as people have limited knowledge of financial services. As illustrated in Figure 13, half of the population indicate that they have never heard of insurance or loans services and a third report report of having never heard of savings services. Financial literacy is equally low across age groups and types of residence (rural, urban, PoC site). However, there are large differences across gender, literacy levels, and counties. Men tend to be more informed of the existence of different financial services. Predictably, literate people also have higher levels of financial literacy. Finally, the county seems to be a differentiating factor. For example, half of the population in urban Juba (47 percent) knows about digital payments, against 16 percent of the population in urban Malakal, where fewer financial institutions are present. This highlights the large role that both literacy and proximity to services play in financial literacy.

Figure 13: Absence of knowledge of specific financial services in the population (N=1,648)



56. The lack of knowledge of different financial services is compounded by limited exposure to financial transactions, even with regard to day-to-day activities such as managing household finances. A large part of the population (43 percent) does not track their expenses and sources of income, and this trend is even more acute for rural residents, women, and illiterate people. Furthermore, this percentage only slightly decreases when considering people who are in charge of household finances, as 32 percent of those who declared that they are in charge of a large portion of the household finances⁶⁴ still reported that they do not track types of expenses or income. This suggests that the population at large could benefit from sensitization to financial practices to build their money management know-how, which could in turn swell demand for digital financial services.

4.3. FINANCIAL BEHAVIORS

57. Current levels of financial inclusion in South Sudan are extremely low, with significant gap in financial inclusion between rural and urban areas. A majority of the population (59 percent) does

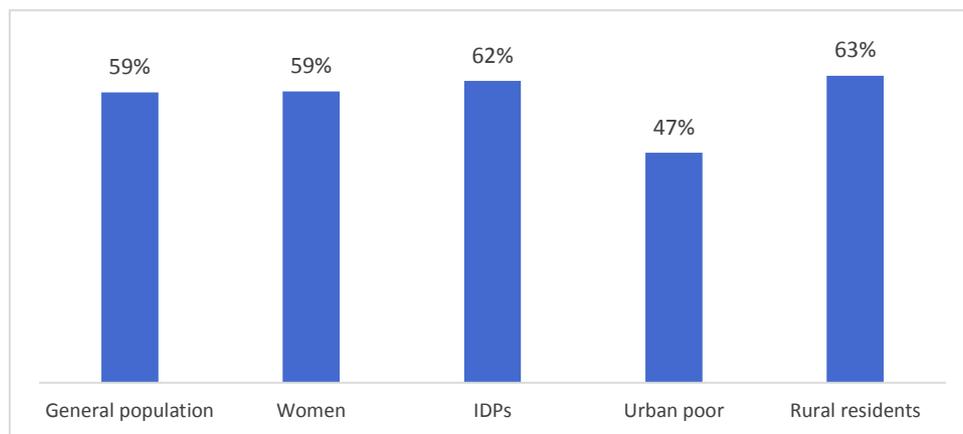
http://www.sudantribune.com/spip.php?iframe&page=imprimable&id_article=64621

⁶³ The East African. "New South Sudan rules to tame illicit fund transfers". 28 July 2017. Available at: <https://www.theeastafrican.co.ke/business/New-South-Sudan-rules-to-tame-illicit-fund-transfers/2560-4035932-wnhhl/index.html>

⁶⁴ A large portion of household finances was defined in the household questionnaire as at least 60 percent of household finances.

not feel financially included⁶⁵ and has unmet financial needs. There are important variations across counties: of the nine counties surveyed, Kapoeta East and Pibor have the lowest level of financial inclusion, with 97 percent and 96 percent of respondents feeling excluded from financial services, respectively. While the financial inclusion level for IDPs is not significantly different than the general population, it is significantly lower in rural areas, with 65 percent of rural residents perceiving themselves as not being financially included, compared to 48 percent of urban residents. In fact, the urban poor are likely to be the most financially included among the four vulnerable groups because they live in urban areas and their level of financial inclusion is therefore similar to the urban average (see Figure 14). As expected, prevalence of financial inclusion is significantly higher among literate respondents and for those who attended university. Gender does not seem to be a driver of financial inclusion, as women do not feel significantly less financially included than men.

Figure 14: Percentage of respondents who do not feel financially included, across vulnerable groups (N=1,648)

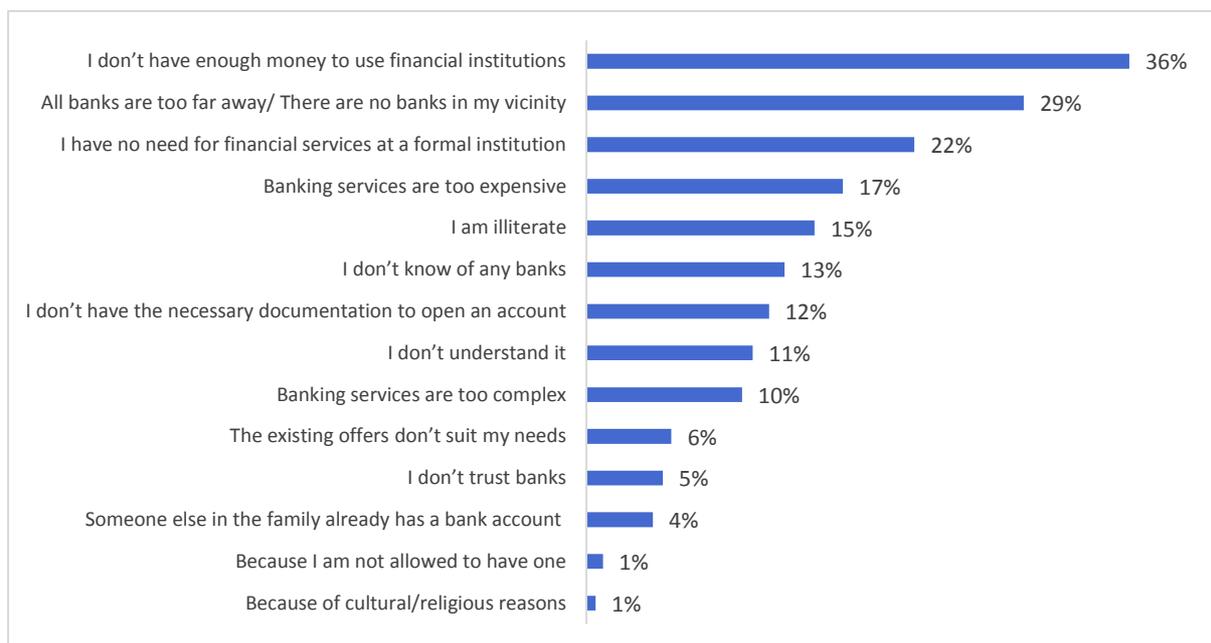


58. This perceived lack of financial inclusion can be explained by two factors. These include: i) barriers that prevent them from accessing formal services; and ii) constrained financial practices that are limited to *subsistence* financial behavior. Given the breadth and depth of wide-spread poverty and vulnerabilities, most households only handle their finances to meet their most basic needs and confront shocks to ensure basic sustenance. They pay relatively little attention to future planning, and rarely engage in financial management and investment in physical or human capital, which could financially empower them in the long run.

59. Access to formal financial services, such as banking, is extremely limited. Only 13 percent of the population owns a bank account. Furthermore, bank account owners constitute a very specific subset of the population, mainly comprising of literate males from urban areas. Literacy, gender, and type of residence are the main drivers of bank account ownership, playing a more prominent role than income. As evidenced in Figure 15, reported barriers to access to bank services are numerous. Some relate to distance and affordability (banks are too far away or too expensive), but for a significant share of respondents, banks are also perceived to be unuseful, as 36 percent say that they do not have the resources to use financial institutions, and 22 percent reported not needing financial services at a formal institution. This likely reflects a lack of understanding of the benefits individuals could reap from formal financial services.

⁶⁵ Financially included being defined as being able to access useful and affordable (formal and informal) services that meet their needs.

Figure 15: Barriers to bank account ownership, among those who do not have a bank account (N=1,425)



60. Bank accounts are mainly used to ensure security of money, rather than for specific financial services or functionalities that they could offer. Bank accounts are mainly used for personal purposes (for 65 percent of bank account owners) rather than for business purposes (for 29 percent). Main accessed services are savings for half of bank account owners. Access to bank-enabled digital payments, on the other hand, are only used by a minority, as 39 percent use debit or credit card payments and 24 percent conduct wire transfers. Finally, very few use banks to take out loans (19 percent of bank account owners) or subscribe to insurance services (5 percent).

61. Cash is the predominant means of conducting financial transactions. It is the main method to pay for consumption and durable goods, utility bills, and health and education expenses. Wages and allowances are also mainly received in the form of cash. This is corroborated by qualitative evidence.⁶⁶

We only use cash to buy goods. For example, where I come from, we bring cows to Juba from Yirol [to sell them]. Then, after that, we purchase goods and service with the cash, and we sell the goods in Yirol. We keep repeating this process regularly. After selling the goods, we buy more cows and bring them to Juba for the same purpose.

FGD with IDPs, Juba

62. Only a minority of the population relies on more elaborate financial practices, such as domestic and international transfers, and saving and borrowing schemes. Such practices remain heavily dependent on informal methods. Financial habits rarely pertain to investments in assets to build or sustain livelihoods, or in physical or human capital, but rather mainly support emergencies and daily life contingencies.

⁶⁶ Anecdotal qualitative evidence also reveals that traditional systems of exchange, e.g. barter trade, can be used to conduct transactions, especially in rural areas.

- **Domestic transfer prevalence is low**, with only 40 percent of the population engaged in domestic transfers over the past twelve months.⁶⁷ The main reasons to send and receive money domestically are to help family, friends or relatives on a regular basis. These transactions are conducted primarily through money transfer operators or through hand delivery of cash, which illustrate a lack of access to other services.
- **The prevalence of international transfers is even lower than that of domestic transfers**, with 19 percent of the population sending or receiving money from abroad over the past twelve months.⁶⁸ International transfer flows are asymmetric, mostly from developed countries to South Sudan (remittances), and from South Sudan to neighboring countries. The main countries from which financial transfers are received are Australia (39 percent of those who reported having received international transfers) and the United States (28 percent). On the contrary, the main countries to which money is sent are Uganda (70 percent of those who sent money internationally) and Kenya (34 percent).
- **International transfers are mainly supported by money transfer operators**. While money is sent abroad mostly to pay for education expenses⁶⁹ (73 percent of those who sent money internationally) or to help friends and relatives (57 percent), money is predominantly received from abroad as support from friends and relatives on a regular or irregular basis, serving as a de facto safety net. These transfers are largely dominated by money transfer operators (see quote below), once again due to the perceived absence of alternatives.

The working options that we have here in Wau are Warthog, Elephant money transfer and Dahabshil. We use that because we don't have other options; some of the banks we have here in Wau are not in Khartoum where our kids are, so it is useless.

FGD with urban poor, Wau

- **The lack of access to formal services sometimes forces South Sudanese to adopt other innovative and informal practices to transfer money internationally**. Those methods involve interpersonal transfers based on existing relationships and trust, as one of the FGD participants explained.

Since I have a daughter in Khartoum, and since all the money transfers between Wau and Khartoum have been cut off, we use relationships. A family here in Wau identifies a family in Khartoum. I give money to the family in Wau, and they give money to my daughter in Khartoum, using the existing rate from South Sudanese Pound to Sudanese Pound.

FGD with urban poor, Wau

⁶⁷ Domestic transfers are defined as either sending or receiving money domestically. Sending money domestically is defined as giving or sending money to a friend or relative, or to conduct a payment, inside of South Sudan. Receiving money domestically is defined as receiving money from a friend or relative, or to receive a payment, inside of South Sudan. However, evidence suggests that respondents understood domestic transfers as referring to sending (or receiving) money, rather than engaging in financial transactions in a broader sense. This explains why only 40 percent say they have engaged in domestic transactions.

⁶⁸ International transfers are defined as either sending or receiving money internationally. Sending money internationally is defined as sending money to a friend or relative, or to conduct a payment, outside of South Sudan. Receiving money internationally is defined as receiving money from a friend or relative, or to receive a payment, outside of South Sudan.

⁶⁹ Sending children to study in neighboring countries (such as Sudan, Uganda or Kenya) is common, for households who can afford it.

- **Only a minority of the population saves money.** As few as 39 percent of those surveyed saves. Of those who do save, a large proportion uses it to cover basic expenses in times of hardships and/or emergencies (63 percent of those who save). For few, savings is also used to invest in physical capital (36 percent save to start, grow, or operate a business or a farm) or in human capital (32 percent save to cover educational expenses). The methods to save are also informal: people mostly save by keeping cash in a safe place (53 percent of those who save) or by buying livestock (36 percent). Of the 61 percent surveyed that do not save, a majority (87 percent) that they do not save because they do not have money to do so. Additionally, 10 percent said that they do not see the need to save. Again, this suggests that financial behaviors are constrained both by an absence of financial resources, and low financial literacy levels that prevent people from appreciating the longer-term benefits of saving.
- **Borrowing practices are even scarcer than saving practices.** Only 24 percent of the surveyed population borrowed money over the past twelve months. Borrowing is mostly used to cover for basic expenses, such as food, and to cover for health expenses. It is therefore a way to tackle hardships, rather than a way to jumpstart or maintain new businesses or sustainable livelihoods. Loans are predominantly informal and obtained from friends, family or relatives (for 63% of those who borrowed). Qualitative evidence also suggests that local shops play a role in providing loans and developing in-built social networks that act as informal safety nets by selling food on credit or opening tabs, in case of need.

Usually I go to the market twice or three times a week. [...] I ensure that I buy my goods for my kiosk from one same person every time, so that if one day I don't have money to buy in cash, they trust me, I can get a loan.

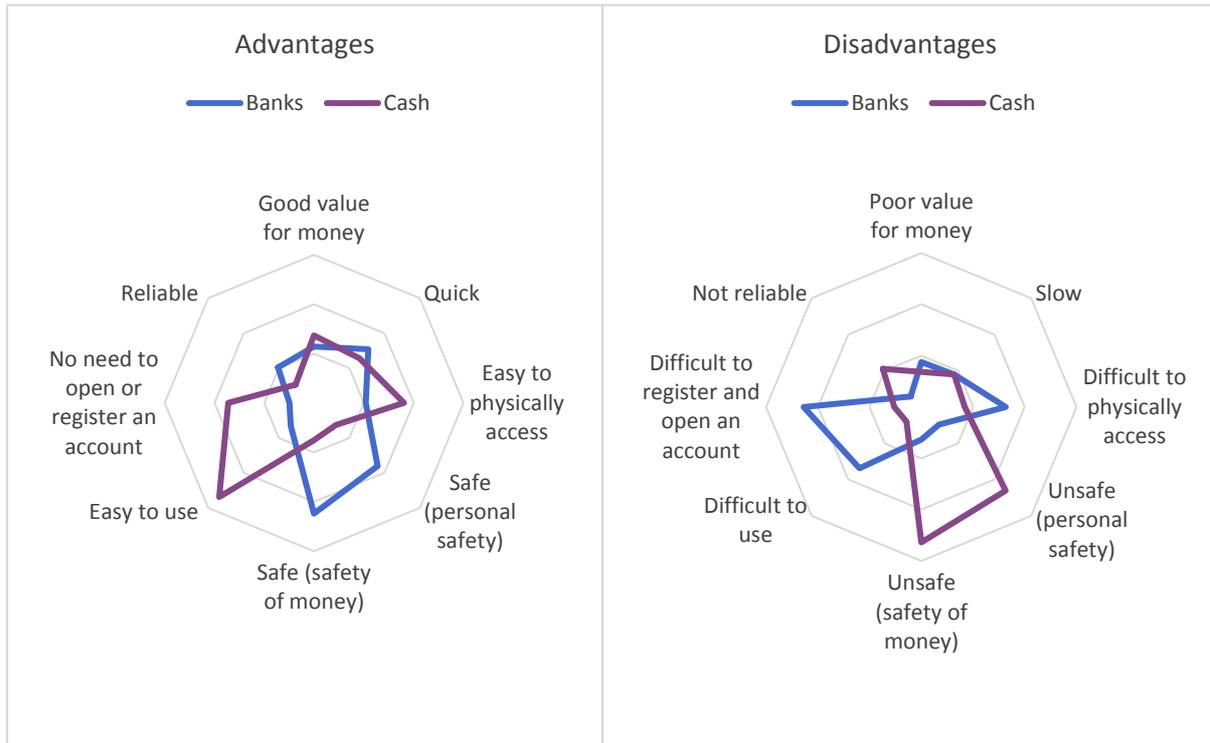
FGD with women, Wau

4.4. PERCEPTIONS OF FINANCIAL SERVICES PROVIDERS

63. Overall, low financial literacy and lack of access to formal financial services appears to contribute to distrust towards formal financial service providers. According to a fifth of the surveyed, banks do not meet their needs, do not provide services of quality and are not trustworthy. While there is no clear pattern across genders or age groups, this dissatisfaction increases for rural residents and in certain counties. In Pibor, 9 people out of 10 surveyed consider that banks do not meet their needs, do not provide services of quality, and are not trustworthy.

64. As an alternative to other types of formal financial services, cash is valued for its convenience and accessibility, despite the higher security risks of carrying cash. As illustrated in Figure 16, cash is perceived as easy to use and physically access. Contrary to banks, it also does not require to register or open an account. However, cash remains associated with low safety, both in terms of personal safety and in terms of security of money. This is aggravated by the South Sudanese context, where the national currency value is low and quickly depreciating, forcing people to carry large amounts of notes and to store value in kind, for instance in the form of cattle.

Figure 16: Perceived advantages and disadvantages of banks and cash (N=1,648)



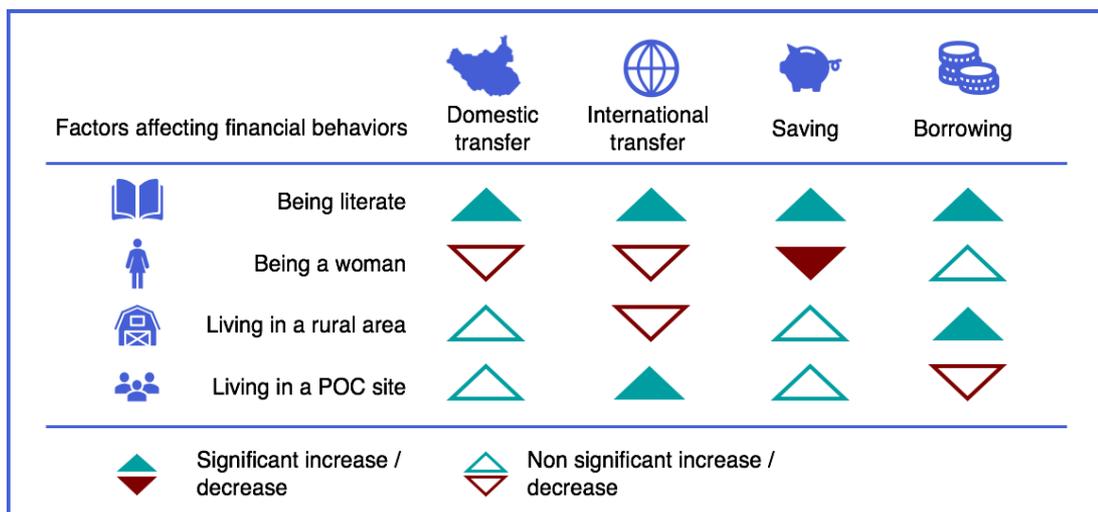
4.5. FOCUS ON FACTORS SHAPING FINANCIAL BEHAVIORS

65. Factors driving financial behaviors appear to be mainly sociodemographic rather than behavioral or structural.

- Sociodemographic factors are the main driver of financial behavior.** Figure 17 highlights the main drivers of the probability of transferring money domestically and internationally, saving, and borrowing.⁷⁰ Literacy appears to be a main driver of all financial practices, having a positive impact on the probability of transferring money domestically and internationally, saving and borrowing. Gender also has an impact, as being a woman decreases the probability of saving. Finally, the type of residence can also influence such practices. For instance, living in a rural area increases the probability of borrowing, likely reflecting stronger community relationships and informal safety nets. Financial practices are also influenced by socio-economic conditions. Seventy-two and 69 percent of those who do not transfer money domestically and internationally, respectively, declared having no money to do so. Similarly, 87 percent of those who do not save reported not having any money to save.

⁷⁰ Here, we estimate four probit models, where the probability to transfer domestically, transfer internationally, save, and borrow, is regressed on the type of residence (urban, rural or PoC), literacy, age, income and gender.

Figure 17: Sociodemographic factors affecting financial behavior (N=1,648)



- **Behavioral factors are also at play, but to a lesser extent.** The main behavioral factors that shape financial behavior are lack of knowledge of specific transactions and lack of trust in available services. For instance, 14 percent of those who do not borrow pointed to the lack of trust in services, while 12 percent reported not being aware of available services.
- **Structural constraints, also shape financial behaviors, but to a lesser extent.** Structural constraints are mainly at play for international transfers and borrowing practices. Fifteen percent of those who do not transfer money internationally and 21 percent of those who do not borrow do not rely on those financial practices because services are not accessible where they live.

I have never used bank or money transfer. I use hand delivery to send money simply because my family members live where they don't have access to banks.

FGD with urban poor, Juba

5. MOBILE MONEY IN SOUTH SUDAN

66. In the absence of formal services, usage of informal and proxy services is common, suggesting demand. Recently, two licences were awarded in South Sudan to develop mobile money services, with services reportedly to be launched in June 2019. This section presents the recent history and developments of mobile money in South Sudan. It also describes the usages of informal and proxy services of mobile money.

5.1. BACKGROUND

5.1.1. RECENT HISTORY OF MOBILE MONEY IN SOUTH SUDAN

67. Despite commercial interests in mobile money services, only two licenses have been awarded to date. At the end of 2018, the BoSS issued licenses to two third-party companies: Trinity

Technologies⁷¹ and Lukiza (also known as ‘Nilepay’).⁷² Conversely, neither Zain nor MTN have been granted a license, despite having applied. Others appear interested in applying. The Cooperative Bank, which is currently developing mobile banking⁷³ services (see Section 5.2.4), said that it plans to soon apply for a mobile money license.

68. At the time of writing (June 2019), neither of the licensed third-party companies have been operational, which means that no formal mobile money services are available in South Sudan. However, both Trinity Technologies and Lukiza plan to roll out services by the end of June 2019, under the names *M’Gurush* and *Nilepay*, respectively, based on a partnership with Zain.⁷⁴ Trinity started its communication and advertisement campaign in Juba in May 2019, and announced having trained some 300 potential agents, and recruiting more. Lukiza launched its advertising campaign in June 2019.

69. The launch plans of mobile money unclear. For example, during KIIs, it was claimed that Nilepay was going to partner with Zain in February 2019. However, this was refuted by Zain, pointing to a lack of agreement related to revenue sharing at the time. It was also claimed that the BoSS had revoked Trinity’s license.⁷⁵ However, this apparently seems to not be the case as Trinity appears to be still planning to roll out services shortly. Furthermore, although services are planned to be rolled out soon, starting with marketing campaigns, information on cost structure and business model remains unavailable, causing a great deal of speculation on how the roll out of mobile money services would look in practice.

70. While licenses have only recently been issued, there have been on-going discussions regarding the prospects for mobile money in South Sudan, dating back to shortly after independence. The World Bank (WB) and the International Finance Corporation (IFC) commissioned a mobile money scoping report in 2012, which recommended strengthening the BoSS’ capacity to regulate electronic money (e-money), and rolling out a pilot as a “proof of concept” to expand consumer awareness and highlight the benefits of mobile financial services.⁷⁶ KIIs indicated that a number of follow-up workshops⁷⁷ on mobile money continued throughout 2013, with a view towards creating a more enabling regulatory environment. The WB in particular provided technical assistance in drafting regulations. However, these workshops were put on hold once the 2013 conflict broke out and did not resume until recently, with two stakeholder consultations conducted as part of this research.⁷⁸

5.1.2. REGULATION

71. An Electronic Money Regulation (EMR) was eventually adopted at the end of December 2017. The law provides a regulatory framework for e-money circulation and transactions, based on the following provisions:

⁷¹ Trinity Technologies is a subsidiary of Trinity Holdings and Trinity Energy Limited, an Oil Marketing Company specializing in import and distribution of petroleum product.

⁷² Niletel and Nilepay are two distinct and unrelated companies.

⁷³ In this report, we use the narrow definition of mobile banking, understood as electronic services provided by a bank to access banking services. Mobile banking is therefore distinct from mobile money insofar as mobile money transactions rely on a mobile money account, rather than on a bank account, and do not have to be supported by banking institutions.

⁷⁴ MTN reportedly has not partnered with mobile money service providers due to long decision processes and timely back and forths between South Sudan and South Africa. On the other hand, Zain is still pushing to get a licence to develop mobile money services in South Sudan. They allegedly accepted to partner with mobile money providers to not miss the uptake in mobile money. They, however, developed a platform that would be scalable to support their services, should they eventually get the authorization to launch mobile money.

⁷⁵ KII with a representative of the public sector

⁷⁶ Ngahu, John and Stefanski, Scott. “IFC Mobile Money Scoping Country Report: South Sudan.” International Finance Corporation. April 2012.

⁷⁷ Those workshops included some organized by the World Bank and the International Finance Corporation.

⁷⁸ KII with representatives of humanitarian and development partners.

- **Licensing:** To engage in e-money activities, a service provider must acquire a license, issued by the BoSS. An annual fee of US\$ 5,000 must be paid to acquire and maintain said license.
- **Meeting capital requirements:** The e-money provider in question must fulfill capital requirements stipulated, equivalent to US\$ 500,000.
- **Maintaining a robust information system:** The e-money provider must “*put in place a system to accurately maintain complete records of e-money issued, the identity of e-money holders, the movement of e-money transactions, and the actions of any other users of the system*”, as well as “*maintain record of the volumes and values of the transactions carried out by each agent*”.⁷⁹
- **Safeguarding customer funds:** The e-money provider must enter into a Trust Account agreement with a commercial bank, and funds on the account must be equal to the total e-money issued. Customers’ accounts are not guaranteed by the BoSS.
- **Implementing KYC and Anti-Money Laundering (AML) procedures:** The e-money provider must implement tiered KYC requirements, based on the nature of the account (detailed in Table 5 below). The regulation refers to the 2012 Anti-Money Laundering and Counter Terrorist Financial Act, and details the specific KYC requirements for each tier.
- **Ensuring interoperability:**⁸⁰ All e-money providers should support interoperability between e-money services offered, both nationally and internationally.
- **Contracting agents:** To ensure competition, agents cannot be contracted exclusively by e-money providers. Moreover, e-money providers must monitor agents contracted and a list of agents should be shared with the BoSS.

Table 5: Three-tiered requirements to open an electronic money account

Tier	Maximum balance limit	Aggregate daily transaction limit	Aggregate monthly transaction limit	Proof of ID required
1	1,000	250	2,000	Registered phone number; voter registration card; valid and current university student ID; employment card verified by the employer; institutional (e.g. NGO) ID verified by the institution or ministry; letter from a prominent person who can reasonably verify the customer’s identity
2	4,000	1,000	8,000	Government issued ID such as driver’s license or passport

⁷⁹ Government of South Sudan. Electronic Mobile Regulation. December 2017

⁸⁰ Interoperability refers in this report to platform-level interoperability, which permits customers of one service to send money to customers of another service.

3	10,000	2,000	20,000	Birth certificate or affidavit to that effect; passport or other official means of identification; in the case of a corporate body, a copy of the organization's memorandum and articles of association, certificate of incorporation, the latest annual reports certified by the Directorate of Business Registry of the Ministry of Justice
Over-the-counter	-	Single transaction limit: 1,000		Not specified

72. Overall, the regulation was drafted to align with global best practices,⁸¹ and follows most of the recommendations made by regulatory experts, detailed in Table 6.

Table 6: South Sudan's Electronic Money Regulation and alignment with best practices

Type of recommendations	International best practices ⁸²	Recommendations for South Sudan ⁸³	South Sudan's Electronic Money Regulation
Licensing	Non-discrimination to promote fair and equitable competition across the financial sector	Yes – The regulation should apply to all e-money service providers	Yes – The regulation applies to all e-money service providers
Capital requirements	Capital requirements should be agreed upon	Yes – Should be equivalent to US\$ 1m	Yes – Is equivalent to US\$ 500k
Safeguarding customer funds	Pre-funding – Set aside funds equal to 100% of outstanding e-money liabilities in licensed banks and/or other safe liquid investments Fund isolation – Hold funds set aside Deposit insurance – Customer funds covered by direct or pass-through deposit insurance	Yes – Pre-funding and fund isolation should be guaranteed by ensuring parity between e-money issued and conventional money held in a Trust Fund No – No deposit insurance requirements	Yes – Pre-funding and fund isolation are guaranteed by ensuring parity between e-money issued and conventional money held in a Trust Fund No – No deposit insurance requirements
Anti-Money Laundering	Proportional and risk-based regulation, which can take the form of a tiered KYC approach	Yes – Three-tiered level requirements proposed (but not detailed)	Yes – Three-tiered level requirements detailed

⁸¹ Global System for Mobile Communications Association. *Report on Mobile Money Policy and Regulatory Handbook*. September 2018.

⁸² Based on the Global System for Mobile Communications Association (GSMA)'s report on *Mobile Money Policy and Regulatory Handbook*. September 2018.

⁸³ Based on the World Bank's Report on *Regulatory Framework for Mobile Payments and Banking in South Sudan*. August 2014. This report aimed at drafting recommendations for the development of a potential mobile money regulatory framework for South Sudan and it appears to have largely informed the 2017 ERM.

<p>KYC requirements</p>	<p>Agents register customers, verify identity, activate accounts and provide cash-in and cash-out services</p> <p>Customer due diligence requirements for low-value accounts are simple enough for agents to perform on behalf of providers</p> <p>Tiered account opening approach that adopts a risk-based approach for countries that lack a universal ID system</p>	<p>No – The role of agents to register customer, activate accounts and provide cash-in and cash-out services is implicit but not explicitly defined</p> <p>Yes – Three-tiered level requirements proposed (but not detailed)</p>	<p>Yes – Agents register customers, activate accounts and provide cash-in and cash-out services</p> <p>Yes – Requirements are detailed, clear, and take a risk-based approach. A first tiered account can be opened with a letter from a person vouching for the customer’s identity</p>
--------------------------------	--	--	--

73. The mobile money business model the GRSS has opted for at this stage (i.e. a non-bank mobile money model with licenses exclusively issued to third-party companies) is uncommon. A non-bank model, whereby licensed banks and non-bank institutions can circulate mobile money, is commonly seen in Eastern, Southern and parts of Western Africa (see Table 7). However, licenses are most often issued to MNOs or banks, and not to third-party companies. According to international best practice, an open and level playing field where financial regulators allows different types of mobile money providers, notably MNOs and banks, into the market is essential for mobile money to succeed.⁸⁴

Table 7: Mobile money business models - comparison with peer countries

	Regulation	Licensing authority	Mobile money business model	Licensed companies
<p>South Sudan</p>	<p>Electronic Money Regulation, 2017</p>	<p>BoSS. However, MNOs also need to obtain a “no-objection letter” issued from the NCA</p>	<p>Non-bank model (i.e. MNOs and non-bank institutions can be allowed to be issuers of e-money)</p>	<p>Third-party companies:</p> <ul style="list-style-type: none"> - Trinity Technologies - Lukiza
<p>Kenya</p>	<p>E-Money Regulation, 2013</p>	<p>Central Bank of Kenya</p>	<p>Non-bank model</p>	<p>MNOs:</p> <ul style="list-style-type: none"> - Safaricom (M-PESA) - Airtel Kenya - Orange Kenya - Telkom <p>Banks:</p> <ul style="list-style-type: none"> - Equity Bank - Kenya Commercial Bank
<p>Uganda</p>	<p>Mobile Money Guidelines, 2013</p>	<p>Uganda Communication Commission according to the 2013 Mobile</p>	<p>Non-bank model</p>	<p>MNOs:</p> <ul style="list-style-type: none"> - MTN Uganda - Airtel Uganda

⁸⁴ GSMA 2018, Mobile Money Policy and Regulatory Handbook

		Money Guidelines. However, there is a recent law proposal to amend the Guidelines so that full responsibility of licensing and regulation of the sector is passed to Bank of Uganda exclusively		
Nigeria	Guidelines on Mobile Money Services, 2015	Central Bank of Nigeria	Initially, a purely bank-led model (i.e. banks are the service provider and MNOs' role is limited to providing the infrastructure). Last year, NCB brought in new rules that will allow telecoms firms, courier companies and others to become "payment-service banks", with a license to take deposits, make payments and issue debit cards	There are currently about 21 mobile money operators in Nigeria fully licensed by CBN, including: - GTBank Mobile money - Stanbic IBTC mobile money - Paga - Ecobank mobile money - U-MO Mobile money - Diamond bank mobile app - Parkway Projects-Ready cash MTN Nigeria, Airtel and Globabom have applied for a license

74. Despite being satisfactory on paper, *de facto* regulation of the mobile money industry has been characterized by lack of transparency and heavy government interference:

- **Given that the regulation clearly details the process required to apply for, and obtain, a mobile money license, it seems contradictory that existing MNOs have not yet been granted a license.** One reason could be to enable licensed third-party companies to act as an intermediary between MTN and Zain to generate greater interoperability. However, this assumption is undermined by the fact that licenses have been granted to two separate third parties that will operate two different systems. Some interviewed for this report felt that a preference for third-party companies may have been personally and/or politically motivated, *inter alia* stemming from a willingness to benefit from financial flows, and closely monitor them.
- **Overlapping regulatory authority and lack of competition were referenced by key informants as some of the major impediments to mobile money rollout.** While regulatory authority over e-money now falls squarely with the BoSS, under the 2017 ERM, MNOs also need to obtain a "no-objection letter" issued from the NCA.⁸⁵ This adds additional layers to the authorizing environment, potentially generating inefficiencies in terms of ease of "doing business."

⁸⁵ As per the ERM.

75. The EMR does not cover how the GRSS intends to tax mobile money. However, some insights can be gained from practices implemented in other East African countries, namely Kenya and Uganda (see Focus Box 2):

Focus Box 2: How mobile money revenues are taxed in East African countries

In Kenya, a tax on mobile phone-based financial transactions was first introduced in 2013 via an excise tax at a 10 percent rate. In 2018, the Finance Act increased the excise tax on money transfer services through mobile phones from 10 percent to 12 percent⁸⁶. Mobile service providers Safaricom, Telkom Kenya and Airtel Kenya all reviewed their tariffs upwards, passing on the new levies to users and it appears that mobile money transactions fell as a result of the increased levy⁸⁷.

Similarly, the Government of Uganda introduced a 10 percent excise duty in 2013 on operators' revenues. The change did not disrupt demand for the services and contributed to increase government revenues. However, in July 2018, the Government introduced another tax, this time on transaction value: a 1 percent tax on the value of mobile money deposits, withdrawals, transfers and payments⁸⁸. This measure had huge consequences on the demand for mobile money services in Uganda, with almost half of mobile money users stopping performing mobile money transactions and reverting to cash and bank transfers. Experts considered the tax was violating two of the basic principles of taxation, those of fairness and neutrality⁸⁹. Due to the huge drop in usage of mobile money services, in October 2018, the Parliament passed an amendment to reduce the tax to 0.5 percent and restrict it to withdrawals⁹⁰.

These examples show how poorly designed tax policy can potentially reverse the economic gains from mobile money while not necessarily increasing tax revenues for the Government. As such, it seems that taxing the transaction value of operations performed by users could be detrimental to the development of the mobile money ecosystem. It is suggested that the GRSS explores the possibility of introducing an excise tax on operators' revenues according to international best practices.

5.2. ACCESS TO PROXY SERVICES OF MOBILE MONEY

76. Lack of access to formal financial services have led people to resort to a variety of imperfect substitutes to mobile money services. This suggest that there is a need and demand for formal mobile money services, as further discussed in Part 6.

5.2.1. MONEY TRANSFER OPERATORS: FORMAL AND INFORMAL VALUE-TRANSFER SERVICES

77. A variety of informal value transfer services exist in South Sudan for sending and receiving money domestically. These are based on moving funds through a third party agent network. The sender gives cash (in SSP) to an agent, who provides him/her with a transfer code. This code is then used by the recipient to retrieve the money from an agent in another geographic location. Agents in turn rely on banks, or physical delivery of cash to transfer funds when one of the branch runs out of

⁸⁶ <https://www.brookings.edu/blog/africa-in-focus/2019/02/21/could-taxation-of-mobile-banking-in-africa-stall-financial-inclusion/>

⁸⁷ Ibid

⁸⁸ Excise Duty Act, July 2018

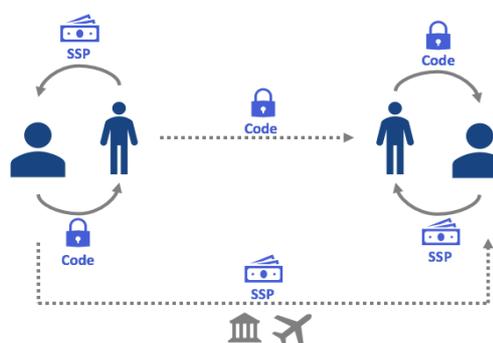
⁸⁹ <https://www.pwc.com/ug/en/press-room/what-new-tax-on-mobile-money-transactions-means.html>

⁹⁰ https://www.newvision.co.ug/new_vision/news/1486921/mobile-money-tax-reduced-05

liquidity.⁹¹ South Sudanese tend to be more familiar with money transfer agents than with banks, as they allow mere one-time over-the-counter (OTC) transactions, and do not require opening and maintaining an account or paying the associated fees. However, a form of ID is required for the sender, who has to fill in a form with his/her identity details.

- **Cost:** The costs of these services vary from one operator to another, with fees ranging from 2 percent to 5 percent of the total transaction. These fees can be charged to the sender, which is the most common practice, but also to the receiver, or to both.
- **Locations/coverage:** Informal Value Transfer Systems (IVTSs) are only located in cities, where the customer base and access to liquidity is larger. Money transfer providers interviewed were located in Juba, Kuajok, Malakal, Tonj, Torit, Pibor, Wau, Nadapal, Bor, and had branches in several other cities, such as Rumbek, Yambio, Nimule, and Ayond.⁹² However, IVTSs do not have nation-wide coverage, and therefore do not have branches in all cities.

Figure 18: Functioning of money transfer operators for domestic transfers



Sometime there are places in South Sudan with no network coverage or money agency. Therefore, you need to find someone who travels to such places, and send the money with them because no other option is available.

FGD with women, Juba

78. Regional and international transactions are conducted through formal value-transfer services. While there is anecdotal evidence of IVTSs having branches outside of South Sudan, and supporting regional transactions, most IVTSs only conduct domestic transactions. International transfers are instead supported by formal value-transfer services such as Dahabshiil, which has branches in Juba, Wau, Aweil and Bor. While IVTSs conduct transactions in the local currency, transactions with Dahabshiil are conducted in US Dollar (both to send and receive), even though the fees can be paid in SSP. Again, an ID is required for the sender. Fees vary depending on the origin and destination of the transfer, but are higher than those of domestic transfers conducted by IVTS. For example, the fee for a transfer between Juba and Nairobi is 3 percent, but increases to 7 percent for a transfer between Wau and Khartoum.

79. Informal and formal money transfer operators are the most common method to transfer money. Seventy-three percent of those surveyed said that they know of money transfer services. This is a higher share than those who know of other types of services like loans, savings or insurance. South Sudanese also predominantly use money transfer operators to transfer money, both domestically (i.e. 53 percent of those who transferred domestically over the past twelve months), and internationally (i.e 60 percent of those who transferred internationally). This reflects a perceived cost-efficiency of these services, as 48 percent of people who transferred money domestically use this method because they consider it is cheap. However, it also indicates a lack of knowledge of, or lack of access to, other

⁹¹ IDs with money transfer operators.

⁹² IDs with money transfer operators.

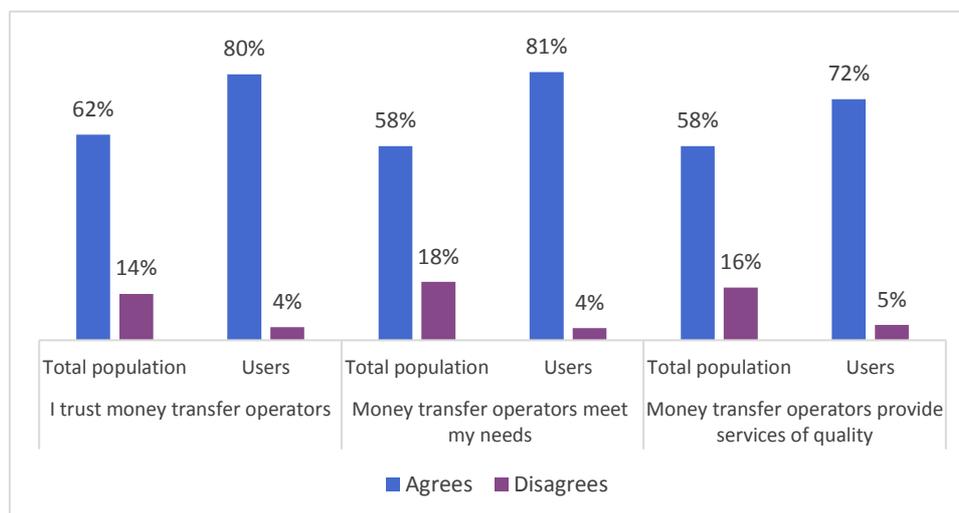
methods. Fifty percent and 37 percent reported using money transfer operators for domestic transfers because it is the only option they are aware of, and as other methods are not easily available, respectively. The same trend goes with international transfers.

I am not very familiar with money transfer services, but for the recent amount of time that I have been using them, I got some information about them. They are not time consuming, their prices are fair compared to banks, and they have small branches across the country and in neighbouring countries. You can send your money in SSP and the other person will receive them in their local currency in the neighbouring countries.

FGD with returnees, Juba

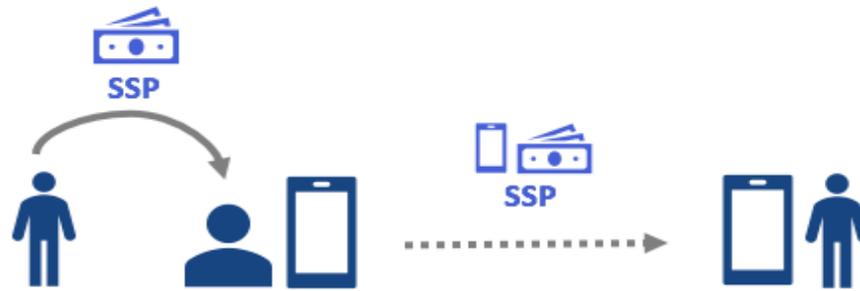
80. Overall, perceptions towards money transfer operators are positive, with majority of people considering them to be trustworthy, to meet customer needs, and to provide quality services (see Figure 19). Interestingly, users of money transfer operators also tend to have better perceptions of money transfer operators, which suggests that these services are, in practice, satisfactory.

Figure 19: Satisfaction in the population with money transfer operators (N=1,648)



81. However, money transfer operators are still associated with insecurity of money and unreliability. Indeed, one third of the population (30 percent) surveyed associates money transfer operators with low security of money. Arguably, money transfer operators’ operations still involve moving around with large amounts of cash, putting persons and money at risk. A third of those surveyed (30 percent) also views money transfer operators as unreliable, as branches sometimes close without users being aware of it.

Figure 20: Functioning of airtime trading



The only challenge is moving with the money, because it is very risky, especially with the Toronto boys [gang in Juba] snatching the money on motorbikes.

FGD with returnees, Juba

5.2.2. AIRTIME TRADING

82. Airtime transfers are also sometimes used as an alternative to the transfer of hard local currency. Senders can ask an agent to send airtime to a recipient in exchange for cash. Recipients receive the airtime on their phones and can then use it for airtime, or cash it out. Airtime can also be transferred through one's mobile account without going to an airtime trader.

- **Cost:** Agents do not charge fees to send airtime on behalf of a customer.⁹³ Sending airtime through one's mobile account also does not incur additional charges. Cashing out, however, incurs a charge. In Juba, for example, the fee for cashing out can be around 10-20 percent. The cost of cashing airtime out was considered high by all traders.⁹⁴
- **Locations:** Airtime traders cover the whole country, though the majority are concentrated in urban areas. However, as airtime trading is not interoperable (i.e. airtime can only be traded between people who use the same operator), sending airtime to certain areas can be challenging due to uneven coverage of MTN and Zain.⁹⁵

83. Cashing out airtime via a merchant against a fee was popular prior to the conflict.⁹⁶ Even though qualitative evidence suggests that airtime trading flows have dwarfed with the economic crisis, sending airtime is still used by a minority of customers. The surge in the price of airtime,⁹⁷ in conjunction with the reduced income and increased cost of living, have made airtime trading less appealing as a transfer method. The research nonetheless points to the continuation, but also diminution, of these services, with 7 percent of SIM card users (or 4 percent of the population surveyed) trading airtime. However, for those who trade airtime, it is a common practice (i.e. 70 percent of these individuals trade airtime at least once a week). The traded amounts are also rather

⁹³ Although information provided by different agents was conflicting.

⁹⁴ IDIs with traders.

⁹⁵ IDIs with mobile money agents and airtime traders

⁹⁶ Ngahu, John and Stefanski, Scott. "IFC Mobile Money Scoping Country Report: South Sudan." International Finance Corporation. 23-27 April 2012.

⁹⁷ Notably, this increase was driven by the increased taxation of airtime after the 2017/2018 Financial Act. More details in Section 4.1.

high, reaching an average of 408 SSP per month (approximately US\$ 1.57), which is high compared to the average 78 SSP (US\$ 0.30) usually kept on the phone by SIM users.

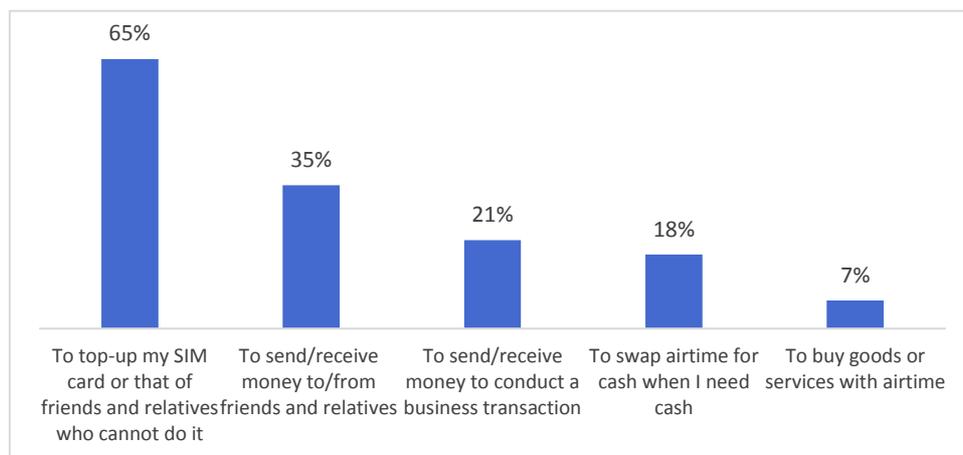
[If I need to send money to someone who lives far from me], I normally send the money through Zain in the form of airtime and the receiver will receive it from the airtime traders, in the form of money.

FGD with returnees, Juba

84. Airtime is perceived as a good alternative to cash, and is traded as an alternative form of cash. Twenty-one percent of airtime traders said that they use it as an alternative to cash, as it can be difficult to access or exchange cash. Indeed, using cash requires carrying large bundle of banknotes, which makes people vulnerable to theft. Likewise, sending cash to physically remote recipients is burdensome.⁹⁸ Sixteen percent surveyed also reported using it as an alternative to cash because they do not trust the local currency. Airtime instead allows cash to be stored in equivalent minutes, and is thus less subject to inflation.⁹⁹ In practice, it achieves two out of the three functions of money,¹⁰⁰ as evidenced in Figure 21:

- **Storing value:** Thirty-five percent reported using airtime to send or receive money from friends or relatives, while 18 percent kept it on their phones to cash out when needed.
- **Medium of exchange:** Twenty-one percent of airtime traders use it to conduct business transactions, while 7 percent use it to buy goods or services.

Figure 21: Reasons why people trade airtime among those who trade airtime (N=96)



85. Airtime trading is therefore considered as a time-efficient, but costly, way to transfer value. As highlighted in Figure 22, half (52 percent) of the population consider airtime trading to be quick, while the main deterrent to trading airtime seems to be its high cost, notably due to high fees to cash out. Accordingly, 33 percent of the surveyed population consider the lack of value for money a disadvantage of airtime trading.

⁹⁸ More details on the usages and perceptions of cash in Section 4.3.

⁹⁹ MNOs adjust the prices of airtime to keep up with inflation, meaning that they tend to increase nominal prices to maintain real prices. This involves that the nominal value of the stored minutes increases, and can partly mitigate inflation.

¹⁰⁰ The main functions of money are distinguished as i) a medium of exchange, ii) a store of value, and iii) a unit of account.

Figure 22: Perceived advantages of airtime trading (N=1,648)



To me airtime is not a priority that I need to allocate a budget for, I just ensure that I have something small in my phone to help me flash/beep the person I want to reach, so that small airtime I can get it from the shops near my house. We used to rely on airtime trading, and received airtime from Khartoum. But now, I am not interested anymore because the cost is too high.

FGD with women. Wau

5.2.3. MOBILE MONEY SERVICES THROUGH FOREIGN OPERATORS

86. Even though formal, local mobile money services have not yet been launched in South Sudan, some services are already accessible, through foreign operators (MTN Uganda, Safaricom).¹⁰¹

With a large number of South Sudanese living in neighboring countries having fled repeated cycles of conflicts, mobile money services provide by foreign operators are used in the country to facilitate the flow of remittances between South Sudan and the region. Domestic transactions can also be conducted. There are two different ways to access these services:

- **Through a personal subscription:** This allows for regular transactions from account to account, using roaming services. Access to services is granted through a three-step process:
 - a. Subscribers purchase a MTN Uganda or Safaricom SIM card, either in South Sudan or in the country where the SIM cards were issued (Uganda and Kenya, respectively).
 - b. They thereby obtain a Ugandan or Kenyan number, which allows them to subscribe to the mobile money services provided by their SIM card's operator.
 - c. They are then able to use roaming to access mobile money services, and conduct transactions with users who similarly subscribed to MTN Uganda or Safaricom's services, inside or outside of South Sudan.

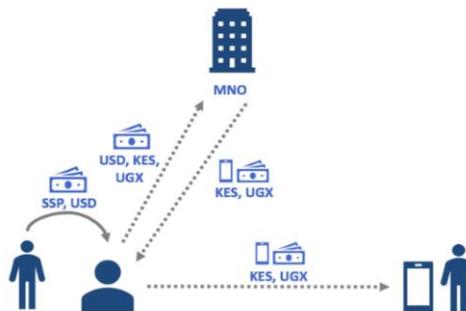
This process can also support the use of mobile money by individuals who do not subscribe but have access to the the MTN Uganda or Safaricom personal account of someone they know.

- **OTC transactions:** This is a transaction from account to account, but conducted by a mobile money trader on behalf of a customer. Access to services is provided in five steps:
 - a. Mobile money agents buy a MTN Uganda or Safaricom SIM card, either in South Sudan or in the country where the SIM card was issued.
 - b. The agents then subscribe to the corresponding mobile money service. Some agents reported receiving training from the MNO to become a mobile money agent, but this is not systematic. These agents are not provided with a salary by the foreign MNOs, and therefore generate profits by charging a commission on the transactions.

¹⁰¹ Marginally do users resort to M-BIRR Ethiopia, hence the analysis focuses on Safaricom and MTN Uganda's services.

- c. Agents buy mobile money in the national currency of the MNO (Kenyan Schillings for Safaricom, Ugandan Schillings for MTN Uganda) and store mobile money on their account.
- d. Consumers who do not have a mobile money account authorize the mobile money agent to conduct the transaction in exchange for the amount in USD or SSP and a transaction fee by giving the name and phone number of the recipient.
- e. Agents send money to the recipient's mobile money account using their personal account. The recipients receive money directly on their MTN Uganda or Safaricom mobile money account, whether they are in Uganda or Kenya, or outside of those two countries, including in South Sudan (in which case they access their accounts through roaming). The prerequisite for such transactions is that the recipient has a MTN Uganda or Safaricom mobile money account, and therefore a SIM card provided by the corresponding operator.

Figure 23: Functioning of foreign mobile money services for OTC transactions



87. The cost and location of services are as follows:

- **Cost:** Receiving mobile money is free, for both personal accounts and OTC transactions, as the commission is always supported by the sender. For OTC transactions, sending entails a fee of 400 to 600 SSP per US\$ 100 in Juba, corresponding to a 1.5-3 percent commission fee.¹⁰² This fee increases in certain areas, going up to 12 percent in cities like Wau, according to IDIs with mobile money agents. As for sending money through a personal account, the fees depend on the MNO's policy, but do not differ from the fees faced by Ugandan and Kenyan users. For instance, M-PESA in Kenya supported by Safaricom charges a fee of 1 to 3 percent, depending on the amount that is being sent. Finally, cashing out mobile money from one's personal account incurs a fee of about 5 percent.
- **Locations:** There is no existing mapping of mobile money agent locations throughout South Sudan, as the network of agents is decentralized. However, responses from interviews indicated that they are likely to be located in big cities or close to the border with countries where mobile money services are available, such as Kenya or Uganda.

88. Mobile money transactions through foreign operators constitute a grey area and are conducted informally. First, these transactions are illegal, as the BoSS and the NCA have not granted a licence to either Safaricom or MTN Uganda authorizing them to have services in South Sudan. This sometimes poses a challenge to agents. Second, knowledge of the prevailing regulations governing the

¹⁰² IDIs with airtime traders and mobile money agents.

mobile money sector is limited among agents. Of the thirteen mobile money agents and airtime traders interviewed, only three knew about mobile money regulations. Mobile money agents also said that they do not require KYC details when conducting OTC transactions and only ask for the name and phone number of the recipient.¹⁰³ This suggests that training of agents will be critical when rolling out local mobile money services in order to ensure compliance with KYC requirements.

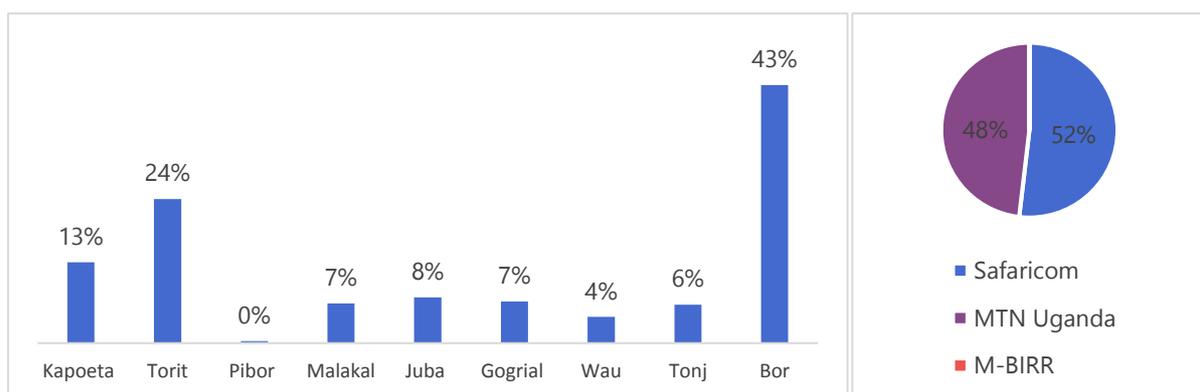
Sometimes, we face disturbances from the City Council authorities, because they know we are doing mobile money business illegally.

Mobile money agent, Juba

89. Usage of mobile money transactions appears to be a common practice, with a sixth of the population using mobile money, either through their own account, someone else’s account or OTC transactions:

- **Subscribers who use personal accounts make up 13 percent of the surveyed population, with large differences across counties.** Of the nine counties sampled, Bor is the county with most subscribers (43 percent report to have subscribed to mobile money), while Pibor is the county with the least, as highlighted in Figure 24. Subscribers generally subscribe to MTN Uganda (71 percent of subscribers), Safaricom (62 percent) and M-BIRR (7 percent). Again, there are large differences across counties. MTN Uganda dominates in Kapoeta East, Torit, Juba and Tonj South. Safaricom is predominant in Gogrial, and subscribers in Bor evenly rely on MTN Uganda and Safaricom. Subscribers generally purchased their SIM card outside of South Sudan, in an MNO branch. However, some have also bought them in South Sudan, either from an agent or from a friend or relative who brought it from Kenya or Uganda.
- **Three percent of the surveyed population uses mobile money, without having personally subscribed to an account.** They mainly rely on OTC transactions (84 percent of users who did not subscribe), but a third (or 34 percent) also use someone else’s account, either in their household or outside their household.

Figure 24: Subscription rates to mobile money services per counties (N=1,648), and most used operators for subscribers (N=254)



90. Mobile money through foreign operators is mainly used to send and receive money, both domestically and internationally, with 81 percent and 85 percent use it to send money, domestically and internationally, respectively. Seventy percent and 80 percent use it to receive money domestically

¹⁰³ IDIs with airtime traders and mobile money agents.

and internationally, respectively. Monthly amounts sent and received are rather high, both for subscribers and users who did not subscribe. Subscribers send an average of 2,003 SSP per month (approximately US\$ 7.70) and receive an average of 1,906 SSP per month (US\$ 7.33). Users who did not subscribe send an average of 2,904 SSP per month (US\$ 11.17) and receive an average of 1,742 SSP per month (US\$ 6.70).

Some of the people have heard about mobile money services such as M-PESA or MTN Uganda. I have a brother in Kakuma [refugee camp in Kenya], and I use M-PESA to send him money.

FGD with IDPs, Juba

91. There are two main reasons why people do not use mobile money services through foreign operators. These are: (i) lack of knowledge and (ii) lack of access to services, since they require obtaining a Safaricom or MTN Uganda SIM card, or to visit a mobile money operator. When asked why they do not use mobile money services, 44 percent of non-users said that they did not know what it is, and 40 percent reported not knowing how to use it. Thirty-eight percent did report a desire to use mobile money services, but highlighted the absence of available services.

5.2.4. MOBILE BANKING

92. A handful of commercial banks in South Sudan have also begun rolling out mobile banking services. Mobile banking is being spearheaded by Cooperative Bank,¹⁰⁴ which has developed a dedicated mobile application. Cooperative Bank has also rolled-out agency banking in various locations, known as *Kofi Jarana* (“neighbor” in Arabic) by partnering with existing IVTSs to create cash points where customers can withdraw money and make deposits. However, inadequate network coverage and access to termination points for customer cash-out appear to be hampering delivery of both these services.¹⁰⁵ Eco Bank has also developed mobile banking services. Services currently available support the following types of transaction: (i) transferring funds (Cooperative Bank, Eco Bank); (ii) withdrawing money through a bank agent (Cooperative Bank); and (iii) paying bills or topping up airtime (Eco Bank).¹⁰⁶

93. Usage of mobile banking, however, remains limited. Only 24 percent of bank account owners use mobile banking, making up only 3 percent of the population in South Sudan. This is unsurprising, in the context of low banking penetration, limited access to services providers who remain concentrated in largest cities, and practical constraints that undermine smooth functioning of these services, e.g. poor network coverage. However, satisfaction remains high, with 82 percent of users who reported being satisfied with the services. This indicates that for users, reaped benefits outweigh the challenges associated with technical and operational constraints, and suggests further appetite for mobile services in South Sudan.

¹⁰⁴ KII with a representative of the humanitarian and development sector.

¹⁰⁵ KII with a representative of the private sector.

¹⁰⁶ Eco Bank South Sudan website. Consulted on 13/03/2019. Available at: <https://www.ecobank.com/sd/personal-banking/countries>; Cooperative Bank South Sudan website. Consulted on 13/03/2019. Available at: <https://coopbankss.com/>.

Focus Box 3: Women and proxy services

Usage of proxy services is differentiated across genders, with women tending to use less such services. Only 19 percent of women use formal and informal transfer systems, compared to 31 percent of men. This is mainly driven by limited sending practices for women. Similarly, airtime trading, mobile money subscription and mobile banking are subject to a gender gap. 3 percent of women trade airtime (against 5 percent for men), 1 percent of women use mobile banking (against 5 percent of men), and 9 percent of women have subscribed to mobile money services (against 18 percent of men).

Women's limited familiarity with proxy services, compared to men, could suggest that they will likely be less familiar and at ease with formal mobile money services, once launched. However, examples of countries where the mobile money gender gap is inverted, such as Kenya¹⁰⁷, suggest that women could be a population in high needs of these services, and therefore that the potential for women's uptake is high. Efforts will therefore have to be made to target women and tailor services to their specific needs and constraints.

6. DEMAND FOR MOBILE MONEY IN SOUTH SUDAN

94. The research revealed high demand for mobile money, both from humanitarian and development partners, and from the general population. This section summarizes the factors that determine the level of demand for mobile money by humanitarian and development actors engaged in delivery of cash-based assistance. It also assesses perceptions from the general population on whether mobile money would improve the delivery of cash-based transfers. Finally, it estimates the level of demand for mobile money services in South Sudan more broadly, and attempts to estimate the willingness to pay for these services.

6.1. MOBILE MONEY FOR AID DELIVERY

6.1.1. DEMAND FROM HUMANITARIAN AND DEVELOPMENT PARTNERS

95. Over the past decade, humanitarian and development partners have come to a consensus on the utility of cash assistance to address vulnerabilities. Indeed, cash assistance presents several advantages, including:¹⁰⁸

- **Choice:** Cash offers flexibility in the way the money can be spent, compared to in-kind assistance or vouchers. This enables people to choose what they most need, varying from person to person.
- **Lower costs for recipients:** Food often costs recipients a significant amount to transport from the distribution site to their home and then to store, while cash incurs little related logistical and/or operational costs.

¹⁰⁷ Global F-Index 2017; Measuring Financial Inclusion and the Fin-Tech Revolution. In Kenya, women outnumber men by about 22 percentage points. The same holds true in Malawi and Zambia: women's use of mobile banking services is outpacing that of men. In those countries, the use case for mobile money, which rests heavily on personal transfers and payments, is very relevant for women, who are involved in managing their household's finances

¹⁰⁸ Daniels, Mike, C. and Anderson, Georgina. *Evaluation of the 2017 Somalia Humanitarian Cash-Based Response*. 2018.

- **Dignity and empowerment:** Cash can better maintain the dignity of recipients, as it empowers households and gives them the opportunity to further manage their finances based on their own assessment of needs and priorities.
- **People's preference:** Recipients usually prefer cash. In a survey conducted by the Danish Church Aid (DCA), more than 90 percent of people interviewed in South Sudan articulated a preference for cash, since it can be more easily transported during displacement and offers more choice.¹⁰⁹
- **Multiplier effects:** Distributing cash can have knock-on economic benefits for local economies and trade, as it increases demand for markets. This tends to stimulate production on the supply side, e.g. agricultural production, and promotes entry of new suppliers and traders in the markets.

96. Consequently, cash-based assistance has been playing an increasingly important role in both humanitarian and development initiatives in South Sudan. For example, the value of the World Food Programme's (WFP) humanitarian cash transfers rose from about US\$ 1.3 million in 2014 to US\$ 24.5 million in 2017.¹¹⁰ Cash assistance in the country include conditional and unconditional cash transfers, grants, bursaries and work schemes. The Cash Working Group (CWG) estimated that cash assistance amounted US\$ 78.1 billion in 2018, despite only constituting around 10.7 percent of total funding for the South Sudan's 2018 Humanitarian Response Plan.¹¹¹

97. Nonetheless, cash assistance still comes with a host of challenges and operational risks, particularly in FCV contexts such as South Sudan. These include:

- **Delays in distributing cash in field locations:** It is often difficult to deliver cash in a timely fashion. Indeed, as highlighted by one informant, some field locations in South Sudan can only be accessed by air due to insecurity on the roads, and flights to some locations are available only once a week.
- **Cost inefficiency:**
 - a. **Humanitarian and development partners engaged in cash assistance incur high programme implementation costs.** *First*, they need to move large amounts of cash physically, often to remote field locations that are very hard to access. This is further compounded by high inflation in South Sudan which requires a large amount of hard currency to buy basic commodities, such that the quantity of bills needed for distributions means that implementers are often offloading "wheelbarrows full of money!"^{112,113} *Second*, humanitarian and development actors often have to rely on private, third-party money transfer institutions¹¹⁴ who charge a high transfer commission. *Lastly*, the very need to move large amounts of cash in high risk areas throughout the country also often means that actors have to pay for security service

¹⁰⁹ Danish Church Aid. *Cash in conflict: cash programming in South Sudan, DCA Act Alliance*. Available at: <https://www.danchurchaid.org/articles/cash-in-conflict-cash-programming-in-south-sudan>.

¹¹⁰ Conflict Sensitivity Resource Facility. *Cash-based Programmes and Conflict: Key areas of interaction and options for conflict-sensitive programming in South Sudan*. March 2018.

¹¹¹ Ibid.

¹¹² KII with a representative from the humanitarian sector.

¹¹³ Until the Central Bank recently introduced a new bank note of 500 SSP (US\$ 1.90) in 2018, the highest denomination of cash was 100 SSP (US\$ 0.40).

¹¹⁴ According to key informants, Galaxy or Eco Bank are used by UNICEF, Galaxy is also used by WFP, while Alpha Commercial is used by UNOPS.

in order to ensure the delivery of money to beneficiaries, which in some cases was estimated to be anywhere between 25 and 30 percent of the cash transfer.¹¹⁵

- b. It has been alleged that some of the private money transfer companies also take advantage of the weaknesses in the exchange rate market and use elaborate schemes to generate huge profits in SSP.** Implementers of humanitarian and development programs note that some money transfer companies will quote official rates, but then exchange money in the parallel markets to make a profit. Instead of physically transporting cash themselves, they contract local traders to pay beneficiaries, reimbursing them in Juba with dollars received from humanitarian and development agencies financing the cash-based programmes.¹¹⁶ This business is lucrative because humanitarian and development agencies use official or near-official rates, which in March 2019 averaged 156 SSP per US\$ 1,¹¹⁷ while private third-party companies can use the parallel market exchange rate, which is around 250-260 SSP per US\$ 1. One key informant estimated that out of the US\$ 1 million sent for cash assistance, these companies can make upwards of US\$ 400,000 in arbitrage.¹¹⁸
- **Safety and protection issues:** Moving cash around may create security risks for the recipients, as well as for project staff implementing cash programmes.
 - a. Beneficiaries, especially women, are particularly vulnerable to violence when returning home from cash distribution points.** In 2016, cash transfers were suspended in Juba PoC sites, after women leaving the payment sites were attacked.¹¹⁹ The demand-side research confirms that women often report personal attacks as one of the main issues arising from collecting cash, and there is evidence that, even when cash assistance is delivered through money transfer institutions, predatory violence issues are not solved (see Section 6.1.3).
 - b. Vouchers and cash can also generate intra-household tensions that potentially put women at risk of Gender-Based Violence (GBV).** In a World Vision programme in the Juba PoC site, the organization noted that women could be pressured by the spouse to hand over vouchers, or to use them to buy certain types of non-food commodities,¹²⁰ an observation confirmed by the demand-side research (see Section 6.1.3).
- **Risks of leakages:** Cash is particularly prone to “capture” by illegal groups in South Sudan’s conflict context, and diversion by corrupt individuals for personal gains.
 - a. South Sudan’s checkpoint economy along major routes entails additional costs.**¹²¹ Humanitarian agencies outsource these risks to third-party companies to transfer

¹¹⁵ KII with a representative from the humanitarian sector.

¹¹⁶ Conflict Sensitivity Resource Facility. *Cash-based Programmes and Conflict: Key areas of interaction and options for conflict-sensitive programming in South Sudan*. March 2018.

¹¹⁷ Bank of South Sudan website. Consulted on 13/03/2019. Available at: <https://banksouthsudan.org/currency-operations/exchange-rates/>.

¹¹⁸ KII with a representative from the humanitarian sector.

¹¹⁹ Conflict Sensitivity Resource Facility. *Cash-based Programmes and Conflict: Key areas of interaction and options for conflict-sensitive programming in South Sudan*. March 2018.

¹²⁰ World Vision South Sudan. “Cash based programming to address hunger in conflict-affected South Sudan: a case study.” May 2016.

¹²³ World Vision South Sudan. Presentation on “Cash Based Programming in Emergency Context. The Case of PoC Voucher Project Juba South Sudan”. Date unknown.

cash. For instance, more than half of WFP trucks are contracted through private sector operators, that were charged US\$ 350 per metric ton for the 1,028 km journey from Juba to Bentiu in 2016. The same route had no less than 66 checkpoints in February 2018, making it one of the costliest routes to travel in Africa.¹²²

- b. **Humanitarian and development agencies also often depend on middlemen**, e.g. traders in the case of cash vouchers or local partners, to deliver the cash in field locations, which makes the operations further vulnerable to corruption. For instance, World Vision highlighted that some of the traders they contracted for the Voucher Project in the Juba PoC site were buying the aid vouchers, instead of redeeming them for the selected items, as they were able to make more profit by re-selling them at a higher price later on, despite the fact that this was in violation of the contract they signed.¹²³

- **Risks of increased population movements due to push-and-pull effects of set aid distribution points:** The literature highlights that set aid-distribution points can induce migration movements. For example, some people living in rural, remote areas – where aid is not available, move more or less permanently closer to these points to receive aid.¹²⁴ This issue is particularly relevant for cash assistance in South Sudan as large parts of the country cannot be accessed by humanitarian staff for registering beneficiaries and distributing cash, which limits the areas where aid-distribution points can be established.¹²⁵

98. Due to the above risks and challenges, demand for mobile money is high among humanitarian and development partners as a mechanism to enhance cash-based aid delivery. There are numerous ways in which mobile money has been leveraged in other countries to facilitate more effective and accountable delivery of cash assistance. Specifically, effective use of mobile money as a transfer platform has improved the timeliness and cost effectiveness of aid delivery and mitigated some of the risks associated with cash assistance, as will be further discussed in Section 7. Humanitarian partners spoke of nearby Somalia as a “*dream scenario*” in terms of the use of mobile money to respond to the needs of conflict and disaster-affected populations.¹²⁶

99. In recent months, a number of discussions around mobile money pilots have been taking place, notably among the members of the Cash Working Group. However, these are yet to be rolled out. DCA indicated that a mobile money pilot, using the *M’Gurush* platform currently developed by Trinity Technologies, could be launched by June 2019,¹²⁷ but other informants doubted that this pilot would eventually take place.

6.1.2. CURRENTS METHODS OF DELIVERING AID

100. Half of the population (46 percent) in the nine target counties currently receives humanitarian aid. The top four districts where aid is currently channeled include Kapoeta East, Bor, Juba and Pibor. Aid beneficiaries are more likely to come from rural areas or PoC sites,¹²⁸ rather than

¹²³ World Vision South Sudan. Presentation on “Cash Based Programming in Emergency Context. The Case of PoC Voucher Project Juba South Sudan”. Date unknown.

¹²³ World Vision South Sudan. Presentation on “Cash Based Programming in Emergency Context. The Case of PoC Voucher Project Juba South Sudan”. Date unknown.

¹²⁴ Laura Hammond, Jennifer Bush, Kevin Savage and Paul Harvey – Food Economy Group and Overseas Development Institute. *The effects of food aid on household migration patterns and implications for emergency food assessments*. 2005.

¹²⁵ By comparison, humanitarian agencies can resort to airdrops of food assistance in remote areas.

¹²⁶ KII with a representative from the humanitarian sector.

¹²⁷ KII with a representative from the humanitarian sector.

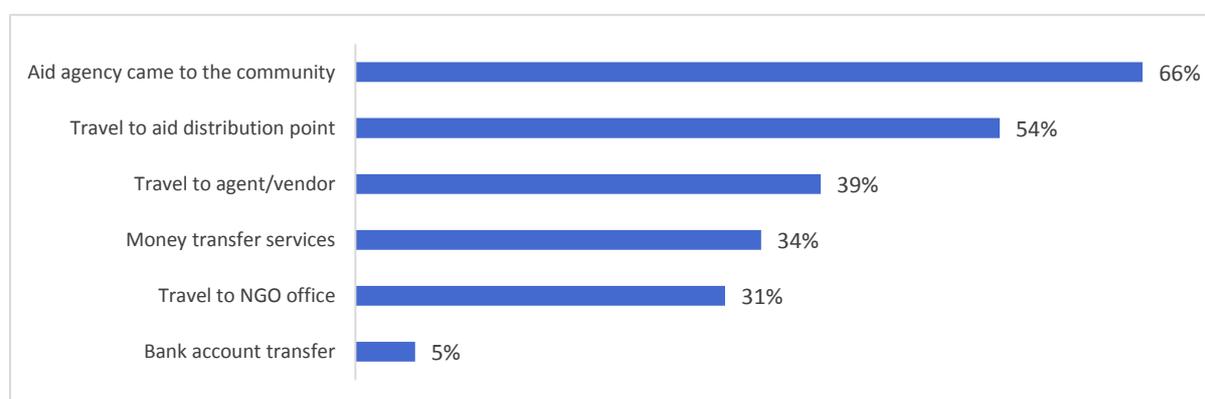
¹²⁸ Out of PoC residents, 75 percent are humanitarian assistance beneficiaries, compared to 50 percent of rural residents and 30 percent of urban residents.

urban areas. Other sociodemographic characteristics of aid beneficiaries are in line with those of the entire population: 52 percent are female beneficiaries, 52 percent demonstrate a high level of illiteracy, and 50 percent have no education at all. Most of those who receive aid are housewives, small vendors, farmers and students. The most vulnerable households, representing 10 percent of the surveyed population, are not more likely to receive humanitarian aid.¹²⁹

101. In-kind transfers predominate the different ways in which beneficiaries receive humanitarian aid, followed by the provision of social services and cash transfers. Seventy-seven percent of beneficiaries said that they received in-kind transfers (i.e. food supplies, water, basic sanitation products), while 55 percent reported they received aid in the form of cash-based transfers, two thirds of them receiving conditional cash transfers (i.e. based on fulfilling certain requirements). Aid administered through services (i.e. health checkup, free education) is also significant (for 52 percent of beneficiaries).

102. Among the beneficiaries of cash assistance, in-person collection requiring travel is the most common method for receiving the aid. More than two thirds (77 percent) of the cash transfer beneficiaries said they had to travel to the distribution point, to a designated agent or vendor, or to the NGO office to collect the cash¹³⁰ (see Figure 25). However, 66 percent reported that the aid agency or humanitarian organization came, at least once, to their community to hand out the cash directly. The use of money transfer services to provide the cash was mentioned by 34 percent of cash transfer beneficiaries, while bank account usage as a delivery mechanism is rather low (5 percent). While there are no significant differences among beneficiaries living in urban and rural areas in terms of how cash is transferred, cash-transfer beneficiaries from PoC sites are still need to travel to access a distribution point, albeit, most will travel for less time than urban and rural residents. Further, cash transfer beneficiaries from PoC sites are also less likely to use money transfer services compared with urban and rural residents. This is explained by the fact that often the aid distribution point is within the PoC site.

Figure 25: Current ways of receiving cash-based transfers among beneficiaries (N=265)



Yes, I have a card for receiving aid, that was registered for myself and my five children. I receive the aid at the [United Nations Mission in South Sudan] (UNMISS) compound; the last time [I received humanitarian assistance] was end of March and we expect another on the 27th of April. We usually

¹²⁹ For this consideration, it is important to take into account that vulnerability is by nature multi-dimensional and that some criteria were selected to assign people with vulnerability levels. Those might not be the same as the criteria chosen by humanitarian organizations to target beneficiaries.

¹³⁰ The main destination to collect the aid is aid distribution point (54 percent), then designated vendor or agent (39 percent) and finally travel to the NGO office (31 percent).

line up the whole day. They take fingerprints and photos in the computer, such that if one day I am not around, any of my children can use the card to collect the aid.

Urban poor respondent in Wau

103. There are several lengthy steps, both for registration and collection, that are required for cash transfer beneficiaries to collect the assistance. *First*, beneficiaries are registered according to different protocols (depending on the aid agency and programme) to ensure proper identity verification when cash is distributed to the beneficiaries. *Then*, cash collection often requires long travels, especially for rural residents. For example, more than half of urban beneficiaries needed to travel between 30 minutes and 1 hour (or more) on foot, while more than half of rural residents needed to walk at least between 1 hour and 2 hours to collect the cash transfers. Sixty-three percent of cash aid beneficiaries from PoC sites confirmed that they travel less than 30 minutes to collect cash transfers, significantly less than urban and rural residents. This is expected, as most of the times cash transfers are delivered within the UNMISS compound, as mentioned above. Additionally, of those collecting cash at the distribution point or NGO office, only 7 percent had to travel for less than 30 minutes on foot. *Finally*, irrespective of the cash collection mechanisms (i.e. either travelling to the distribution point or having it handed out in the community), the process of collection is characterized by long queues once the distribution point is reached.

I have been receiving aid from WPF since 2016, given to us inside UNMISS compound here in Wau. Usually we are given cards to receive the aid, in groups of 60 people, and the last time I received it was end of March. But the process is very hectic, we have to stand in the lines from 6 am till 3pm waiting for the staff to come and distribute to us. Sometimes I even send my daughter to go and sleep on the line from the previous night.

Woman respondent in Wau

104. These logistical impediments, combined with security challenges, hamper the level of satisfaction of cash-transfer beneficiaries with distribution modalities (Figure 26). A third of cash-transfer beneficiaries (30 percent) are dissatisfied with the way financial aid is currently distributed. They reported the hassle of queueing for long times (71 percent) – sometimes in vain¹³¹ – and the waste of time (66 percent) and money (42 percent) resulting from long travels to the cash distribution point as primary reasons for their dissatisfaction. Issues related to safety were also strongly cited. Use of cash distribution points make the assistance highly visible and puts aid beneficiaries at risk of predatory violence, often without NGOs' presence at point of distribution to mitigate security issues. As such, 61 percent of cash transfer beneficiaries reported having had their money stolen after collection, with almost a third reporting personal injuries as a result of the theft. Consistent with the literature and what was evidenced by the supply-side research, women appear to be more likely than men to be subject to theft after collecting the cash.¹³²

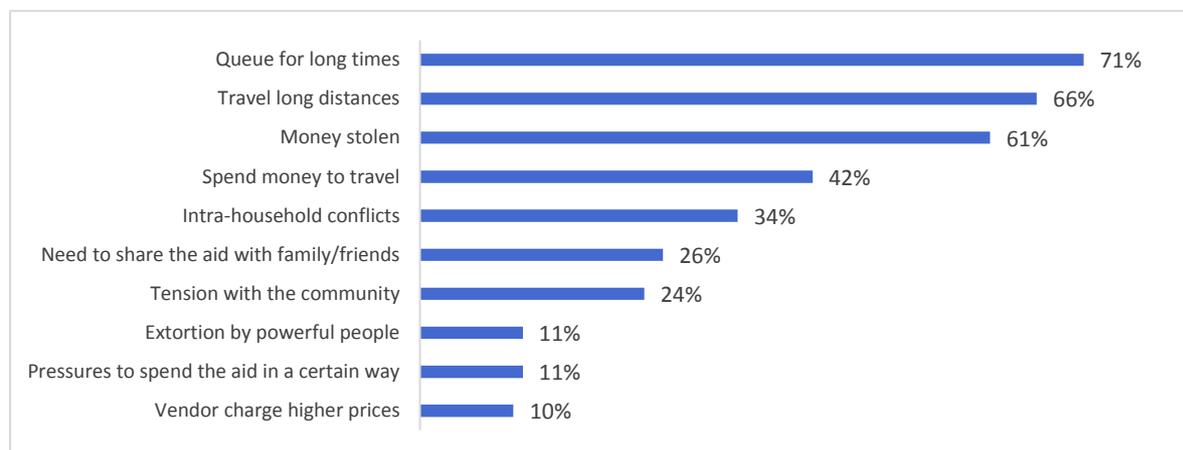
105. A quarter of cash transfer beneficiaries reported that receiving cash assistance resulted in tensions within the community and pressures from friends and relatives to share the cash. Intra-household conflicts related to cash assistance were mentioned by a fifth of the cash transfer beneficiaries surveyed, suggesting that spouses pressure the beneficiary into spending the money in a

¹³¹ Evidence from qualitative data shows that system failures sometimes prevent the aid agency staff from proceeding with the distribution (e.g. electricity shortages in the UNMISS compound prevent the use of laptops necessary for the distribution).

¹³² The difference with the male population is not statistically significant, due to low sample size, as only 91 beneficiaries reported having been subject to theft after fetching the aid. Nevertheless, female beneficiaries reporting post-collection theft are 11 percentage points more than male beneficiaries, which is still worth mentioning given that it confirms findings from the literature.

certain way. Similar to post-collection theft, women were more likely to be subject to pressures by their spouses on how to spend the aid.¹³³ Cases of extortion of the money by powerful people in the community were also reported by 11 percent of cash transfer beneficiaries, suggesting that there might indeed be leakages associated with cash transfers by local powerful and/or illegal groups.

Figure 26: Issues with current methods of delivering humanitarian aid among those who are dissatisfied (N=93)



106. In conclusion, a significant proportion of cash transfer beneficiaries are dissatisfied with how the cash is transferred, due to logistical, safety and social risks associated with transfer mechanisms. Not only are these risks heightened when the cash is collected in person at the cash distribution sites, but also when humanitarian and development partners utilize money transfer services. As such, mobile money could be a more optimal, confidential and safer mechanism of channeling cash directly to the beneficiaries. It would mitigate risks associated with travel required to collect the cash, queuing for long hours, and intra-households and community tensions vis-à-vis reduced visibility of cash distribution, as detailed in Section 7.

6.1.3. DEMAND FOR MOBILE MONEY FOR AID DELIVERY

107. Two thirds of the surveyed population (78 percent) consider that mobile money would be a useful tool to channel assistance to beneficiaries. In particular, digitizing humanitarian cash transfers would be a welcome development for 87 percent of current aid beneficiaries against 64 percent of those who currently do not receive aid. Also, perceived usefulness of mobile money among beneficiaries of humanitarian support increases with literacy and education level. In fact, among literate beneficiaries and those with minimum secondary education level, perception that mobile money could be an effective way to channel aid reaches 94 to 99 percent.

6.2. DEMAND OF MOBILE MONEY FOR THE GENERAL POPULATION

108. Evidence suggests that there is significant interest for mobile money services among the South Sudanese population. First, as discussed in Section 5, the existence of informal, or proxy, mobile money services demonstrates that people are looking for alternative mechanisms to transfer money.

¹³³ Same case as above. The difference with the male population is not statistically significant, due to low sample size, as only 52 beneficiaries reported to having been subject to pressure from the spouse. However, female beneficiaries reporting intra-household conflict due to pressure from the spouse are 9 percentage points more than male beneficiaries, which is still worth mentioning given that it confirms findings from the literature.

Second, a significant part of the South Sudanese population seems familiar with mobile money services, largely owing to displaced family members seeking refuge in neighboring countries, as well as to trade across South Sudan's borders in Kenya and Uganda. Interviews with airtime resellers, mobile money agents, money transfer operators, and traders reinforced these claims.

Many South Sudanese have families in Kenya and Uganda. Others have businesses linked to the two countries. They are familiar with mobile money.

IDP respondent in Wau

6.2.1. PERCEPTIONS ON PHONE USAGE

109. Trust in mobile devices and digital financial transactions is high. Seventy percent of the population reported having trust in the mobile phone as a tool to store and transfer money and 66 percent as having trust in their mobile phones to receive salaries or allowances. Willingness to store money on the phone and use it to perform financial transactions is higher for literate people, and positively correlated with education level. In fact, 89 percent of the literate population mentioned that they would be willing to use their phones to perform financial transactions (versus 54 percent of the illiterate population). Attitudes towards the possibility of performing mobile money operations are generally less positive among the most vulnerable respondents and rural residents. Still, 70 percent of the most vulnerable groups said that they would be willing to perform digital financial transactions through their phones (versus 81 percent among non-vulnerable groups). In addition, women seem to be slightly more skeptical towards using their phone to perform digital transactions, as 65 percent of them confirmed willingness to perform financial transactions through their phones (versus 76 percent of men).

6.2.2. DEMAND FOR MOBILE MONEY

110. Demand for mobile money services among the general population is high. Ninety-one percent of those surveyed would like locally-provided mobile money services to be available, while 87 percent would consider using these services if they were available. The potential mobile money user is more likely to be literate and have at least primary or technical education, i.e. the potential adoption rate for mobile money services increases with education level. He/she is also more likely to be a professional (i.e. doctor, engineer, teacher) or have a high-level entrepreneurial position, and is less likely to be a farmer or a housewife. He/she is as likely to be a woman as a man.

111. The high demand for mobile money services spans across all potential usages of mobile money. When provided with a list of options mobile money could be used for, almost two thirds (72 percent) of the population selected more than five services, which suggests that respondents are interested in a variety of different applications. The most claimed services are domestic transfers (81 percent), international transfers (75 percent) and savings (75 percent).

112. The strongly positive attitude towards the use of mobile money services for saving purposes is paramount, as it signals that potential customers would be willing to store money on their mobile money account without cashing it out, thus contributing further to the development of the mobile money ecosystem. Purchase and transfer of airtime and internet bundles are also mentioned by many (70 percent). Mobile money services to pay for goods and services (i.e. utility bills) follow (60 percent). Reimbursement of loans is the least mentioned service (56 percent).

113. Transactions occurring through different mechanisms can be used as proxy financial transactions made through a potential mobile money service (Table 8).

- **Airtime trading:** As described in Section 5, airtime transfers are sometimes used as an alternative to hard local currency, which makes it a good candidate as proxy financial transactions made through a potential mobile money service. On average, individuals resorting to this alternative payment method trade 470 SSP (US\$ 1.80) every month, which represents 11 percent of the population’s average monthly income.
- **Money transfer services:** At the moment, these money transfer services represent the most viable and accessible method to transfer to cash, and they are used by 53 percent of those transacting domestically and 60 percent of those transacting internationally to transfer money within and outside of South Sudan, respectively. As discussed above, mobile money services are expected to be cheaper than money transfer services, which in turn could encourage money transfer users to switch to mobile money services. The average monthly amount sent through money transfer services is 1,758 SSP (US\$ 7).
- **Transfers occurring through mobile money operated by foreign operators:** As mentioned in Section 5, 13 percent of the population subscribed to mobile money services operated through foreign MNOs and 3 percent of the population uses these services without having a subscription. The average monthly amount sent is 1,432 SSP (US\$ 5.50) for transaction through users’ own account and 2,684 SSP (US\$ 10.32) through OTC transactions.

Table 8: Average monthly amount sent through proxy services

Average monthly amount of airtime sent domestically	Average monthly amount sent domestically through money transfer services	Average monthly amount sent domestically through foreign mobile money services (own account)	Average monthly amount sent domestically through foreign mobile money services (OTC transactions)
470 SSP (US\$ 1.80)	1,758 SSP (US\$ 7)	1,432 (US\$ 5.50)	2,684 (US\$ 10.32)
13 percent of average monthly income	50 percent of average monthly income	40 percent of average monthly income	76 percent of average monthly income

114. Current values of transactions conducted through proxy financial services suggests that the values of mobile money transfers could rapidly increase. If South Sudanese mobile money services are competitive, users could switch from proxy services to local mobile money services, meaning that an estimation of the monthly transactions per user could be 1,586 SSP (US\$ 6.2).¹³⁴

115. Another way to quantify demand for mobile money relates to self-declared willingness to pay. On average, the willingness to pay by the surveyed population reaches 185 SSP (US\$ 0.70), which represents 5 percent of the population’s average monthly income. Willingness to pay does not vary with socioeconomic characteristics such as gender, literacy and type of residence, but it is found to increase with income in a non-linear way. Specifically, willingness to pay goes from 90 SSP/month (US\$ 0.35) for those with average monthly income lower than 2600 SSP (US\$ 10), to 400 SSP/month (US\$ 1.54) for those with an average monthly income in the range of 26,000-52,000 SSP (US\$ 100 – 200), and then remains stable for higher income categories.

116. The estimated willingness to pay of South Sudanese for potential mobile money services seems rather high when compared in the region. For example, it is notably higher than what Kenyans

¹³⁴ This is the average of the average monthly amount sent through the four proxy services, assuming that most people only use one of these methods. This estimate is based on the assumptions that i) the average airtime trader, average money transfer service user, and average foreign mobile money service user mainly use one transfer mechanism, and ii) that they would switch to local mobile money services. These assumptions are far from reality, and this estimate can only present a rough estimation of what would be the average monthly transfer value per user.

spend monthly on fees with M-PESA, estimated to be between 0.066 percent and 0.141 percent of their monthly income.¹³⁵ The higher willingness to pay compared to other mobile money scenarios can be explained by several factors. First, there is a strong demand across all the sociodemographic groups, which is justified by the fact that financial services in South Sudan are underdeveloped. In Kenya, financial services are much more developed, and people have access to competitive alternatives.¹³⁶ Second, as many money transfer services charge between 2 and 5 percent of the transacted amount, customers are already paying on average 2 percent of their monthly income to access these services. The summed up costs in terms of time and money to get to the money transfer services' agents would likely add up to this estimated 2 percent.

Focus Box 4: Demand of mobile money services from vulnerable groups

The four vulnerable groups analyzed (IDPs, women, urban poor and rural residents) also demonstrated a high demand for mobile money services, not statistically different from that of the general population. The most willing to take up the services are the urban poor, with a 90 percent potential adoption rate. The least willing are women, with an 84 percent adoption rate. Concerning the services in which these groups would be interested, there are only slight differences compared to the general population. IDP respondents are more willing to use mobile money for international transfers, payments of goods and services, airtime purchase and transfers, and reimbursement of loans. Additionally, rural residents and the urban poor feel, relatively more than the general population, that the existence of more cost-efficient services to those available today is crucial.

The two vulnerable groups that show major deviations from the general population are women and the urban poor. Table 9 provides the details of the estimated value of transactions through the different proxy services and the monthly willingness to pay for potential mobile money services, for each of these four groups, as well as for the general population.¹³⁷

Women indicate willingness to pay higher transaction values through different services, despite having a significantly lower income with respect to the general population. In fact, as confirmed by the qualitative data, women are the ones handling payments for household expenses. Furthermore, they have reported needing to travel long hours to make certain payments. This could explain why their willingness to pay for mobile money services as a ration of their monthly average income is slightly higher than that of the general population (6 percent versus 5 percent). This could also account for why they would be particularly eager to take up mobile money services, despite having lower literacy, ID ownership and access to mobile phones than men (see Section), as it would result in time and money savings.

¹³⁵ Average monthly amount spent on M-PESA services was calculated as follows: Daily peer-to-peer (P2P) M-PESA transactions occurring in Kenya (6bn Kshs., source: <https://techweez.com/2018/07/25/m-pesa-loses-ground-on-p2p-transactions/>) have been divided by the number of registered users in Kenya (20ml users, source <https://gomedici.com/m-pesa-mobile-phone-based-money-transfer-global-presence/>) to obtain the daily P2P transactions by user (av. 300 Kshs. transacted daily per user). Applying the average fee for transactions between registered users – 1.165% (average computed from rates sourced from Safaricom website: <https://www.safaricom.co.ke/personal/m-pesa/getting-started/m-pesa-rates>), it is found that on average, a M-PESA users spends 105 Kshs per month in P2P transactions fees. This gives a monthly WTP of 0.066% of the monthly average income (approx. 160,000 Kshs.) The upper bound fee of 0.141 percent is calculated in the same way, but assuming that the majority of transactions occur in the bottom part of the distribution (i.e. most transaction is of low amounts) and as such subject to higher fees. In this case, the applied average fee for transactions between registered users would be 2.5 percent.

¹³⁶ As an example, Equity Bank's plan to charge P2P transaction operated through its subsidiary Finserve with a 1 percent fee led Safaricom to lower its M-PESA fees on P2P transactions. (CGAP. *Price Sensitivity and New M-PESA tariffs*. 2014 <https://www.cgap.org/blog/price-sensitivity-and-new-m-pesa-tariffs>)

¹³⁷ A star indicate that the estimate for the group is significantly different from the general population.

The urban poor are those who indicated the lowest estimated transaction values through all services and the lowest willingness to pay in general. This is explained by the fact that they have the lowest average monthly income among the four vulnerable groups analyzed, even lower than women. As such, even though they showed strong demand for local mobile money services, the cost factor will be crucial in determining whether they would actually adopt mobile money.

Table 9: Values of transaction and WTP for Vulnerable Groups

	General population	Women	IDPs	Urban poor	Rural residents
Average monthly amount of airtime sent domestically (SSP)	470 (US\$ 1.80)	650* (US\$ 2.50)	260* (US\$ 1)	0 (US\$ 0)	390 (US\$ 1.50)
Average monthly amount sent domestically through money transfer services (SSP)	1,758 (US\$ 7)	1,614 (US\$ 6.20)	1,765 (US\$ 6.80)	1,052* (US\$ 4.05)	1,700 (US\$ 6.54)
Average monthly amount sent domestically through foreign mobile money services (personal account) (SSP)	1,432 (US\$ 5.50)	2,175 (US\$ 8.30)	1,304 (US\$ 5.02)	415* (US\$ 1.60)	1,463 (US\$ 5.63)
Average monthly amount sent domestically through foreign mobile money services (OTC transactions) (SSP)	2,684 (US\$ 10.32)	3,330* (US\$ 12.81)	1,257 (US\$ 4.83)	0 (US\$ 0)	2,811 (US\$ 10.81)
Average monthly WTP for mobile money services (SSP)	185 (US\$ 0.74)	181 (US\$ 0.70)	152 (US\$ 0.59)	68* (US\$ 0.26)	203 (US\$ 0.78)
Average monthly income (SSP) ¹³⁸	3,640 (US\$ 14)	2,940* (US\$ 11.30)	3,330 (US\$ 12.80)	2,120* (US\$ 8.15)	3,600 (US\$ 13.85)
WTP/income	5 percent	6 percent	5 percent	3 percent	6 percent

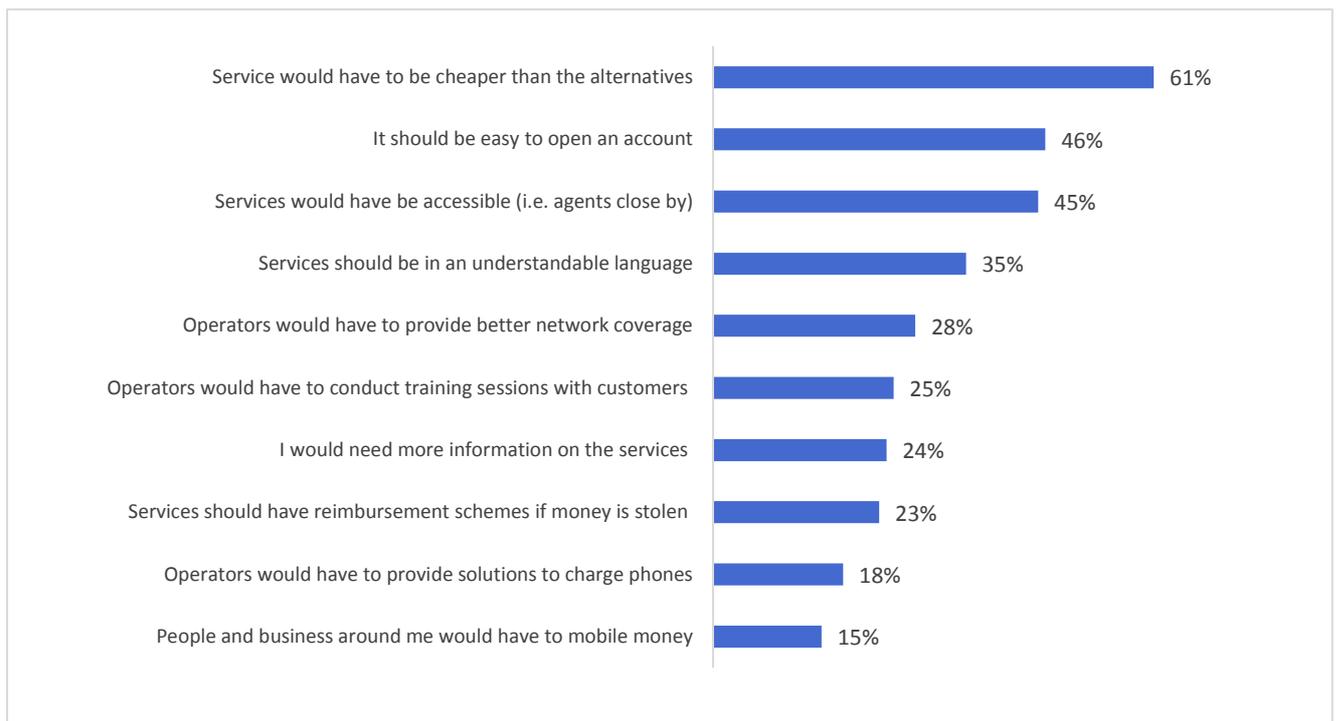
117. To unlock the potential of mobile money, service providers should pay attention to the cost, accessibility, and user-friendliness of services provided. Indeed, several enabling conditions would need to be in place to permit the launch of mobile money, the lack of which could reduce potential customers' uptake of these services (see Figure 27). These include:

- **Cost.** Sixty-one percent of the population said that mobile money would have to be cheaper than what they currently pay to transfer money. Interviews with third-party companies that are soon to launch mobile money services suggest that they recognize this issue. For instance, according to qualitative data, Warthog, a common money transfer service provider, currently requires a service fee of 5 percent of the value of the transfer. On the other hand, Nilepay, to be launched by Lukiza, is expected to be cheaper, notably charging less than 2 percent for Consumer-to-Consumer (C2C), Consumer-to-Business (C2B) and Business-to-Business (B2B) financial transactions.

¹³⁸ Average monthly income of SIM card owners, who are the more likely to potentially engage in mobile money transactions.

- **Logistics and administrative considerations.** Accessibility of mobile money services was mentioned as a key condition by 45 percent of the population, while the lack of administrative burdens to register an account is felt as crucial by 43 percent of the population.
- **User-friendliness of the services.** Thirty-five percent of respondents confirmed that mobile money services would have to be designed in a language they understand, while a quarter suggested that providers conduct training sessions to potential customers on how to use the services and disseminate more information on mobile money. The design and effective implementation of a reimbursement scheme in case of theft is also seen a key pre-requisite by 23 percent of the population.

Figure 27: Enabling conditions for the take up of mobile money services (N=1,648)



7. BENEFITS OF MOBILE MONEY

118. The main benefits of mobile money are linked to its effectiveness, as it is a quick, easy and cheap way of transferring money. This section presents key benefits that can be accrued from leveraging mobile money as a transfer mechanism in cash assistance, and more broadly, potential benefits of mobile money for the general population.

7.1. BENEFITS ASSOCIATED WITH LEVERAGING MOBILE MONEY IN CASH-BASED PROGRAMMING

119. Among humanitarian and development partners, there is a clear consensus on the benefits mobile money could bring to cash assistance. Most actors agree that mobile money as a transfer mechanism constitutes a promising alternative approach that mitigates many of the problems associated with cash disbursement in South Sudan (discussed in Section 6), as there is a general

intention to shift humanitarian assistance progressively away from in-kind distributions. Benefits of mobile money as a delivery mechanism include:¹³⁹

- **Increased effectiveness:** Compared to other options, such as transporting cash via roads or air transport using third-party distributors, use of mobile money can increase effectiveness by ensuring timely disbursement. For example, MNOs in Somalia usually disburse aid payments within 24 hours.¹⁴⁰ The results of the demand-side survey confirm that mobile money is seen as a faster means to receiving cash assistance by 57 percent of the beneficiaries. Moreover, it can expand the coverage of cash assistance as it allows for delivery in remote and poorly accessible areas, that are not covered, or are only partly covered, by the current programs, if adequate network coverage and access to mobile phones are present.
- **Increased cost efficiency:** Using mobile money can increase cost efficiency by reducing high transfer, logistics, and security costs of transporting and disbursing physical cash across South Sudan. As mentioned in Section 6, mobile money services will be cheaper than current alternatives and service providers may be interested in offering specific services to humanitarian and development actors at a discounted rate, which would make the offer more cost-efficient than the current methods used to deliver cash assistance.¹⁴¹
- **Improved safety and protection of beneficiaries and staff of humanitarian organizations:** Reliance on mobile money can reduce the risk of violence and extortion as well as intra-household and community tensions associated with other mechanisms cash transfers by strengthening payment confidentiality and reducing the visibility of cash distribution. In addition, the option of leaving the money on the account can reduce the risk of theft for beneficiaries who choose to not cash out. It can also avoid carrying large amounts of notes on their person. According to interviewed beneficiaries, one of the main benefits of mobile money for cash assistance would be increased personal safety, as mobile money could help alleviate security issues related to cash collection (see Figure 28 and Figure 29).
- **Mitigated risks of leakages:** Use of mobile money for aid delivery can mitigate the risk of cash loss by eliminating the need for middle-men and by reducing the risk of corruption and informal taxation common. It can also potentially increase accountability of cash assistance, as humanitarian and development partners would be in a better position to trace payments.
- **Lower opportunity cost of cash transfers for beneficiaries:** As cash transfers can be directly credited to beneficiaries' mobile money accounts, use of mobile money saves the time of travelling to cash-collection points and queuing, which can instead be invested in more productive activities. In particular, traveling less to collect cash is the main perceived benefit of for humanitarian assistance beneficiaries (see Figure 28 and Figure 29).

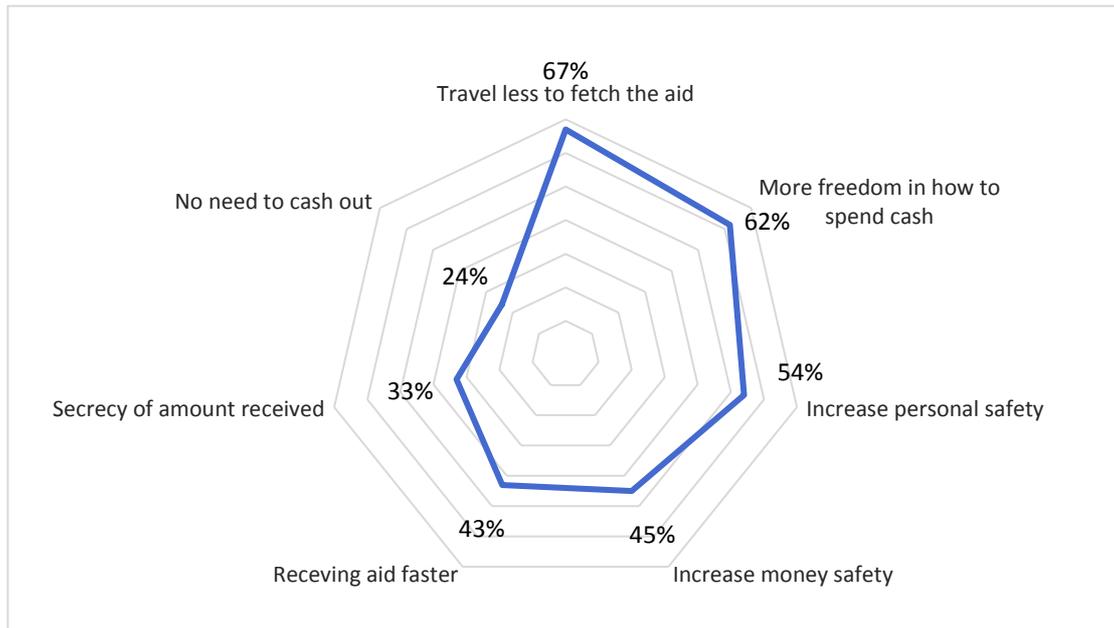
120. According to the general population, the top benefits of utilizing mobile money to deliver cash transfers relate to logistical advantages, and increased freedom and personal safety of beneficiaries (see Figure 28). Sixty-seven percent of the population identified having to travel less to get assistance as a major benefit, while 62 percent thought that the use of mobile money services for cash-based transfers would carry fewer restrictions and a greater freedom to spend the money as preferred, which could enhance their dignity. Fifty-four percent reported increased personal safety as a key benefit, and 45 percent reported security of the money received as important benefit. Furthermore, for a quarter of the surveyed population, the fact that it does not need to be cashed out

¹³⁹ KIIs with a representative from the humanitarian and development sector.

¹⁴⁰ Altai research commissioned by the World Bank. *Thematic Extension of the Mobile Money Ecosystem*. 2019.

¹⁴¹ KII with a representative from the telecommunication sector.

and can instead be used to perform digital financial transactions was also attractive. The need to travel

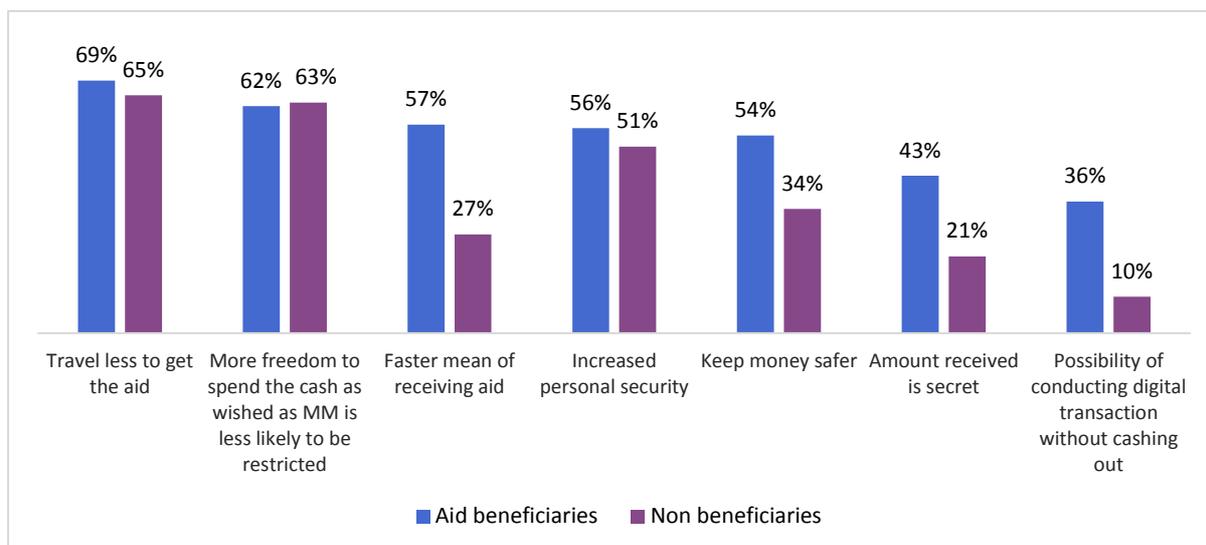


less to collect aid and increased personal safety were felt significantly more by rural residents.

Figure 28: Benefits of mobile money as a cash transfer mechanism (N=1,648)

121. The beneficiaries of humanitarian assistance are significantly more likely to identify certain benefits of using mobile money – faster delivery of support, confidentiality of the amount received, the option to keep the money on the account – compared to non-beneficiaries (Figure 29). It is to be expected that faster aid delivery would be seen as important by beneficiaries, who are aware of the cumbersome process of receiving cash assistance, as described in Section 6. The fact that they also value the confidentiality of the amount received and the option to leave the money on the mobile money account indicate that beneficiaries are seeking solutions to possible risks of intra-household and community tensions linked to cash disbursements. In fact, confidentiality and preference for digital transactions were reported in higher proportion by those beneficiaries who had been forced to share cash assistance with community members and/or had been pressured by the spouse to spend cash in a certain way.

Figure 29: Benefits of mobile money as a cash transfer mechanism, across beneficiaries and non-beneficiaries (N=1,648)



122. By providing assistance directly to rural communities, mobile money could theoretically reduce the need for communities to move to receive assistance. However, the evidence is mixed as to whether or not mobile money could actually lead to lower population movements. Mobile money could mitigate the push-and-pull effects of set distribution points discussed in Section 6. In fact, 68 percent of IDP respondents reported that receiving cash through mobile money would have helped them to stay in their previous place of residence, thus indicating that mobile money could reduce population movements. More broadly, 55 percent of overall respondents thought that mobile money would be associated with a lower likelihood of moving. Yet, a quarter of respondents thought the opposite – that easier financial transactions enabled by mobile money would encourage movement. The latter is aligned with the Somali experience, where people living in rural areas were encouraged to seek employment in neighboring towns, as mobile money made it possible to channel financial resources back to their household.¹⁴²

7.2. BENEFITS ASSOCIATED WITH WIDER MOBILE MONEY UPTAKE

123. In addition to cash-transfer beneficiaries, the general population of South Sudan can also benefit from the introduction of mobile money. In particular, mobile money can i) ease financial transactions, ii) increase safety of people and of money, and iii) build resilience. This is well evidenced in other FCV countries in East Africa, such as Somalia. Research on the Mobile Money Ecosystem in Somalia commissioned by the World Bank highlighted that Somalis associated mobile money with eased transactions; gains in time and money; and increased resilience, as remittances and financial help from friends and relatives could be easily received in the event of a shock. To a lesser extent, they also associated mobile money with a lower risk of theft and improved personal security as it eliminates the need to carry cash.¹⁴³

124. The different agents and traders interviewed unanimously emphasized broader benefits for the population stemming from mobile money. These included “making life easier”; saving time and money; increasing safety of money and people; and easing transfer of remittances. They also thought

¹⁴² Altai research commissioned by the World Bank. *Thematic Extension of the Mobile Money Ecosystem*. 2019.

¹⁴³ Ibid.

that mobile money could increase employment opportunities for potential future mobile money agents who would make a profit through commission.

125. Results of the demand-side research confirm these findings, with increased efficiency of financial transactions and improvements to safety being the two main benefits associated with wider mobile money uptake in the country. In fact, performing financial transactions more quickly and saved money and time required to make certain payments, are deemed by far as the biggest advantages of using mobile money (82 percent). Second, increased financial safety was mentioned by 38 percent of the population, since mobile money is less likely to be stolen.

126. It remains unclear, however, whether potential mobile money customers would leave money on their account or cash it out. In qualitative interviews some respondents felt that money would be safer if left on the account, while others reported that they would cash out the amount received because they have limited trust in the system. Increased personal safety as a result of not carrying cash was also mentioned as a benefit by a third of the surveyed population.

127. The general population does not seem to associate mobile money with better economic well-being or access to services. The benefit of increased resilience to shocks as a result of faster transfers from friends, relatives and humanitarian organizations was mentioned by 28 percent of the surveyed population. Even though 75 percent of potential customers were willing to take up saving services once mobile money is available, only 17 percent of respondents felt that this represents a benefit in terms of expanded saving possibilities for livelihood opportunities. The two least mentioned benefits were better access to basic services (i.e. health, education) and to new opportunities (i.e. new skills, jobs), and increased social connectivity to community members, each reported by 15 percent of respondents.

128. Long term benefits stemming from mobile money, are likely underestimated due to lack of exposure to services. Notably, mobile money has proven to increase resilience to shocks in other neighboring countries. For instance, it played a great role during the last drought that hit Somalia as it facilitated financial support from friends, relatives, and humanitarian and development partners. In fact, 60 percent of Somalis who were affected by the drought considered that mobile money helped them, or could have helped them, to be less acutely affected by the drought¹⁴⁴.

“Sometimes my brothers pass by my home and give me money, helping to cover our household’s needs for 2-3 days. They know that I don’t have other sources of income, apart from selling tea. I also have the responsibility of my kids, my sisters’ kids, and my elderly mum. [Mobile money] would improve our conditions. It would allow my brothers to send me money more often.”

FGD with women, Wau

129. Promoting financial inclusion to the unbanked population could be another benefit stemming from the introduction of mobile money in South Sudan. Experience from elsewhere in East Africa shows that mobile money can expand financial inclusion by granting access to other financial services, such as savings, especially if households save money using their mobile accounts instead of cashing out, and insurance. In Somalia, 85 percent of mobile money users stated that mobile money has fostered their financial inclusion, either because it allowed them to conduct more easily financial transactions, helped them access international remittances or gave them access to other financial services, such as loans or savings. This has been the case in Kenya, where different micro-insurance schemes delivered through mobile money were developed in order to insure farmers’ crops against

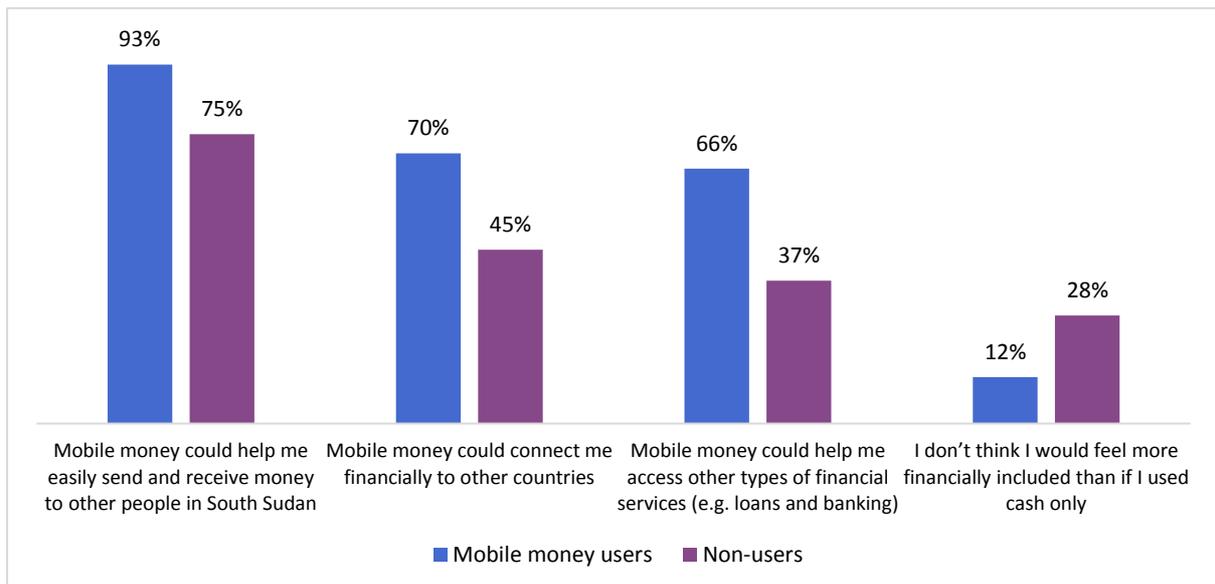
¹⁴⁴ Ibid.

unpredictable weather conditions. An example is the Kilimo Salama (“Safe Agriculture”) project lunched by Syngenta Foundation for Sustainable Agriculture, which partnered with M-PESA to provide crop insurance.¹⁴⁵ Examples from Kenya also show that M-PESA has increased financial inclusion for the most vulnerable groups, such as women, as they are able to have personal savings without seeking permission from their husbands.¹⁴⁶ Agents and traders interviewed generally stressed that benefits associated with wider mobile money uptake would be even more desirable for people living in remote and rural areas, who are currently excluded from the financial system.

130. Research indicates that mobile money could have a strong potential to foster financial inclusion in South Sudan. As discussed in Section 4, current levels of financial inclusion in South Sudan are extremely low. Three quarters of the population thought that mobile money could help increase financial inclusion, by making it easier to perform financial transactions within South Sudan (75 percent), by financially connecting mobile money customers to other countries (49 percent) and by helping customers access other financial services, e.g., savings, loans or banking (for 41 percent). Literacy is significantly positively correlated with the perception that mobile money could increase financial inclusion through the variety of channels listed above.

131. Perception of mobile money as fostering financial inclusion is positively correlated with prior exposure to mobile money services. Current users of foreign mobile money services are significantly more inclined to believe that mobile money would help increase financial inclusion. In fact, only 12 percent say that it would not make them feel more financially included, versus 28 percent for non-users (Figure 30).

Figure 30: Mobile money & financial inclusion across mobile money users and non-users (N=1,648)



132. Finally, mobile money could also stimulate the economy, but this benefit is perceived mostly by supply-side actors. All interviewed agents perceived mobile money as an opportunity for increased profits for their businesses, and for the private sector in general. They argued that mobile money would: i) increase the number of customers buying goods and services, thereby generating more business opportunities; ii) reduce cases of armed robbery, thereby increasing safety of businesses; and iii) reduce the cost of sending money when making financial transactions, e.g., when paying suppliers,

¹⁴⁵ By the end of 2013 it was insuring 187,000 farmers in Kenya, Rwanda and Tanzania and later on evolved into a company.

¹⁴⁶ Morawczynski, O. *Examining the Usage and Impact of Transformational M-Banking in Kenya*. 2009

among others. One of the traders also stressed that it could allow customers living in remote areas to send mobile money to the traders' accounts, and then to receive the goods directly in their village, thus reducing the need and cost to travel in order to shop. Research suggests that this benefit is felt more strongly by the supply-side actors (i.e. agents and trader) than the potential customers, as the potential of mobile money for boosting local markets is the least frequently mentioned benefit by respondents (11 percent).

7.3. FOCUS ON VULNERABLE GROUPS

133. The perceived benefits of mobile money are homogeneous across the different vulnerable groups analyzed (women, IDPs, urban poor and rural residents), mirroring those identified by the general population. The main benefits identified by these groups were the increased efficiency of financial transactions and increased personal safety, as well as the security of money itself. Based on qualitative evidence, mobile money services could be particularly beneficial to women as they tend to be in charge of paying all household expenses and lose significant amount of time traveling to paying said expenses. As such, benefits in terms of increased efficiency of financial transactions could be even greater for women.

Mobile money will be of great help to women like me, because all the household-related payments are done by women in South Sudan. So, having mobile money will help reducing the need to travel and you can do many payments at the same time.

FGD with women, Wau

I do think [mobile money] will help us in saving purposes, and contribute to less theft in town, because once thieves feel you are carrying cash, they start to follow you.

FDG with urban poor, Wau

134. While the IDPs and the urban poor tend to be optimistic about the potential of mobile money to positively impact financial inclusion, the same does not apply to rural residents. IDPs and urban poor respondents were significantly more supportive of the idea that mobile money would boost their financial inclusion. The proportion of IDPs and the urban poor reporting that they would not feel more financially included using mobile money versus cash was significantly lower than in the general population (9 percent for IDPs; 4 percent for the urban poor, versus 25 percent for the general population). Interestingly, for the urban poor, mobile money is perceived to mostly facilitate financial inclusion by easing money transfers within South Sudan, rather than through enabling connections to other countries or easing access to other financial services, as mentioned by the general population. Conversely, rural residents are less inclined to believe that mobile money could help increase their financial inclusion (30 percent said that it would not make them more financially included, versus only 12 percent in urban areas).

135. Across all vulnerable groups, benefits of mobile money for boosting financial inclusion are positively correlated with exposure to the service and usage. Similarly, to the general population, vulnerable respondents who currently use mobile money services through foreign operators are significantly more convinced of the benefits of mobile money for financial inclusion. For instance, among IDPs who use mobile money, only 5 percent think that they would not feel more financially included than when using cash, compared to 11 percent among IDPs who do not use mobile money. This also applies to rural residents, who, as discussed above, were found to be more skeptical of the benefits of mobile money services for financial inclusion. In fact, among rural residents who use mobile

money, 15 percent think that they would not feel more financially included than using cash, compared to 32 percent among those who do not use mobile money.

8. BARRIERS PREVENTING THE ADOPTION OF MOBILE MONEY

136. Despite the immense potential of using mobile money in cash assistance and in benefitting the general population and the economy, there are a number of multi-dimensional barriers associated with its adoption. Many of these are closely linked to the FCV context of South Sudan, including continued instability and conflict, lack of infrastructure, and chronic underdevelopment. This section first focuses on the structural, socio-economic and behavioral barriers to adoption of mobile money. It then explores the specific barriers that some vulnerable groups might face more acutely when accessing or using mobile money.

8.1. STRUCTURAL BARRIERS

137. South Sudan's infrastructure base remains among the lowest in the world.¹⁴⁷ Infrastructure constraints are pervasive in the country and contribute to structural barriers that could hinder the adoption and uptake of mobile money services.

- **Poor network coverage is the main structural barrier, mentioned by 69 percent of the respondents** (see Figure 31). According to a third of the surveyed population, the quality of the network is either poor or very poor, and 63 percent said that the network is sometimes shut down. Qualitative data confirmed that the network quality is often not adequate to conduct basic operations, and that people are constrained to making calls very late at night in order to avoid network congestion.

Network quality is significantly worse in rural areas such that rural residents need to travel long distances to reach a place with adequate network. Thirty-three percent of rural residents affirm that the network is poor or very poor versus 22 percent of urban residents. In addition, 74 percent of rural residents have to travel at least 30 minutes to reach adequate network, versus 44 percent of urban residents. There is evidence that PoC residents have access to the same levels of network quality as urban residents.

Inadequate network quality has a severe negative impact on the potential for adoption and uptake of mobile money services. Those who cannot access network close to where they live or work will not be able to use mobile-based services, while unreliability of network coverage will restrict customer use of mobile money.

Both Zain and MTN networks are poor most of the days of the week; especially MTN network can really go off for like two days. We cannot do anything about it. Even if we climb a tree to find better network, it is still in an emergency mode, it remains that way.

FGD with IDPs, Wau

- **Lack of access to electricity to charge phones is also a key barrier, even more so in rural areas.** Thirty-seven percent of the population mentioned electricity as a barrier. Further, access to electricity in rural areas is significantly lower than in urban areas, with 65 percent of rural

¹⁴⁷ World Bank. *Republic of South Sudan - Systematic Country Diagnosis*. 2015

residents having no access to electricity (versus 45 percent in urban areas).¹⁴⁸ Access to electricity is highest in PoC sites (only 30 percent of PoC residents said that they have no access to electricity), but this is due to the fact that they are close to urban areas and concentrated in Juba and Wau, where access to electricity is relatively good compared to other urban locations and rural areas. Additionally, they may enjoy an easier access to electricity from being based in the UN compound, and benefitting from the generators installed by UNMISS.

Qualitative data suggests that people adopt different mitigation strategies to charge their phones. There is evidence that in urban Juba, there are charging points that offer a charging service at a fee and many respondents confirmed that they use this service. For those who cannot afford this service, there are other alternatives, namely giving the phone to friends or relatives to be charged in their offices or homes, or charging it in different locations (i.e. sport clubs, cars or restaurants).

I give my phone to friends that work so that they can charge it in their offices, or I take it to the Nadi (sport club) if I don't have the money to take it to the charging place.

FGD with returnees, Juba

138. Low level of phone penetration (at 45 percent as discussed in Section 3) is also a significant structural barrier, specifically in rural areas and among women. In fact, 58 percent of respondents in rural areas perceive the lack of a mobile phone as a barrier versus 41 percent of urban residents. Similarly, the low phone penetration is felt as a barrier to the uptake of mobile money services significantly more by women than men: 58 percent of female respondents perceive the lack of mobile phone as a barrier versus 48 percent of male respondents. This reflects findings of Section 3 which highlighted that phone ownership or usage is not homogeneous across zones of residence, and that a significant digital gender gap persists.

139. Distance to MNOs' agents can also be an obstacle for the adoption of mobile money services, especially in rural areas. Eighty-three percent of rural residents needs to travel at least 30 minutes on foot to reach the closest MNO's branch or agent. Agents are significantly more reachable in urban areas, but 40 percent of urban residents still have to travel between 30 minutes and 2 hours to reach the closest agent. Similarly, the average cost of travelling to reach an agent is three times higher for rural residents (240 SSP (US\$ 0.90) for rural residents versus 77 SSP (US\$ 0.30) for urban residents. As for PoCs residents, they enjoy a similar access to agents as urban residents. The distance to reach an agent can be a major barrier for the uptake of mobile money services, as potential customers can easily be discouraged from using the services due to the difficulty in withdrawing and topping up their account.

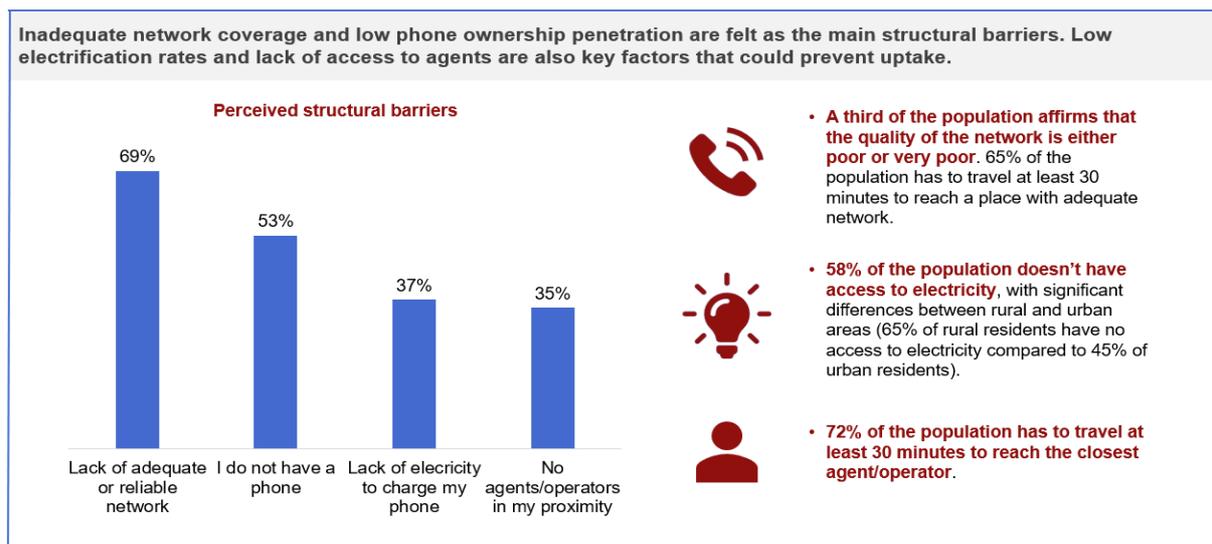
At the moment, if we lose our phone or SIM card, SIM card replacement in Wau is not available. So if I lose my SIM card, I might be required to travel to Juba to access it again. In addition, we wish there were more branches, in every neighborhood. Because of insecurity, all places in Wau town are closed by 7pm; so it's not safe for women to walk long distances looking for places to cash out.

FDG with women, Wau

¹⁴⁸ These figures differ from the ones published in the *Systematic Country Diagnosis* (World Bank, 2015), which states that only 2 percent of the population has access to electricity. Here, the figures are higher as respondents thought of access to electricity in general in their community, not specifically in their homes. In particular, the question asked respondents to specify how many hours per day they have access to electricity, so sometimes people have access to electricity for few hours per day even if they do not have electricity at home (i.e. neighbors' house, work premises, etc.)

140. From the supply-side research, interconnection appears to be a major challenge, as it contributes to the fragmentation and isolation of large parts of the country, with some areas only covered by MTN and others only by Zain. This is also confirmed by the demand-side research (see Section 3), as SIM card owners often own SIM cards from several operators, as a way to adapt to the uneven coverage. This could prevent users from sending money to, or receiving money from, a person using the network provided by an operator different from their own. This could further enhance negative peer effects (Section 8.3), making it harder for operators to build a critical mass of users to sustain the wide adoption of the system.

Figure 31: Structural barriers for mobile money as perceived by respondents (N=1,648)



141. These structural barriers are compounded by the continued political instability and insecurity that frequently disrupts, and even halts, private sector activity and investment in infrastructure. This has been identified by agents and some key informants as one of the main impediments to the uptake of mobile money.¹⁴⁹ As one government official remarked: *“This thing is only possible when there is peace... There is risk everywhere.”*

8.2. SOCIO-ECONOMIC BARRIERS

142. Several socio-economic barriers could also challenge the adoption and uptake of mobile money (see Figure 33 Consequently, many people cannot afford mobile phones and telecommunications expenses, and). These barriers are most acute among the poorest and most vulnerable households that would generally be targeted by cash transfers programs (see Focus Box 7).

143. Protracted decades-long conflict coupled with an economic decline has contributed to chronic underdevelopment. Eighty-two percent of South Sudanese were living under the international poverty line in 2016,¹⁵⁰ and the continued deterioration of the overall situation is expected to bring that total to 90 percent by the end 2019.¹⁵¹ Results from the demand-side research show that income levels are very low, with the average monthly income being 3,560 SSP (US\$ 14).

¹⁴⁹ IDs with traders; KII with representative from the public sector. 22 January 2019.

¹⁵⁰ World Bank. *South Sudan*. MPO, October 2018. Available at: <http://pubdocs.worldbank.org/en/713731492188171377/mpo-ssd.pdf>.

¹⁵¹ Ibid.

144. Consequently, many people cannot afford mobile phones and telecommunications expenses, and there is a strong perception that people would not be able to afford mobile money services, which is felt more acutely in rural areas and by PoC residents. Forty-two percent of respondents thought that mobile money services would be too expensive and 21 percent said that they do not have enough money to put on a mobile money account. The latter view reaches 23 percent and 29 percent in rural areas and PoC sites, respectively, compared to 13 percent in urban areas. The potential unaffordability of mobile money services for certain groups is confirmed by the fact that 26 percent of respondents expressed a WTP for mobile money services below 2 percent of their monthly average income.

145. High rates of general and financial illiteracy are also likely to impede the broad adoption of mobile money services. Most recent data from 2015 estimates that South Sudan has one of the highest rates of adult illiteracy in the world at 61 percent, and that primary school completion rate was only at 29 percent.¹⁵² Results from the demand-side research confirm a high illiteracy rate of 52 percent of the surveyed population in the nine target counties, again with a big gender gap – 61 percent of women are illiterate versus 42 percent of men. In addition, the illiteracy rate is highly heterogeneous across zones of residence (30 percent in urban areas and 59 percent in rural areas). The illiteracy rate for PoC residents is similar to the urban average (34 percent). Hence, these gender and geographical gaps are likely to affect the widespread adoption of mobile money, since literacy is, as demonstrated in Section 4.5, the main driver of all financial practices.

Despite the pervasive illiteracy, only a quarter of the respondents thought that illiteracy can be a significant barrier for the uptake of mobile money services. This barrier is felt as most severe by groups with higher illiteracy rate, namely women (30 percent of women see literacy as a main barrier versus 19 percent of men) and rural residents (28 percent of rural residents see literacy as a main barrier versus 13 percent of urban residents). The literature supports this relative optimism, as other countries with extremely low literacy rates, e.g. Somalia, have managed to develop a vibrant mobile money ecosystem (see The large uptake of mobile money in Somalia (over 75 percent of adult Somalis using mobile money services regularly) suggests that socioeconomic barriers can be overcome. Focus Box 6 provides more details on literacy rate and ID penetration in Somalia.

146. Focus Box 6).

147. Low ID ownership is also a major barrier. A significant share of respondents (41 percent) do not have any form of identification document, which could prevent them from subscribing to mobile money services, as some proof of identification is required even for Tier 1 accounts, as per the EMR. Indeed, obtaining a national ID costs money and requires travelling to places relatively far,¹⁵³ which makes it beyond reach for many.¹⁵⁴ The lack of ID is thus perceived as a significant barrier to adoption of mobile money by 31 percent of population.

¹⁵² The World Bank. *South Sudan Poverty Profile*. 2015

¹⁵³ Findings from the World Bank South Sudan National ID System Status suggests that South Sudan currently has 170 registration devices spread across the country and embassies. This information has not been confirmed by informants, who indicated that registration is still mostly handled in the capital city.

¹⁵⁴ IDIs with traders.

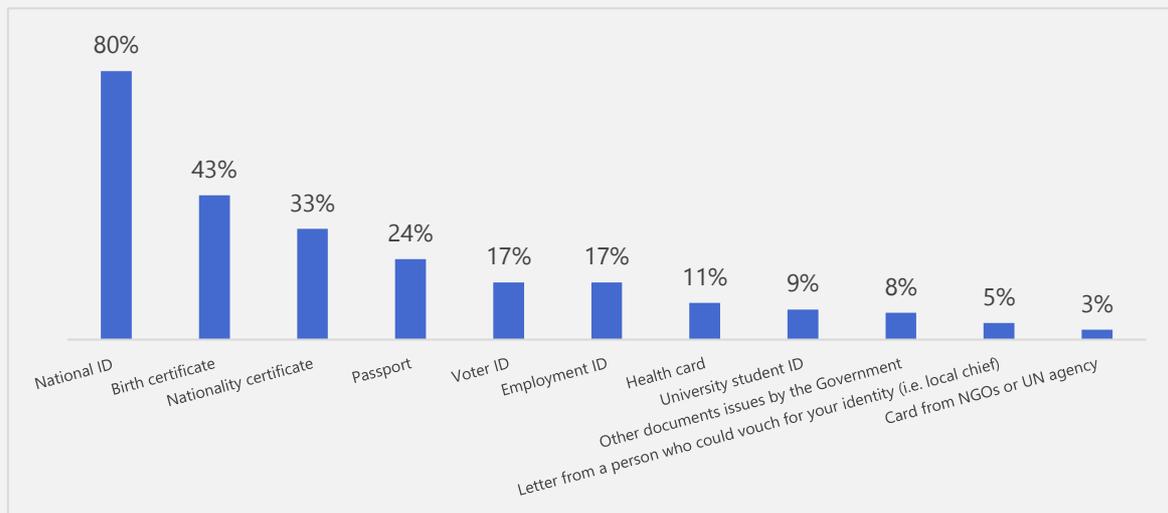
Focus Box 5: ID ownership and ID system in South Sudan

As mentioned above, 59% of the surveyed population in the nine target counties own a form of ID.¹⁵⁵ Ninety-two percent of those have a formal identification document.¹⁵⁶ The three most common types of formal IDs owned are national ID, birth certificate and nationality certificate, while the three most common forms of informal ID owned are voter ID, employment ID and health card (Figure 32).

A nationality certificate is given to citizens of all age groups, while the national ID card is issued to adults only and includes refugees and immigrants. Since 2015, the Directorate of Nationality, Passport and Immigration under the Ministry of Interior has been issuing nationality certificates. The nationality certificate has a 9-digit unique identification number. National ID card has a unique 14-digit alpha numeric personal identification number. The card displays a photo, basic biographic information, and nationality status on the front, while the back has a thumbprint image, a 2D barcode with biographic data encoded, and an International Civil Aviation Organization-compliant machine-readable zone.¹⁵⁷

Lack of access to an ID is even more acute for women and rural residents, with 49 percent of women lacking an ID (versus 32 percent of men) and 44 percent of rural residents lacking one (versus 31 percent of urban residents). Literate people are more likely to possess an ID (81 percent of literate respondent has an ID versus 39 percent of illiterate respondents) and the likelihood of having an ID is significantly higher for those who have at least secondary education (89 percent of those having at secondary education or higher has an ID versus 45 percent of those having primary or no education at all).

Figure 32: ID ownership in South Sudan among those who own any type of ID (N=1,015)

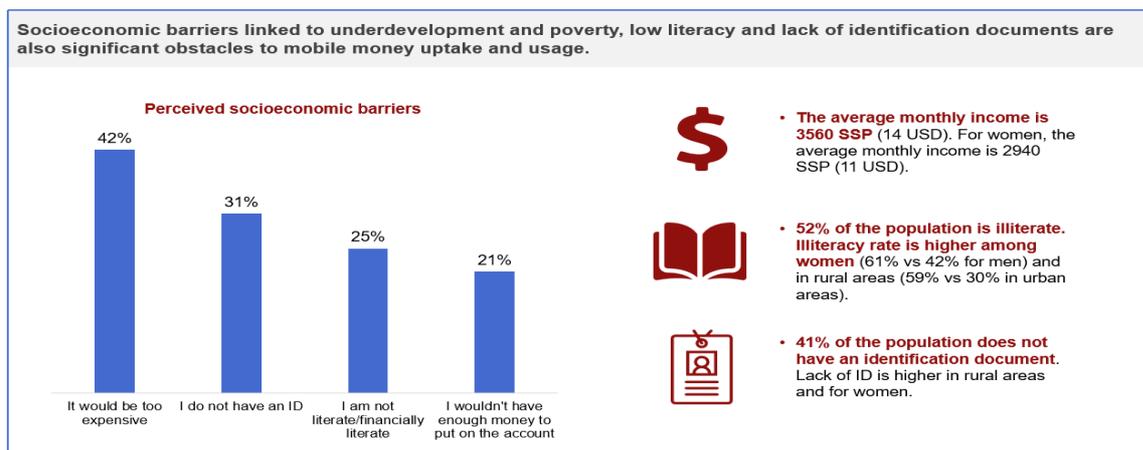


¹⁵⁵ This figure seems rather high compared to the ID coverage from the ID4D-Findex surveys (2017), indicating that only 21 percent of the South Sudanese population above the age of 15 has a national ID. The reasons is that here both formal and infomal types of ID are taken into account, while the ID4D-Findex surveys includes only national ID. Additionally, the survey covered only 9 counties, that are, arguably, not the poorest.

¹⁵⁶ A formal ID is either a national ID, birth certificate, nationality certificate, passport or other documents issued by the government.

¹⁵⁷ World Bank. *Study of Options for Mutual Recognition of National IDs in the East African Community*. 2018

Figure 33: Socioeconomic barriers to adoption of mobile money as perceived by respondents (N=1,648)



148. The large uptake of mobile money in Somalia (over 75 percent of adult Somalis using mobile money services regularly) suggests that socioeconomic barriers can be overcome. Focus Box 6 provides more details on literacy rate and ID penetration in Somalia.

Focus Box 6: Socio-economic barriers in Somalia¹⁵⁸

Illiteracy rates are also very high in Somalia, with 40 percent of the population who cannot read or write, which has not prevented the large uptake in mobile money. Furthermore, nomads, who have the highest literacy rates (61 percent cannot read or write), also have the highest penetration of mobile money (86 percent have subscribed to mobile money) compared to urban, rural, or IDP camps residents. Only 2 percent of people who do not use mobile money say that illiteracy is a constraint.

ID penetration is low in Somalia, with 61 percent of the population not owning any form of ID. Again, nomads have one of the lowest ID penetrations (82 percent do not own any form of ID).

8.3. BEHAVIORAL BARRIERS

149. From the demand-side research, behavioral barriers do not seem to play a big role and are unlikely to act as obstacles to the adoption of mobile money services (see Figure 34). Self-censorship due to lack of knowledge about how to open an account or use mobile money services might play a role in discouraging potential customers to take up mobile money, but this seems to be applicable for only 8 percent of respondents. Similarly, only 6 percent of the surveyed population thought that lack of awareness of the potential benefits of mobile money could prevent them from adopting new services.

150. Contrary to what was suggested by the supply-side research, findings from the demand-side research reveal that it is unlikely that there would be resistance to the introduction of mobile money. Interviewed informants during the supply-side research described numerous possible instances of beneficiaries pushing back against the adoption of new systems, such as biometric registration.¹⁵⁹ The

¹⁵⁸ Altai research commissioned by the World Bank. *Thematic Extension of the Mobile Money Ecosystem*. 2019.

¹⁵⁹ KII with representative from the humanitarian sector. 24 January 2019; KII with representative from the public sector. 22 January 2019. For instance, the PIU for the WB-funded SNSDP program explained that some beneficiaries were wary of biometric registration because they thought the red light of the fingerprint pad indicated that the machine would “suck blood.”

lack of knowledge, awareness and experience of new systems were cited as possible factors fueling the resistance to change, to be best addressed through community awareness and sensitization initiatives. However, results from the demand-side research do not confirm this assumption. FGD respondents exhibited an inclination to explore new alternatives. In addition, the uptake and usage of mobile money services are also likely to be encouraged by local leaders: 72 percent of the respondents believe that, should South Sudanese mobile money services be launched, religious leaders and local chiefs would encourage their adoption.

151. Similarly, while the supply-side research suggested that resistance to KYC requirements might also be a barrier, the demand-side survey reveals a strong support from potential mobile money customers with respect to KYC requirements. Supply-side informants indicated that the population might be reluctant to register their personal details when opening a mobile money account, due to low levels of understanding of the purpose of registration,¹⁶⁰ and out of fear that registration might lead to the loss of access to additional resources (i.e. by double-registering or stockpiling food tokens).¹⁶¹ Yet, 78 percent of respondents affirmed that it would be a positive development if identity documentation was systematically required to buy a SIM card or to open a mobile money account. Indeed, most respondents associate the implementation of KYC regulations when opening a mobile money account with greater money safety and the reduction of fraud and illicit activities. This demonstrates a certain degree of willingness from the population to indulge in longer registration procedures for the sake of security.

152. Negative network effects as a potential barrier to adoption was, however, evident. Sixteen percent of the surveyed population thought that few people and businesses around them would use mobile money, and as such that the benefits from adopting this new system would be insignificant. This finding highlights the pernicious role that network effects can play. A mobile money service with few users is not very valuable, so there is little incentive for new users to join, a pattern referred to as 'excess inertia'. This could hinder wide adoption of the system, should mobile money providers not manage to attract a critical mass of early adopters.

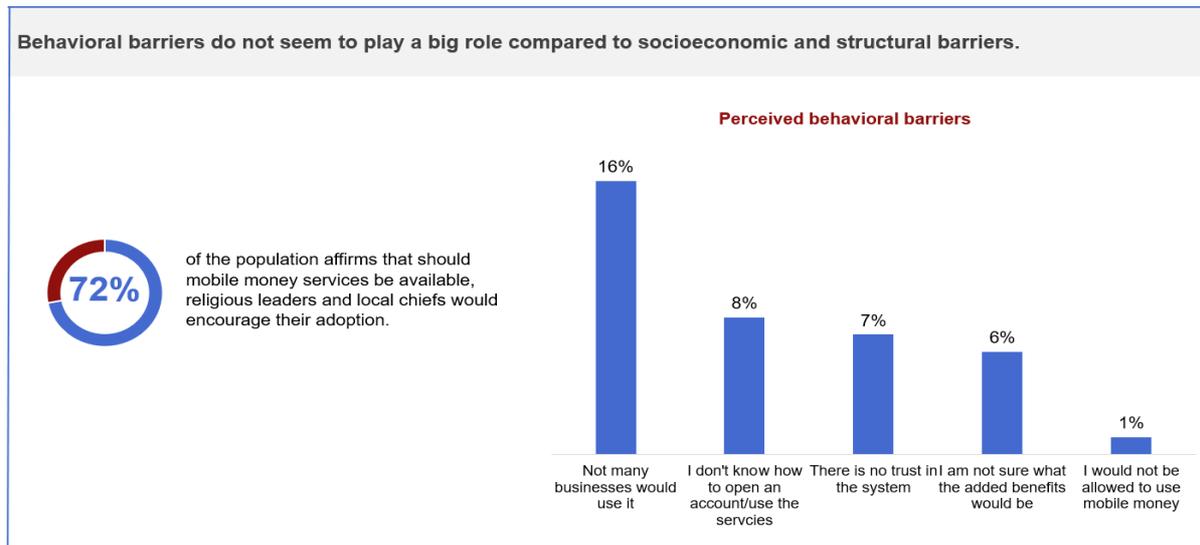
153. The supply-side research highlighted distrust in the financial system and the telecommunications system as a potential barrier to adoption. The SSP has been subjected to hyperinflation, and many South Sudanese have lost trust in the local currency. Furthermore, as detailed in Section 4, lack of access to formal financial services have contributed to distrust towards formal financial service providers. Stakeholders interviewed also pointed out that there could be limited trust in the mobile money service providers. Indeed, the two mobile money licenses that have so far been issued were granted to third parties that people are unfamiliar with.¹⁶² Lastly, some informants highlighted that issues with poor network coverage could diminish trust in the MNOs, although this view was not shared by all stakeholders, with some believing that the general population still by and large trusts the MNOs and praises them for trying to improve the quality of telecommunications services.

¹⁶⁰ KII with the Programme Implementation Unit, 23 January 2019.

¹⁶¹ KII. Representative from the humanitarian sector, 24 January 2019.

¹⁶² KII. Programme Implementation Unit, 23 January 2019.

Figure 34: Behavioral barriers to adoption of mobile money as perceived by respondents (N=1,648)

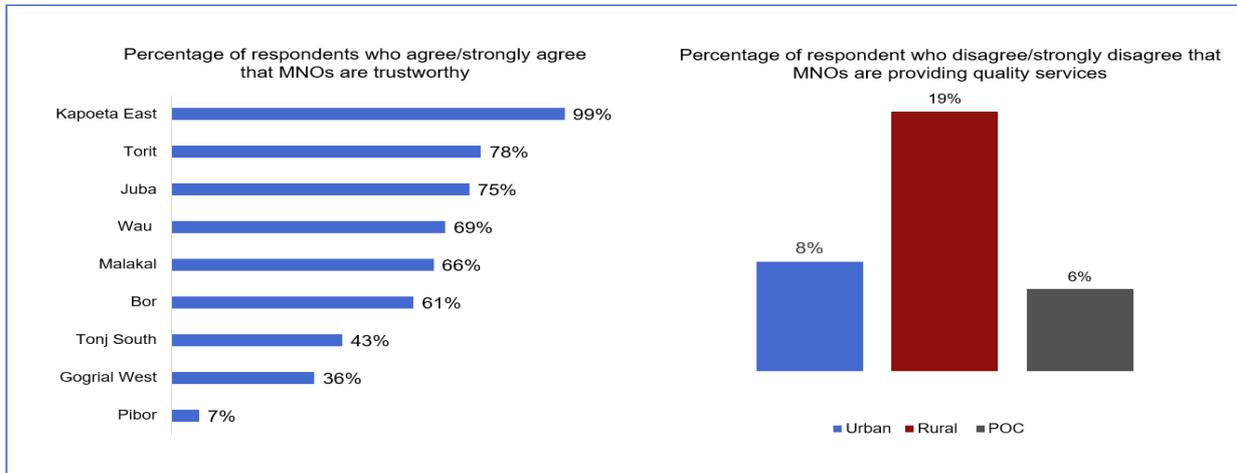


154. The demand-side household survey confirmed that skepticism and dissatisfaction towards MNOs were shared among certain groups (Figure 35); yet, they do not seem to constitute a strong barrier to adoption. A third of the surveyed population felt that telecommunications companies are untrustworthy, and 36 percent felt that the services provided by MNOs do not meet customers’ needs. By comparison, the same questions asked in Somalia revealed much higher level of satisfaction with MNOs, as only 12 percent did not agree that telecommunications company are trustworthy, and only 16 percent did not agree that the services provided by MNOs are meeting customers’ needs.¹⁶³ Levels of trust and satisfaction towards MNOs are heterogenous across counties and zones of residence. Trust levels are the highest in Kapoeta East, Torit and Juba and are the lowest in Tonj South, Gogrial West and Pibor, with only 7 percent of the Pibor population thinking that MNOs are trustworthy. However, limited trust in the system was mentioned as a barrier to adoption by only 7 percent of the surveyed population, which suggests that dissatisfaction with MNOs’ services will not necessarily impede the uptake of mobile money. This result echoes the lack of other services available (Section 4): while in doubt with MNOs’ ability to provide quality services, they are still willing to try out any alternative system that may be put in place.

¹⁶³ Altai research commissioned by the World Bank. *Thematic Extension of the Mobile Money Ecosystem*. 2019.

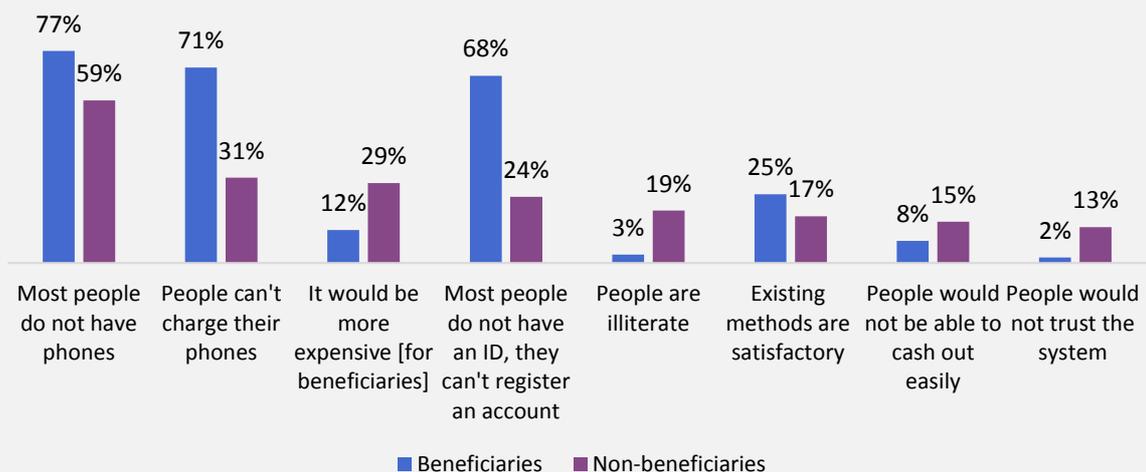
Figure 35: Trust levels towards MNOs, by County and Type of Residence¹⁶⁴ (N=1,648)

Focus Box 7: Barriers to the adoption of mobile money for aid beneficiaries



Structural barriers are significantly higher for cash transfer beneficiaries compared to the general population. 15 percent of the population thinks that mobile money would not be useful as a mechanism for channeling humanitarian assistance. Among those, humanitarian assistance beneficiaries mention significantly more often low phone ownership, difficulty to charge their phones and low ID ownership as key barriers. As 80 percent of beneficiaries come from rural areas, they face a lower access to mobile phones and a poorer access to the network than the general population (Figure 36). Further, while 59 percent of the population sees inadequate/unreliable network as a barrier, the figure reaches 81 percent among cash transfer beneficiaries.

Figure 36: Top reasons why mobile money for aid delivery would not be beneficial, for those who think so (N=227)



However, there is no evidence that socioeconomic and behavioral barriers are more acute for those who currently receive humanitarian assistance. In fact, beneficiaries have similar levels of income,

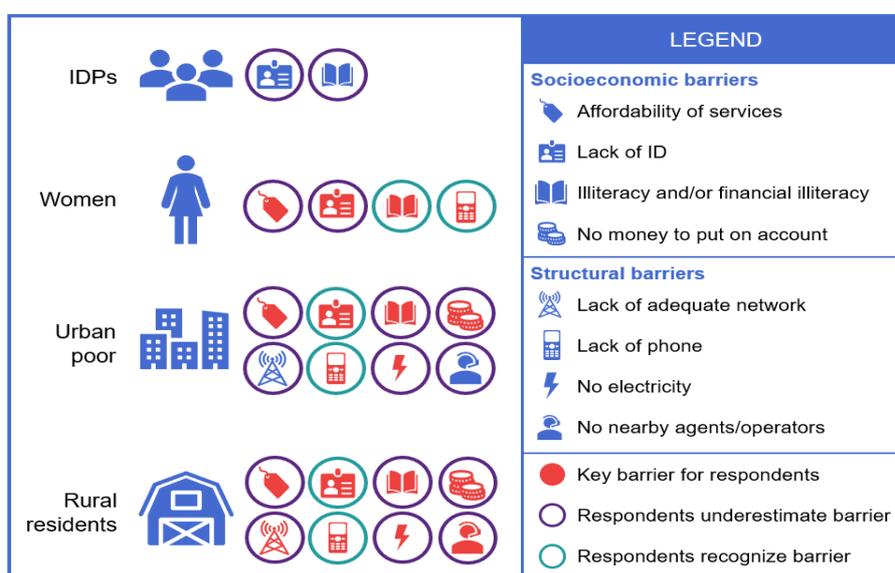
¹⁶⁴ Perceptions in Kapoeta East are very positive as, being a neighboring county, it is mostly served by Safaricom.

literacy and ID ownership as the general population. In addition, the perception of socioeconomic barriers (i.e. mobile money services would be too expensive, and that illiteracy and lack of ID would be major barriers for the adoption of mobile money) are homogeneous across beneficiaries and the general population.

8.4. BARRIERS TO THE ADOPTION OF MOBILE MONEY FOR VULNERABLE GROUPS

155. Some groups are likely to have troubled access to mobile money services due to more acute structural and socioeconomic barriers (Figure 37). Women face more acute socioeconomic barriers than men, while behavioral barriers play a minor role. The urban poor are subject to more acute socioeconomic and structural barriers, while additionally showing signs of resistance to KYC requirements; and rural households show the highest levels of vulnerability across the board. IDPs, on the other hand, face barriers to a similar degree to the general population.

Figure 37: Structural and socioeconomic barriers across vulnerable groups (N=1,648)



156. Women are likely to face severe barriers in accessing mobile money services, mostly due to a gender gap in socioeconomic characteristics. First, women are more likely to be poor or illiterate, as girls continue to be undereducated. This is perpetuated by the high rates of child marriage, further hindering their access to mobile money and related services.¹⁶⁵ For example, 61 percent of women are illiterate, against 42 percent of men. This correlates to huge disparities in living standards, with men earning 50 percent more than what women earn (4150 SSP/US\$ 16 per month for men versus 2940 SSP/US\$ 11 per month for women). Second, as mentioned previously, women are less likely to own an ID, with a 17-percentage point difference between the rates of ID ownership between men and women in favor of men. Third, women are significantly less likely to own a phone (see Section 3).

157. The demand-side survey reveals that behavioral barriers play a minor role in preventing women from accessing and using mobile money. South Sudanese societies are traditionally patriarchal, establishing men as heads of household and as the main decision makers in society. In the traditional division of responsibilities, men engage in the public sphere, whereas women focus on activities at home. As such, women are potentially less likely to be in a position to use mobile money

¹⁶⁵ United Nations Development Programme. *South Sudan-Human Development Indicators, Human Development Reports*. Available at: <http://hdr.undp.org/en/countries/profiles/SSD>.

services if men are mostly in charge of the households' financial transactions. Yet, the qualitative data highlighted that women are instead usually in charge of household activities, including payment of households' expenses such as utility bills, health expenses and school fees. Additionally, women do show a strong demand for mobile money services, as highlighted in Section 6.

158. The urban poor are significantly more vulnerable to socioeconomic barriers than the average urban population. They have lower income levels with respect to the urban population (40 percent lower, i.e. 2120 SSP/US\$ 8 per month), lower ID ownership (17 percentage points lower), and they show a higher rate of illiteracy (18 percentage points higher). However, the urban poor do not perceive their low income and low literacy rate as major challenges to adopt mobile money services, while the lack of ID is strongly perceived as such, i.e. by 45 percent of the urban poor.

159. Structural barriers also play a major role in hindering the urban poor's potential access to mobile money. The urban poor shares similar structural characteristics with the broader urban population: 48 percent have access to adequate network (versus 51 percent of the urban population) and 50 percent have easy access to agents¹⁶⁶ (versus 48 percent). However, 65 percent of them lack access to electricity, against 45 percent of the urban population. Furthermore, they enjoy a lower access to mobile phones, illustrated by the 21-percentage point gap in mobile phone access with the general urban population. This barrier is felt by 70 percent of urban poor, against 41 percent of the urban population.

160. The urban poor exhibits a bigger resistance to KYC protocols for buying a SIM card and/or opening a mobile money account. In fact, only 64 percent of urban poor households confirm that it would be useful to require an ID to open a mobile money account, versus 78 percent for the general and urban population. This is linked to the fact that, as mentioned before, the urban poor have lower ID ownership than the urban population, combined with the lowest income levels among all the vulnerable groups.

161. Rural residents suffer most severely from the various barriers to access mobile money services. Indeed, all structural barriers are significantly worse for the rural population: they have a lower rate of phone ownership (Section 3), and lower access to electricity (Section 8.1), adequate network (Section 8.1) and telecommunications agents (Section 8.1). Furthermore, as shown in Section 8.3, trust levels towards MNOs and satisfaction of their services are lower in rural areas. Yet, similar to urban poor households, rural residents seem to underestimate these barriers: only lack of ID and low access to mobile phones are mentioned significantly more by rural residents, while other socioeconomic and structural barriers are not as strongly felt in rural areas, despite in reality being worse.

162. IDPs, on the other hand, do not significantly show signs of more acute challenges in accessing mobile money. On average, IDPs demonstrate a similar level of income, literacy and ID ownership than of the general population. Similarly, this vulnerable group does not stand out in terms of phone ownership and access to adequate network, electricity and agents. In fact, two thirds of the IDPs indicated that they did not think their displaced status would induce any additional barriers to access mobile money. For instance, less than a fifth (23 percent) of IDPs characterized the lack of ID as a potential barrier they would face, against 37 percent for the general population, while only 17 percent felt literacy might be a challenge (against 31 percent).

¹⁶⁶ Meaning that they can reach an MNO's agent walking less than 30 minutes on foot.

9. RISKS OF MOBILE MONEY

163. While barriers to the adoption of mobile money need to be considered in assessing the feasibility of using mobile money for humanitarian and development cash programming, risks associated with mobile money also need to be carefully evaluated. As expressed by a number of stakeholders interviewed, mobile money cannot be introduced and scaled-up for cash assistance without thoroughly understanding the FCV context and associated risks.

9.1. ENDOGENOUS RISKS

164. A number of risks associated with the adoption of mobile money in South Sudan are endogenous, i.e. they are specific to the mobile money ecosystem, services, and governing regulations. The South Sudanese fragile context, characterized by high illiteracy, poor level of infrastructure development, volatile political and security conditions, and weak regulatory and institutional environment, has made some of these risks particularly acute.

165. The use of mobile money is vulnerable to technical issues or a system collapse. Given the poor network coverage in South Sudan, and high risk network shutdowns precipitated by the low degree of liberalization(see Section 3), possible incidents of technical issues or system collapse, whether temporary or permanent, cannot be underestimated. The unreliability of mobile money services would raise two risks: i) preventing people from cashing out money or from using their mobile money account at the moment when they most need it (e.g., amid climate shocks or an uptake in violence); and ii) deteriorating trust in the system, and consequently, disincentivize uptake. For instance, 62 percent of the population fear not being able to transfer money when they want to due to inadequate network, 48 percent due to a network shutdown, and 16 percent due to system collapse (i.e. the operator shuts down or the system collapses). Should these concerns materialize, not only would this reduce the take up of services, but it would also create liquidity issues. For example, if the recipients of mobile money cash transfers always decided to cash out as soon as they received a transfer to minimize risks of potentially not being able to retrieve their money later on.

I will use [mobile money] of course, because I know I would be able to be seated in one place and do all the transactions I wish to do. But at the same time, my fear will be: what if the service stops to work and I have put all my money in it? Just the way Vivacell network in South Sudan was closed down and the way Nile Commercial Bank closed with people's money.

FGD with the urban poor, Juba

166. The potential degree of complexity in using mobile money for financial transactions can lead to personal errors. Twenty-eight percent of the population mentioned risks associated with personal errors, for instance sending money to the wrong number, or forgetting the PIN of their mobile money account, a concern shared across all socio-demographic profiles. While this risk is relevant to all country contexts, even those with mature mobile money markets such as Kenya, it is further exacerbated in South Sudan due to the population's high illiteracy levels and low capacity to master the use of new technologies. This highlights the need for mobile money operators to sensitize their customers on how to use the services, and build user-friendly platforms fitted to a poorly educated, largely illiterate population.

167. Risks of fraud may negatively influence the population's perceptions of mobile money and impede its adoption. Twenty percent of the population is concerned with fraud, which can take several forms with regards to mobile money. These include, for instance, receiving a fake SMS stating that funds were wrongly sent to the mobile account owner and should be sent back to a specific number, or being asked to resend money because the transaction was unsuccessful when it was not. High levels

of illiteracy in South Sudan significantly increase the likeliness of recipients and users to become victims of such fraud schemes. Moreover, the communal nature of society in South Sudan increases opportunities of another type of fraud, whereby one's PIN code is misappropriated by someone whose help had been required in order to conduct a transaction. In fact, the population ranks the latter type of fraud as one of the highest risks associated with fraud. While the perception of fraud as a major risk is similar in urban and rural areas as well as in PoC sites, women mentioned such risks significantly more than men. For example, women seem to be significantly more afraid of having their mobile money on their accounts stolen (mentioned by 30 percent of women versus 21 percent of men).

Before we can use mobile money services, the population needs to be trained on how to use it, to avoid personal mistakes that will then discourage people to use it.

FGD with IDPs, Juba

168. Mobile money is exposed to liquidity shortages. Unavailability of liquid cash outside of urban centers could prevent users from cashing out when needed. This is a major risk for mobile money-enabled cash assistance, as beneficiaries are likely to only withdraw cash, at least in the short term, which means that it would be difficult for agents to rebalance. Ensuring that customers can always cash out is likely to be very challenging in South Sudan, owing to the lack of termination points where customers could cash out in some remote areas, and the difficult logistics associated with transferring bulk cash in the country, as discussed in Section 4.

169. Liquidity management is indeed perceived as a key challenge by mobile money providers, and they are developing strategies to cope with this risk. A representative of Lukiza confirmed that lack of liquidity could jeopardize the whole system and stated that they envision that stable liquidity in rural areas would need to be ensured. Both Lukiza and Trinity Technologies are reportedly developing a well-defined agent network structure, with a combination of agents and *master agents* (agents of agents who can manage liquidity of agents). Agents will likely be traders, gas stations and MNO's agents. Master agents will likely be banks. In particular, Trinity has an agreement with Equity Bank since March 2019, while Lukiza is discussing with Cooperative Bank. If there are liquidity shortages at the local agent's level, the master agent will have to intervene to ensure that liquidity shocks can be timely tackled.¹⁶⁷

170. The development of mobile money may induce high security risks. Security conditions are extremely volatile in South Sudan. The major political conflict is also likely to cause escalation of local armed conflict between communities, often fuelled by (lack of) access to scarce resources like water and land, cattle herding and basic needs. Moreover, the South Sudanese police severely lacks the institutional capacity and resources to systematically address law and order issues. In such a context, security of mobile money agents is a significant concern, as they would have to keep enough liquid cash on hand to perform cash-out transactions, and could thus become the target of violence. More generally, moving cash around and managing liquidity of mobile money agents would entail security risks. This structural issue calls for the resolution of the political crisis and economic recovery in the country.

171. The adoption of mobile money also raises data protection issues. Beneficiary and consumer data would need to be protected, but processes to ensure this are not yet in place. Indeed, there currently is no national legal framework for data protection in South Sudan, which means that financial sector actors, including mobile money providers, are not requested to follow procedures to keep

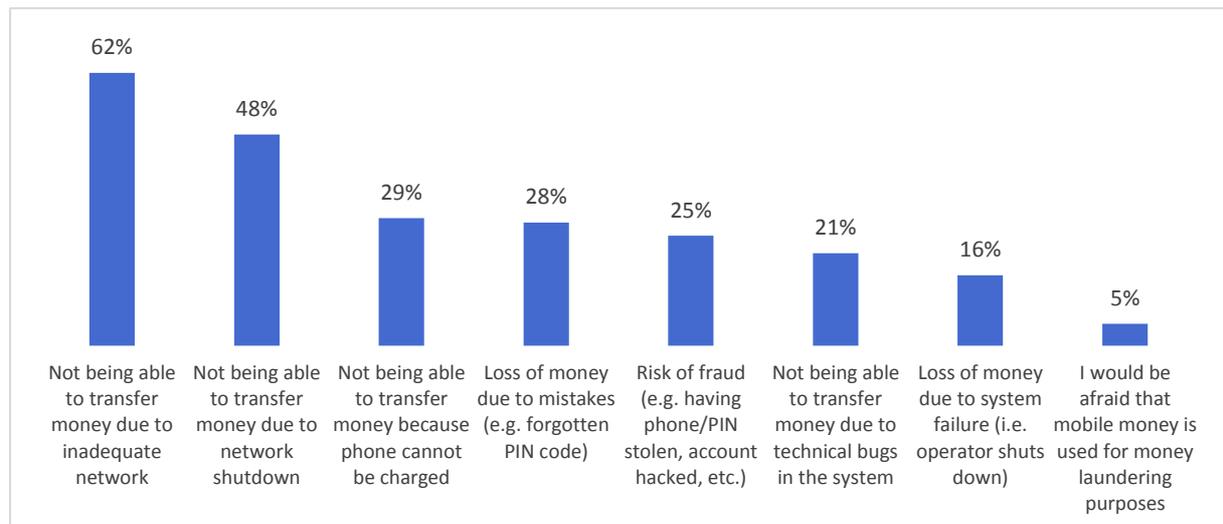
¹⁶⁷ KII with representative from the telecommunication sector. 24th May 2019; KII with representative from the humanitarian sector. 25th May 2019.

personal data secure and protect customers’ privacy. In South Sudan, this further poses a substantial risk in terms of potential misuse of personal data for predatory actions for illicit and violent activities.

172. Finally, money laundering is a key issue. Even though regulations were drafted to curb money laundering, notably through mandatory SIM card registration, compliance with KYC and AML requirements remains hampered by several issues. For one, as discussed in Section 6, ID coverage remains very low in South Sudan, impeding customer due diligence. Consequently, formal IDs are not systematically required to access financial and telecommunication services, and informal IDs are instead accepted. For example, 31 percent of SIM card owners purchased their SIM card(s) by presenting uniquely an *informal* ID. Further, registering of SIM cards is not enforced in certain areas. Six percent of the population mentioned that they did not register their SIM cards. Qualitative data shows that, due to the communal nature of life in South Sudan society, some agents do not necessarily require presentation of an ID. This was also confirmed by quantitative data, where 43 percent of respondents do not think that requiring an ID to open a mobile money account would be useful, saying that they have informal ways of being identified in their communities that work well. Lastly, the supply-side research revealed that some people in urban areas buy multiple SIM cards under their names to sell them in rural areas where supply is lacking.

173. According to the general population, the main risks perceived therefore relate to supply-side risk factors – many of which reflect the key structural barriers identified in Section 8. Figure 38 presents the main endogenous risks associated with mobile money services perceived by the general population.

Figure 38: Main endogenous risks for the entire sample (N=1,648)



9.2. EXOGENOUS RISKS

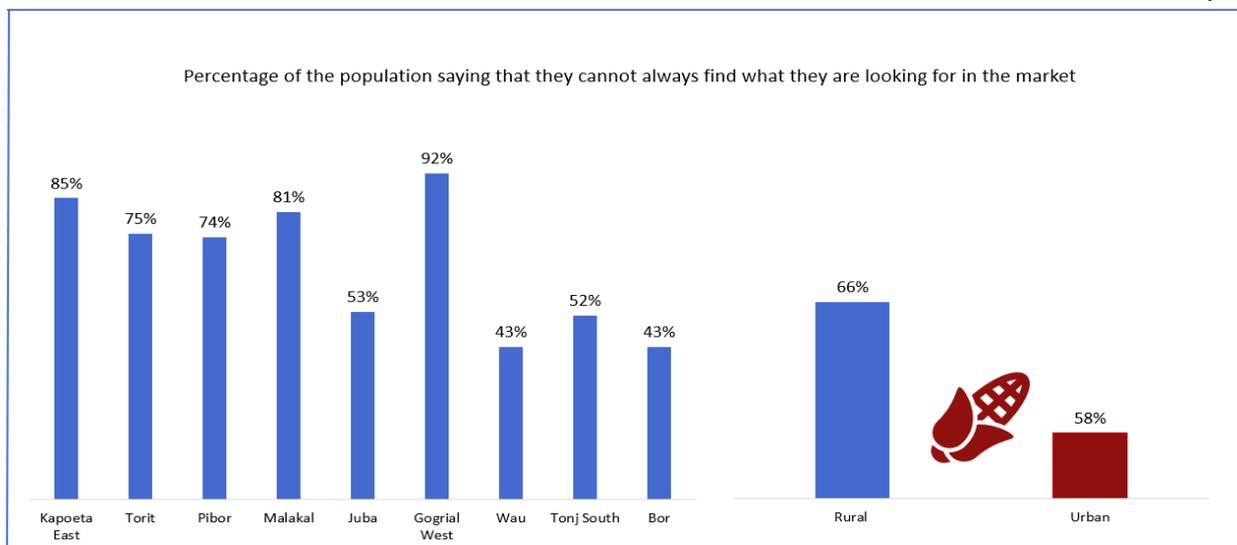
174. The adoption of mobile money may also have several exogenous risks, which relate to the functioning of markets and the realities of South Sudan’s economy, including unstable markets, easier channeling of resources to illicit activities, and risks of weakening traditional social safety nets. Exogenous risks are overall perceived to be less pervasive, but evidence also suggests that they should not be trivialized, as they can have high impact if they were to materialize.

175. Mobile money may flood markets with increased amounts of cash which cannot be absorbed. Cash transfers, notably when disbursed through mobile money, require functional and elastic markets to be effective. Most key informants noted that some urban areas (i.e. Juba, Renk, and Wau) and some border areas, have relatively robust and resilient markets. However, they also

highlighted that this is not the case in other parts of the country. In fact, markets in large parts of South Sudan continue to be underdeveloped, poorly integrated, and susceptible to external shocks. These are due to: i) weak physical infrastructure, including poor road networks, resulting in high costs of procuring and moving goods; ii) protracted political crisis and ensuing insecurity; and iii) currency and cash liquidity issues, as the parallel market exchange rate continues to be close to double the official exchange rate,¹⁶⁸ leading to local currency liquidity drying up frequently.¹⁶⁹

176. Evidence reveals that traders cannot always meet the increased demand generated by cash transfers. In an assessment conducted by the WFP and World Vision in the Juba PoC site, they found that the market had the potential to expand with a small cash injection to meet the demands of about 1,000 households, but would not have been able to sufficiently expand to meet the demands of 5,000 households.¹⁷⁰ Traders interviewed confirmed that markets do not always meet customers' needs. Furthermore, they highlighted seasonal trends in supply, with some markets being less functional during the rainy season when it becomes difficult to secure adequate supply of goods due to the worsening of roads conditions.¹⁷¹ Lack of market functionality is exacerbated in "hard-to-reach" opposition held areas, which also tend to be where humanitarian needs are highest.

177. Demand-side results reveal that markets functioning is very heterogeneous across types of residence and counties (



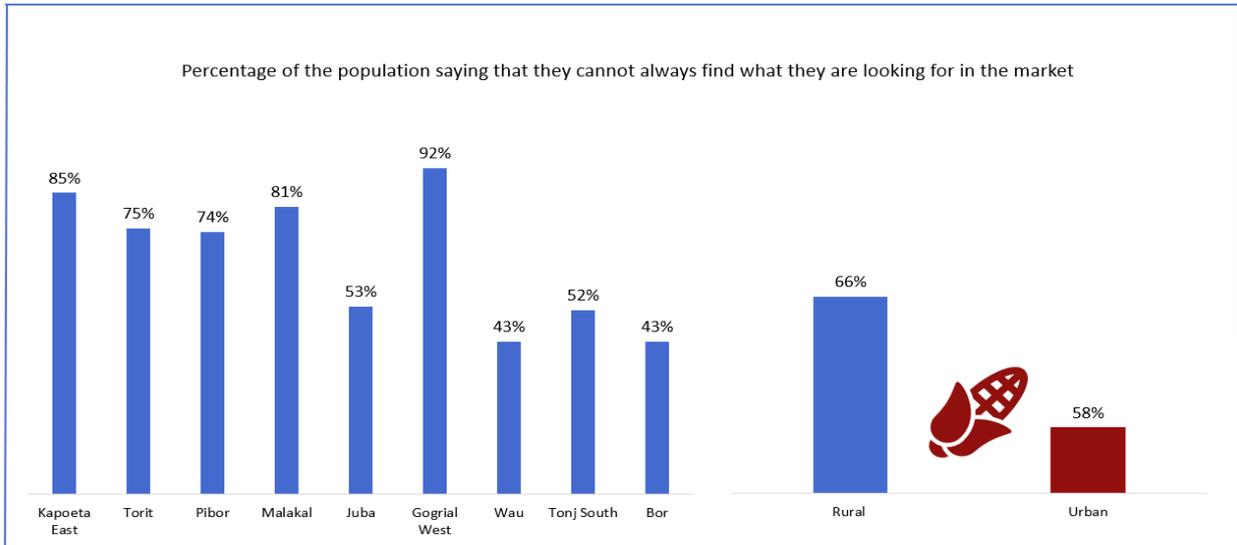
). Markets are significantly less developed in rural areas, with 66 percent of rural residents stating that they do not always find what they want in the market, versus 58 percent in urban areas. Concerning market supply at the county level, Gogrial West, Kapoeta East and Malakal appear to be the counties where markets are less functional, with 92 percent, 85 percent and 81 percent of residents stating that markets do not always satisfied their needs. By contrast, Wau and Bor seem to have more resilient markets, followed by Tonj South and Juba, as shown in

¹⁶⁸ World Bank. *South Sudan Economic Brief*. April 2019

¹⁶⁹ [https://www.africanews.com/2018/10/01/sudan-to-print-100-pound-banknotes-to-ease-liquidity-crunch//](https://www.africanews.com/2018/10/01/sudan-to-print-100-pound-banknotes-to-ease-liquidity-crunch/)

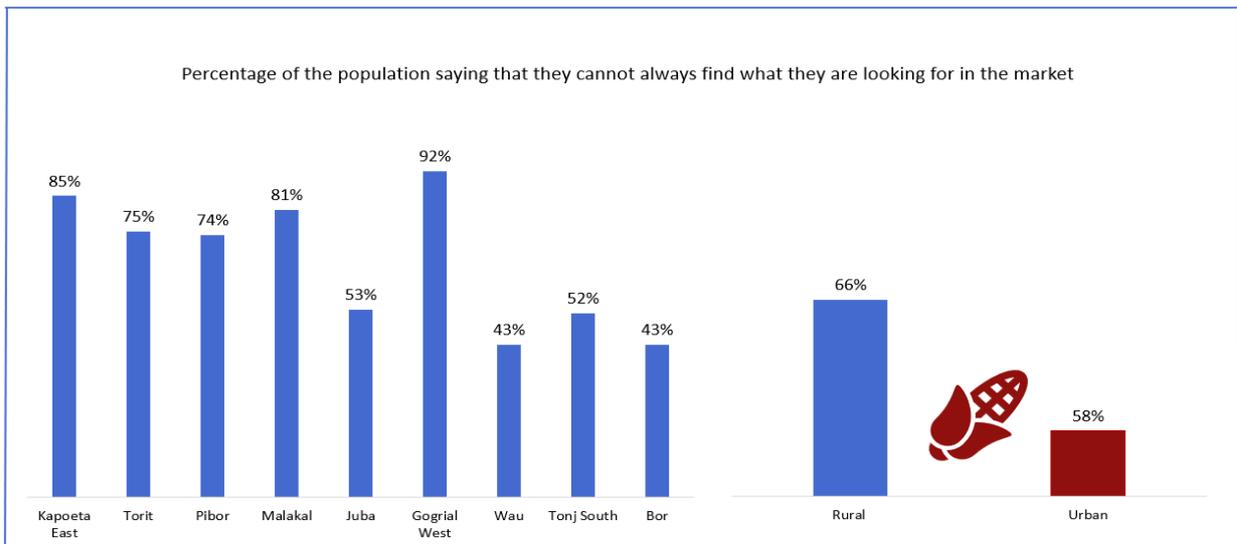
¹⁷⁰ World Vision South Sudan. *Cash based programming to address hunger in conflict-affected South Sudan: a case study*. May 2016.

¹⁷¹ Because of the rains, the period from June until January is nearly impossible for overland access and for supply chains to be maintained. Many markets in rural areas, such as those in Pibor, simply close and the traders depart until the next dry season. Also confirmed by Conflict Sensitivity Resource Facility. *Cash-based Programmes and Conflict: Key areas of interaction and options for conflict-sensitive programming in South Sudan*. March 2018.



below. However, even in the latter counties, almost half of the population is not satisfied by market supply.

Figure 39: Market functioning across counties and zones of residence (N=1,648)



The market supply of goods is very unstable, sometimes you look for things like sweet potatoes, and are unable to find it.

FGD with women, Wau

178. Massive flows of cash from cash assistance, coupled with low market functionality, could thus have several negative consequences. *First*, there is a risk that some markets would be unable to absorb injections of cash from mobile money. In such contexts, a large influx of mobile money transfers could distort local markets, induce shortages, and result in price hikes for communities, largely contradicting the purpose and principles of cash assistance. *Second*, it can generate increased operational costs if partners need to introduce traders to bring in basic commodities which can be

bought by the cash transferred – as was sometimes required in previous projects.¹⁷² In particular, humanitarian actors indicated that they had faced a host of challenges with regards to rolling out cash assistance in remote areas that lacked functional markets, requiring a shift in programme design to, at times, bring in traders to field locations to supply merchandise and create market conditions, which had not previously existed.¹⁷³

Focus Box 8: Mobile money and inflation

Inflation is rampant in South Sudan, where the monetization of the budget deficit and the absence of sterilization of money growth by the BoSS have led to skyrocketing inflation. Notably, money creation peaked in 2016 and drove inflation rates to 410 percent that year, 125 percent in 2017, 131 percent in 2018.¹⁷⁴ This has affected households' purchasing power and livelihoods, as absolute poverty rates increased from 82 percent in 2016 to 89 percent in 2018.¹⁷⁵ Upon recommendation from the international community,¹⁷⁶ efforts have been made since 2017 to curb money expansion, and inflation has been falling on the back of a significant decline in money growth. Notwithstanding, it is expected to remain as high as 49 percent in 2019.¹⁷⁷ In the extremely volatile South Sudanese macroeconomic context, understanding the interactions between mobile and inflation is paramount.

What will be the impact of mobile money on inflation?

In theory, the impact of mobile money on inflation is ambiguous. On the one hand, mobile money can increase velocity of money, which can be a driver of price surge. It can also stimulate consumption, and therefore increase the demand for money, leading, again, to surged prices. On the other hand, mobile money can enhance investment and productivity gains, which can drive prices down. The impact of mobile money on inflation is therefore a mainly empirical question. Academic empirical research on the topic has not found any effect of mobile money on inflation. For example, Aron et al (2015) found no evidence of a link between mobile money and inflation in Uganda,¹⁷⁸ while Weil et al (2012) found that the monetary implications of mobile money in Kenya were likely to be minimal.¹⁷⁹

In Somalia, however, mobile money has been perceived as having largely driven devaluation of the local currency and inflation.¹⁸⁰ Arguably, high inflation supported an uptake in mobile money, as services were available in USD and therefore offered an interesting option to store money. The uptake in dollarized mobile money further sustained the dollarization of the economy, undermined trust in the local currency, and sustained high rates of inflation¹⁸¹.

¹⁷² KII with representative from the humanitarian sector, 28 January 2019; KII with representative from the humanitarian sector, 23 January 2019.

¹⁷³ Ibid.

¹⁷⁴ World Bank. "South Sudan Economic Brief". April 2019

¹⁷⁵ World Bank. "South Sudan Economic Brief". April 2019

¹⁷⁶ IMF. "IMF Country Report". June 2019

¹⁷⁷ World Bank. "South Sudan Economic Brief". April 2019

¹⁷⁸ Aron, J., Muellbauer, J. and Sebudde, R. (2015). Inflation forecasting models for Uganda: is mobile money relevant?

¹⁷⁹ Weil, D., Mbiti, I. and Mwega, F. (2012). The Implications of Innovations in the Financial Sector on the Conduct of Monetary Policy in East Africa.

¹⁸⁰ Altai Consulting for the World Bank. Money Money Ecosystem. 2017

¹⁸¹ The Government of Somaliland imposed that mobile money transactions for amounts under \$100 should be done in Somaliland Shillings as the authorities considered that the dollarization of mobile money transactions were contributing to the inflation and devaluation of the national currency.

Notwithstanding, the South Sudanese context is very different from the Somali one. Firstly, dollarization is marginal and transactions are conducted in the local currency, as Table 10 shows. Secondly, services will be rolled out in SSP only.

Table 10: Currencies used to perform financial transaction, in Somalia and South Sudan

	Somalia ¹⁸²	South Sudan
Currency to pay for everyday expenses	54 percent in USD (against 46 percent in the local currency)	3 percent in USD (against 95 percent in the local currency)
Currency to pay for utility bills	65 percent in USD (against 35 percent in the local currency)	1 percent in USD (against 96 percent in the local currency)
Currency to receive payments, remittances and salaries	75 percent in USD (against 25 percent in the local currency)	2 percent in USD (against 95 percent in the local currency)

Ex ante, the general effect of mobile money on inflation in South Sudan is therefore hard to predict. On the one hand, mobile money will likely generate huge productivity gains and stimulate investment, which would drive prices down. On the other hand, it will probably stimulate consumption and velocity of money, especially if it is substituted to traditional exchange of goods in rural areas. Which phenomenon will at play the most is yet to be seen.

A local effect on inflation can nonetheless be anticipated in the context of cash assistance, in the case where markets cannot absorb the increased cash influx. This, however, would not be linked to mobile money itself, but rather to cash assistance and irrespective of the delivery mechanism.

What will be the impact of inflation on mobile money?

Inflation, on the other hand, is likely to have an impact on mobile money uptake. While inflation has led to a surge in dollarized mobile money uptake in Somalia, it could likely discourage uptake in South Sudan, where services would only be available in SSP. Although South Sudanese mainly say that they would like services to be available in SSP,¹⁸³ money stored on accounts would quickly depreciate. People might therefore prefer storing money through in-kind savings, such as livestock, and conducting transactions through more liquid means, such as cash.

179. The development of mobile money may result in the channeling of resources to illicit activities in some areas through boosted markets. Mobile money could expand and strengthen markets, as discussed in Section 7. However, some of these markets are controlled by warring parties, creating risks of enriching them through mobile money transfers. Eight percent of the population declared being afraid mobile money would ease the financing of illegal activities. Additionally, changing market structures could fuel tensions between different criminal groups.

180. Lastly, mobile money may weaken traditional safety nets by monetizing the economy. South Sudan’s economy has been traditionally based on reciprocal relationships of kinship, e.g. through a system of livestock/grain exchange between different communities. Even if these practices are less pervasive than they used to be, they are still present in some rural areas. In these areas, injection of large amounts of cash with mobile money would lead to the monetization of the economy, subsequently potentially putting people in a position where they have to find money to cover their

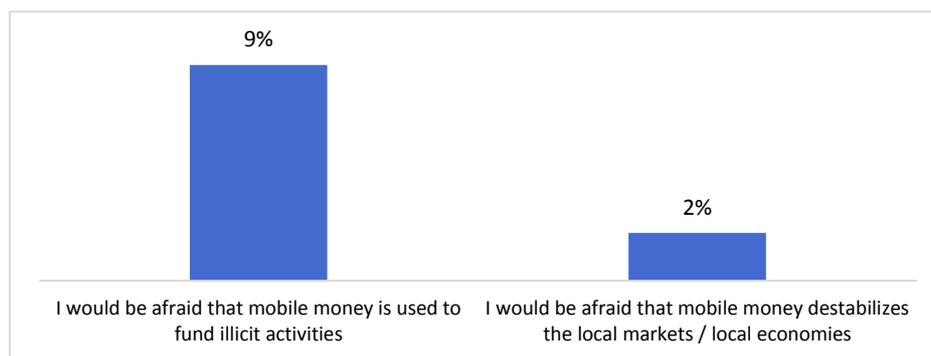
¹⁸² Altai Consulting for the World Bank. Money Money Ecosystem. 2017

¹⁸³ 62 percent of the surveyed population would like transactions to be available in SSP, while 3 percent only would like transactions to be available in USD.

needs beyond the traditional systems of exchange and reciprocity. This can create negative coping strategies, as reported by a humanitarian worker who explained that the customary compensation for adultery is becoming a means for mobilizing cash in local economies where most financial resources circulate around the humanitarian system.¹⁸⁴ The monetization of the economy can also make people more vulnerable in times of shocks, in case their social capital is damaged.

181. While the impact of exogenous risks is very high, these risks were less often mentioned by the surveyed population. Figure 40 presents the main exogenous risks associated with mobile money services perceived by the general population.

Figure 40: Main exogenous risks for the entire sample (N=1,648)



9.3. MITIGATION STRATEGIES

182. Measures could be implemented to mitigate some of these risks, based on experiences from countries that share similar features. Experiences from East African countries that have widely embraced mobile money, such as Kenya and Uganda, illustrate how fraud can be mitigated in the context of high illiteracy rates, for example by developing services to investigate reported transactions, reversing them if needed, or voice services for illiterate people.¹⁸⁵ As for AML measures, there is a growing interest among humanitarian and development partners to explore whether biometrics could be integrated into the design of a mobile money system. Some telecommunications companies in East Africa are also exploring such possibilities. In Kenya, for example, even though biometrics are not yet required to open an account, voice biometric services have been developed to secure transactions.¹⁸⁶ Safaricom announced in August 2018 that they are also exploring the use of fingerprint identification for key services.¹⁸⁷ Table 11 provides a summary of the above-discussed risks, including their potential impact on the mobile money ecosystem as well as mitigation strategies to effectively address them.

Table 11: Mitigation strategies for endogenous and exogenous risks

Risk	Risk description	Risk impact	Mitigation measures
------	------------------	-------------	---------------------

¹⁸⁴ Conflict Sensitivity Resource Facility. *Cash-based Programmes and Conflict: Key areas of interaction and options for conflict-sensitive programming in South Sudan*. March 2018.

¹⁸⁵ A voice-user interface makes spoken human interaction with computers possible, using speech recognition to understand spoken commands and questions.

¹⁸⁶ Safaricom website. *2018 Annual Report*. Consulted on 14/03/2019. Available at: https://www.safaricom.co.ke/annualreport_2018/.

¹⁸⁷ "Safaricom Mulls Biometrics to Stem Fraud," *Business Daily*. Consulted on 14/03/2019. Available at: <https://www.businessdailyafrica.com/corporate/companies/Safaricom-mulls-finger-biometrics-to-stem-fraud/4003102-4709430-n93d4p/index.html>.

<p>Fraud</p>	<p>Receiving a fake SMS stating that funds were wrongly sent to the mobile account owner and should be sent back to a specific number, being asked to resend money because the transaction was unsuccessful when it was not, etc.</p>	<p>Loss of money for mobile money users Loss of trust in the system</p>	<p>Agent and consumer fraud awareness programs (cf. M-PESA in Kenya)</p> <p>Customer due diligence measures (KYC), that may include biometric identification systems, to ensure only subscribers whose identity can be verified (and, in the case of legal entities, who are properly licensed) have access to mobile money services (cf. M-PESA in Kenya)</p> <p>Agent due diligence and compliance monitoring (cf. Easypaisa in Pakistan)</p> <p>Screening to detect suspicious transaction patterns (cf. Easypaisa in Pakistan)</p> <p>Robust customer recourse and escalation procedures (cf. ZAAD in Somaliland)</p>
<p>Personal errors</p>	<p>Sending money to the wrong number, or forgetting the PIN of mobile money account</p>	<p>Negatively influencing the users' perception of mobile money systems</p>	<p>Capacity building through awareness programs (cf. M-PESA in Kenya)</p> <p>User-friendly interface (cf. M-PESA in Kenya)</p> <p>Voice recognition software (cf. EVC+ in Somalia)</p> <p>Systems to investigate reported transactions and reverse them if needed (cf. MTN in Uganda and M-PESA in Kenya)</p>
<p>System collapse or technical issues</p>	<p>Temporary or permanent network shutdowns</p>	<p>Preventing people from cashing out or using mobile money when they need to, leading to a deterioration of the trust in the system</p>	<p>Sensitization aiming to obtain a firm commitment from the government (e.g., through an MoU) to ensure standards for network maintenance and quality</p> <p>Sensitization aiming to obtain firm commitment from the government to secure property rights of MNOs and create a sound regulatory environment so as to increase expected profits associated with investment</p> <p>Thorough tests of systems by a third party/government agency before the launch to make sure it works, with subsequent regular inspections</p>

Liquidity shortages	Unavailability of liquid cash	Preventing people from cashing out when they need to	<p>Robust agent distribution network (cf. ZAAD in Somaliland)</p> <p>Wide adoption of merchant payments to reduce cash-out needs (cf. ZAAD in Somaliland)</p> <p>Ongoing monitoring of transactions to identify agent locations where cash is in higher demand</p>
Security risks	Security of mobile money agents while performing cash-out transactions	Theft of money and violence against mobile money agents	<p>Strict security protocols to be followed by agents</p> <p>Operational costs related to security integrated into the service providers' cost structure</p>
Data protection issues	The protection of consumers' personal data is not guaranteed	Potential misuse of personal data for predatory actions, e.g. to gather intelligence on specific groups	<p>National legal framework for data protection (cf. 2019 Data Protection and Privacy Act in Uganda)</p> <p>Emergency response plan for mitigating data breaches and informing customers</p>
Money laundering	Use of mobile money by criminal organizations to facilitate illicit activities	Facilitation of criminal activities	<p>Customer due diligence measures (KYC) to ensure only subscribers whose identity can be verified (and, in the case of legal entities, who are properly licensed) have access to their networks (cf. M-PESA in Kenya)</p> <p>Regulations prohibiting the offering of digital financial services by unlicensed entities (cf. Kenya, Uganda, Nigeria)</p>
Unstable markets	Mobile money may flood markets with increased amounts of cash that they cannot absorb	Shortages, price hikes	<p>Market readiness assessments for each new location</p> <p>Analysis on effect of mobile money in national monetary policy</p>
Channeling resources to illegal activities	Enriching illegal groups through boosting markets under their control	Support illegal groups and fuel conflict	<p>Customer due diligence measures (KYC) to ensure only subscribers whose identity can be verified (and, in the case of legal entities, who are properly licensed) have access to their networks (cf. M-PESA in Kenya)</p>

			Traceability and accountability of payments through improved transfer dashboards
Weakening traditional safety nets	Monetization of the economy endangering traditional systems of exchange and reciprocity	Induce negative coping strategies and increase vulnerability to shocks	Community-level awareness programs to ensure mobile money is seen as a way to enhance safety nets rather than deteriorating them

10. LEARNING FROM OTHER CONTEXTS

183. South Sudan can learn from the experience of mobile money scale-up in other FCV countries, namely Somalia. The Focus Box below reflects on the success of mobile money in Somalia and examines lessons learned that could potentially be applied in South Sudan.

Focus Box 9: Why mobile money is so successful in Somalia?

Despite the fragility and under-developed financial institutions, Somalia has one of the most active mobile money markets in the world, outpacing most other countries in Africa. Mobile money has superseded the use of cash in Somalia. It has also become the most widely used transfer mechanism for cash assistance, by allowing cash disbursement to beneficiaries in an effective and cost-efficient way, and enabling providers to deliver cash assistance in remote areas, where other transfer mechanism cannot reach.

Despite the regulatory vacuum, several factors have encouraged the impressive uptake of mobile money in the country:

- F1. Given Somalia’s complex political environment and volatile security conditions, investments in telecommunications have been almost exclusively led by Somalis, both from the diaspora and within the country. This is substantially different than telecommunications in other countries in Africa, which have traditionally been dominated by incoming large MNOs (including Zain and MTN). As a result, the ICT sector has been able to leverage Somali social and business networks, and has created products uniquely suited to the Somali context.
- F2. ICT is one of the bright stars of the Somali economy. Mobile money has built on very high phone penetration, with nine out of 10 Somalis above the age of 16 years who own a mobile phone. Further, MNOs are among the most recognizable and trusted brands.
- F3. Operators have adopted a business model based on indirect revenues — gain on increased airtime sales and greater customer retention. They are therefore able to offer mobile money services to users as a “free” service (without transaction charges or fees). Affordability of services has been a key enabling factor given low income per capita in Somalia.
- F4. Operators have quickly understood the importance of promoting bill and merchant payments to build a vibrant ecosystem of institutions and businesses using the system, which in turn has driven usage among the general population. MNOs concentrated their early efforts on two target groups: merchants and employers, to immediately create a

mobile money system that did not require users to cash-in and cash-out. They notably spent a lot of time educating merchants about the service.

- F5. MNOs have increasingly formed part of large conglomerates, which enables the operators to propose attractive services, such as the possibility to transfer remittances directly to recipients' mobile money accounts. Such a service has driven usage as remittance flows remain critical to a large part of Somali households.
- F6. Nomadic populations, that make up for a quarter of the population, move around a great deal to find adequate pasture and water for their livestock. Mobile money suits well their lifestyle.

Somalia and South Sudan share a number of characteristics, like the depreciation of their local currency, limited access to traditional banking services and lack of other effective and accessible alternatives. As such, mobile money could rapidly become an effective substitute for cash in South Sudan, as it has become in Somalia, should the necessary conditions exist. While some enabling factors that have supported rapid growth in Somalia are country specific (F1, F2, F6), some lessons learned from the successful experience of mobile money in Somalia could be applied to South Sudan. These include the need to create an attractive value proposition with a low-fee business model, the commitment to salary payments and merchant payments, and the development of value-added services such as the possibility of receiving remittances from Kenya or Uganda on mobile money accounts.

11. CONCLUSION AND RECOMMENDATIONS

184. Mobile money holds immense potential in South Sudan. In particular, mobile money can be the future of cash assistance in the country. It can enable humanitarian and development partners to reach a significant number of beneficiaries not yet reachable, and help improve the timeliness and cost-effectiveness of cash delivery. It also has the potential to mitigate some of the problems associated with cash delivery in South Sudan, including fiduciary and security risks. Furthermore, with a negligible rate of bank account ownership in South Sudan, mobile money could be a game-changer in terms of financial inclusion in the long term, once more reliable and extensive network infrastructure is built and a more enabling legal and regulatory framework is in place and enforced.

185. However, there are a number of multi-dimensional barriers that will hinder the adoption of mobile money in the country in the short to medium term. These include on-going instability and conflict; structural barriers such as poor network coverage and limited access to electricity; socio-economic barriers such as chronic underdevelopment and low literacy rates; and, to a lesser extent, behavioral barriers such as lack of knowledge of available services.

186. Mobile money itself is also associated with a number of risks, both endogenous and exogenous. These include fraud, money laundering, security risks for agents, fueling the war economy and risks relating to the functioning of markets (see Section 9).

187. Yet, despite the risks associated with mobile money, the risks of *not* using mobile money run even higher in the longer term. As evidenced by the research, current methods of cash assistance delivery not only entail cost and time inefficiencies, but also present higher risks of predatory violence and leakages compared to mobile money (see Section 6). Arguably, risks of fraud and money-laundering can be worse in a cash-based economy, while mobile money can increase traceability and transparency of financial flows. Moreover, for the general population, not using mobile money equates to maintaining *status quo*, which is characterized by a lack of affordable financial services, low trust in

the banking system, and low financial inclusion levels, especially for the most vulnerable that are currently unbanked. To the contrary, if barriers to use mobile money, as well as endogenous and exogenous risks, are properly assessed, they can, to some extent, be tackled or mitigated.

188. Given that service development is in its infancy, the development of a mobile money ecosystem in South Sudan provides a *window of opportunity* to build a system from scratch that meets international standards. Mobile money is about to be launched and all signs indicate that it will progressively grow, despite the substantial barriers and risks the research highlighted. As such, it is advisable that the humanitarian and development partners engage in this sector early to ensure that risks and barriers are addressed in a sustainable way, and that measures undertaken are aligned with global good practices. Conversely, ignoring this *window of opportunity* can risk the sustainability of mobile money development and its potential for inclusion. As such, in order to prevent mobile money from entrenching existing inequalities, as well as to ensure that the risks previously underlined are effectively mitigated, the early involvement of development partners is crucial.

189. However, efforts aimed at supporting the scale up of mobile money services need to take into account the current uncertain political situation and tenuous peace process, as well as potential exacerbation of conflict risks. As such, it is recommended that efforts start small and adopt a “learning-by- doing” approach in the short term, with a focus on supporting the delivery of more efficient and effective cash assistance for the benefit of poorest and vulnerable households in need and establishing risk mitigation measures to minimize impacts on market functionality, fueling the war economy and illicit activities, and undermining traditional safety nets, among others. Should the country situation improve and peace and stability, as well as broader governance arrangements, be consolidated, then a number of reform efforts can be undertaken in the medium to long term, with the aim of promoting an enabling environment and supporting broader mobile money ecosystem development.

190. This section details, for each group of relevant stakeholders (development partners, Government authorities, and MNOs and third-party mobile money service providers), a set of enabling conditions required for the development of mobile money, in the short term. It then provides a set of medium to long term recommendations to expand revenue opportunities for mobile money service providers and trigger a new wave of product development for the mobile money sector as a whole, with linkages into broader social safety nets as well as wider digital transformation agenda.

10.1. RECOMMENDATIONS FOR HUMANITARIAN AND DEVELOPMENT PARTNERS

191. In the immediate term, humanitarian and development actors should be wary of a “rush to mobile money”, as a number of key issues would need to be addressed prior to wider uptake. It would therefore be critical to be cautious in the beginning and pilot approaches in “easy” and stable locations to allow for “*proof of concept*” and opportunities for learning, while ensuring that risks associated are carefully mitigated, to the extent possible. In the longer term, humanitarian and development actors need to work with key actors in the public and private sectors to develop a shared vision and address bottlenecks for the adoption of mobile money.

10.1.1. ENABLING CONDITIONS REQUIRED IN THE SHORT-TERM FOR HUMANITARIAN AND DEVELOPMENT PARTNERS

Recommendation 1. Implement pilots for humanitarian and development cash-based programming in places with relatively stable network access, and with functional markets to serve as “proof of concept” cases. These could include for example Juba, Wau, Yambio or Rumbek. However, implementing such a pilot would involve a number of preparatory activities. These include:

- **Undertake market readiness assessments.** Prior to any pilot, upfront market readiness assessments should be undertaken to ensure that local markets are in a position to absorb an influx of liquidity via mobile money without adversely distorting market conditions, affecting inflation, and inducing shortages. Mobile money can only be used in contexts where it makes sense. It is very likely that using mobile money will not be feasible everywhere in South Sudan, at least in the short to medium term.
- **Assess socio-political risks at the local level.** For each pilot, political economy analyses and socio-political risk assessments should be carried out. Resources flowing through markets are partly controlled by warring parties, who levy taxes at informal checkpoints along major routes, and resource ownership is subject to complex power dynamics as parties compete to control supply roads and markets. Studying the context therefore is paramount to prevent mobile money from financially supporting the war economy and fueling tensions between different elite groups. As such, political economy analyses and risk assessments would be critical to understand the power dynamics at the market-level to mitigate risks of mobile money fuelling the war economy, to the extent possible (see Section 9.2). Systematic and consistent supply-chain analyses should also be undertaken.
- **Ensure the pilots are of an adequate duration such that the benefits outweigh the setup costs linked to introducing mobile money for cash assistance.** In fact, digital cash assistance is subject to high initial operational cost (i.e. subsidy/procurement of handsets, training and sensitisation of beneficiary – see below recommendations) which are likely to make mobile money a less cost-efficient delivery mechanism with respect to existing alternatives, in the short-term. Experience from Niger shows that the mobile phone mechanism was less cost-efficient than IVTSs in a four-month pilot, but that setup costs were amortized and mobile money became more efficient in a ten-month pilot.¹⁸⁸
- **Establish strong monitoring and evaluation to better understand the impact of mobile money as a transfer mechanism.** Such systems would be invaluable to document how mobile money is being used by beneficiaries, how it interacts with traditional, informal financial services and systems of exchange in communities, the benefits and what negative consequences of adoption could have not been anticipated.
- **Support access to devices for pilot beneficiaries, subsidizing procurement of phones and SIM cards.** Pilot beneficiaries may lack phones and/or SIM cards that are required to access mobile money, and one of the main barriers to access is unaffordability. Humanitarian and development actors should consider providing privileged access to handsets and SIM cards for beneficiaries to mitigate this barrier. For instance, in the Bidi Bidi camp in Uganda, Mercy Corps, with funding from NetHope, subsidized 20,000 feature phones and 1,050 smartphones for vulnerable refugees, at a cost of US\$ 3 per refugee. Similarly, Airtel, with funding from Save the Children, provided mobile phones with SIM cards and solar chargers to urban refugees in Niamey, Niger.¹⁸⁹ Subsidizing or procuring handsets can be a viable solution even when cash assistance pilots are scaled up, provided that programs by humanitarian and development partners are well coordinated. For example, Mercy Corps allowed cash transfer beneficiaries in the Afar and Somali region in Ethiopia to purchase handsets at a subsidized rate and on credit, covering 50 percent of the cost of the phone and deducting the remaining from the cash transfer.

¹⁸⁸ Creti, P. *Mobile Cash Transfers for Urban Refugees in Niamey, Niger*. 2014

¹⁸⁹ Ibid.

- **Provide energy sources to pilot beneficiaries to recharge handsets.** Pilot beneficiaries may lack energy sources to charge phones. Development organizations should thus consider deploying solar systems with charging points in communities, targeting specific locations where they plan to use mobile money for cash transfers. For instance, in several informal settlements in Jordan welcoming Syrian refugees, the International Rescue Committee provided low-cost batteries powered by a solar panel to charge phones of cash transfer beneficiaries. The batteries were installed on the roof of the primary schools, which brings a small income to the school and pays for teachers' salaries¹⁹⁰.

10.1.2. RECOMMENDATIONS FOR LONGER-TERM DEVELOPMENT OF THE MOBILE MONEY SECTOR FOR HUMANITARIAN AND DEVELOPMENT PARTNERS

Recommendation 2. Establish partnerships between stakeholders in the public and private sectors, and development partners, in the medium to longer term, to inform a business case for private investments in mobile money. Humanitarian and development cash transfers present opportunities for operators, as it can increase the revenue generated from monthly bulk payment transfers and grow their subscriber base. However, as will be discussed below, significant investment is necessary to address the barriers to mobile money services. In such a context, humanitarian and development organisations can inform the business case for mobile money expansion, e.g. by providing population statistics and predicted demand trends (e.g. from pilot case studies), to demonstrate the wider opportunities presented by cash transfer programmes. Specifically, this will require:

- **A common vision among the private and public sector stakeholders on the potential benefits and the risks of mobile money.** Partnerships are important so that humanitarian and development partners can articulate their needs, upfront, to ensure mobile money service providers fully understand their requirements. This would further ensure that mobile money services are designed in a way to adequately mitigate risks usually associated with cash-based transfers, to the extent possible in an FCV context such as South Sudan. For instance, improved bulk payment portals could be customized for humanitarian and development partners in line with their internal standard operating procedures for payments approval and disbursement. Likewise, customized transfer tracking and reporting dashboards could be developed, whereby they can track every payment and investigate any problem that may arise.
- **Support to mobile money operators in providing resources to cover setup costs.** As further discussed below, partnerships could be designed to contribute to setup costs where mobile or payments infrastructure may be absent or weak. For example, partners could dedicate time and resources to train beneficiaries on mobile money use and benefits, a critical foundation to ensure success of mobile money services. As documented by the GSMA, strategic partnerships are needed to make mobile money an effective transfer modality for cash assistance.¹⁹¹ The Cash Working Group (CWG), which serves as a medium for coordination, communication, information sharing and technical discussions on cash assistance, could act as a dialogue forum for both public and private sectors. It could for instance invite MNOs to participate in the discussions, in order to align on goals and services to be delivered, and coordinate proposals.
- **Design of collaborative solutions to ensure capacity of agents.** Training a network of agents and maintaining liquidity management systems will incur high operating expenditures for mobile money service providers. Furthermore, provisions to ensure security of agents and

¹⁹⁰ International Rescue Committee. 2016. Making Electronic Payments Work for Humanitarian Response.

¹⁹¹ GSMA. 2019. Essential considerations for humanitarian practitioners handbook.

systems when moving cash around will also need to be included in MNOs' cost structure. Development partners may therefore be able to contribute resources to this purpose as well, through financial, operational and technical support, in selected locations where mobile money-based cash transfer interventions are piloted. For example, in the Bidi Bidi camp in Uganda, the United Nations Capital Development Fund (UNCDF) helped to set up new agents by supporting operating expenditures for Airtel's network of agents, including the costs of vans, motorcycles, service centres and salaries.¹⁹²

- **Support to mobile money operators in setting up a viable yet affordable business model.** While the research evidenced the need for mobile money operators to create an attractive value proposition, given the low purchasing power of the South Sudanese population (see R7), a low-fee business model may prevent operators from recovering large setup and operational costs. Until mobile money operators are able to diversify their portfolio of services to generate revenues from other services, such as value-added services, development partners should explore possibilities for partnerships, for instance in engaging in Public-Private Partnerships (PPPs), to allow operators to provide affordable services to users.

Focus Box 10: Lessons learnt from Ethiopia

Despite the very different political and security context, experiences from Ethiopia highlight how implementing digital cash transfer in safety net programs has its own initial challenges, but can pave the way for a well-integrated mobile money ecosystem, if a stable environment and Government commitment are present.

In the context of the World Bank's Ethiopia Rural Productive Safety Net (ERPSNP) program, one of the largest safety net programs in Sub-Saharan Africa, digital payments to beneficiaries were piloted in 2013/2014 and key challenges emerged. First, low phone penetration among beneficiaries and low capacity in taking up a new technology increased setup costs for providing handsets and building awareness. In addition, despite the benefits in terms of cost-efficiency in receiving payments, beneficiaries showed resistance to the new delivery method. Similarly, when UNICEF initiated electronic payment through the M-BIRR mobile money platform for the Tigray Social Cash Transfer Programme (TSCTP), one of the main challenges was beneficiaries forgetting the Personal Identification Number to access their account. In the past five years, there are been some progress on this front, with lack of capacity and cultural sensitivity challenges being addressed. The Government of Ethiopia is now planning an important scale-up of digital payments for safety nets programs in the country, with more and more beneficiary households receiving cash assistance through mobile money.

This illustrates how digital payments to channel humanitarian assistance can contribute to the development of a mobile money ecosystem, by improving Government-donor coordination, implementing communication and awareness campaigns, and stimulating network effects to create a critical mass of users.

10.2. RECOMMENDATIONS FOR THE GOVERNMENT

192. The role of the Government is critical in building an enabling environment for the development of mobile money. The necessary conditions for a conducive environment rely on a strong commitment from the Government to promote market competitiveness and not to interfere, unless faced with force majeure. In the longer term, to foster the development of mobile money, the Government should support interoperability between MNOs and third-party mobile money service

¹⁹² GSMA. *Humanitarian Payment Digitization: Focus on Uganda's Bidi Bidi Refugee Settlement*. 2017

providers, and draft regulations to secure users' private information, enforce KYC requirements, and develop a foundational national ID system.

10.2.1. ENABLING CONDITIONS REQUIRED IN THE SHORT-TERM FOR THE GOVERNMENT

Recommendation 3. Promote a more liberalized and competitive markets to foster private sector investment. To enable the development of a mobile money ecosystem, the Government should commit to creating a more conducive environment in which innovations and investments can flourish, through greater liberalization. This commitment can be actualized through:

- **Strengthening regulatory frameworks and independent regulatory institutions whose role will be to ensure non-discriminatory practices.** Regulatory authorities should notably measure mobile money service providers' performance and viability based on objective service efficiency criteria.
- **Decreasing the import duty on mobile phones,** at 20 percent currently, against 10 percent in Kenya.
- **Ensuring that the network remains operational, in all areas.** This would encourage investment in infrastructure, as the risk of network shutdowns decreases expected profits.

10.2.2. RECOMMENDATIONS FOR LONGER-TERM DEVELOPMENT OF THE MOBILE MONEY SECTOR FOR THE GOVERNMENT

Recommendation 4. Ensure interoperability between the different MNOs. Given that MTN covers some areas, while Zain covers others, interoperability between MNOs and between third-party mobile money service providers, would need to be established. E-money regulations are currently vague in regards to interoperability,¹⁹³ and this area would benefit from further clarifications and enforcement by the BoSS and NCA. Further, the BoSS could establish provisions for an aggregator, that can link financial systems to enable interoperability.¹⁹⁴ Development partners can support in providing necessary technical assistance to the BoSS and NCA, as appropriate.

Recommendation 5. Draft and enforce regulations to protect users' private information and mitigate risks of fraud and money laundering. This would require the Government in the long run to:

- **Develop regulations on data protection and privacy.** Key regulations on data protection and privacy would need to be passed, and enforced. These should specify what kinds of customer information can be collected, how this data can be shared, and what types of security measures need to be implemented with regard to data transmission and data storage. Development partners have a key role to play in supporting this area.
- **Enforce KYC requirements more systematically.** The tiered approach suggested in the regulations (reduced identification requirements for people opening accounts that have transaction and/or balance limits) should be commended for as it follows international practice. While 94 percent of SIM cards are currently registered, indicating an already somewhat successful enforcement of KYC requirements, the BoSS and NCA should ensure that these requirements are always respected, including in rural areas, by providing guidance to MNOs and third-party mobile money service providers. Innovative solutions could also be

¹⁹³ The ERM only states that "e-money service providers shall endeavour to render system interoperable"

¹⁹⁴ The WB is supporting the development of such an aggregator in Somalia. By leveraging aggregator technology, a tailored portal will allow the government to make digital payments across any mobile money or financial services provider, while adding a layer of accountability. Using an aggregator may also shield beneficiary details from the financial system to protect their privacy, e.g. by leveraging blockchain technologies.

jointly developed to successfully register SIM cards and mobile money accounts. For instance, in the Bidi Bidi camp in Uganda, an electronic KYC application is used. It works with 3G connectivity and is able to capture the ID, photograph and registration form of the beneficiary. Mobile money activation is instant upon successful registration.¹⁹⁵

- **Support the development of a national ID system.** Users need to possess a government-recognized proof of identity, so that KYC requirements can effectively be enforced. The development of a national ID system could be facilitated once peace and stability is consolidated by leveraging on existing biometric registration exercises conducted by humanitarians and development actors, e.g. the WB-funded SNSDP and WFP's SCOPE, which could help strengthen both beneficiary selection and KYC procedures (assuming data privacy and protection and cyber measures are adequately in place). Such efforts should build on the systems and lessons learned from existing programs, while endeavouring to harmonize these initiatives. The goal should be to create a foundational ID system where biometrics are captured only once and where other functional systems (i.e. health, social protection systems, etc.) can use that database for authentication purposes.¹⁹⁶ For instance, in Cote d'Ivoire, the government supported the large-scale roll-out of social payments via mobile money operators, while simultaneously developing a national ID system. In the short-term, the government also provided temporary exemption from KYCs, and allowed recipients to nominate beneficiaries within the family or community, to prevent exclusion.

10.3. RECOMMENDATIONS FOR MNOs AND THIRD-PARTY MOBILE MONEY SERVICE PROVIDERS

193. Given identified barriers, a number of actions would need to be initiated by MNOs and third-party mobile money service providers to promote wide uptake of mobile money and ensure the sustainability and inclusion of the system in the long term. Initially, the launch of formal mobile money services in South Sudan will require MNOs and third-party mobile money service providers to offer attractive products adapted to low purchasing power, and to mitigate the risks of fraud and money laundering. In the longer term, efforts will also be required to expand and upgrade telecommunications infrastructure to provide reliable connectivity and, at the same time, strengthen access to energy sources, for which PPPs can be explored. Finally, in order to develop a robust ecosystem, and foster wider financial inclusion, MNOs should undertake a number of initiatives to drive the usage of mobile money accounts, and eventually increase average revenue per user. If clients transact regularly, and if mobile money stays within the system, it will increase revenue for operators who then can re-invest in expanding the network. On the other hand, if the beneficiaries only cash-out, mobile money revenues will remain low and the initial investments will be hard to recover. These initiatives should aim at preventing liquidity shortages, incentivizing salary payments through mobile money, and ensuring vulnerable groups are not excluded from the system.

10.3.1. ENABLING CONDITIONS REQUIRED IN THE SHORT-TERM FOR MNOs AND THIRD-PARTY MOBILE MONEY SERVICE PROVIDERS

Recommendation 6. Enable access to, and encourage usage of, mobile money through an attractive value proposition, the deployment of roving agents and awareness campaigns and capacity building targeting potential mobile money users. Specifically, these would require MNOs and third-party mobile money services providers in the short term to:

¹⁹⁵ GSMA. 2017. Humanitarian Payment Digitisation: Focus on Uganda's Bidi Bidi Refugee Settlement.

¹⁹⁶ The foundational ID system should respect the Principles on Identification for Sustainable Development, developed as part of the World Bank Group's ID4D (Identification for Development) initiative.

- **Create an attractive value proposition.** To unlock the potential of mobile money, the research revealed that service providers should pay attention to the cost of services provided, as this was highlighted as the main enabling factor. Purchasing power being very low, mobile money would notably need to be cheaper than IVTSs and banking services. In particular, as beneficiaries are likely to cash out in the short term, fees to cash out would need to be very low to ensure that beneficiaries are satisfied with the transfer mechanism. For instance, in Somalia, MNOs were able to operate a low-fee business model, based on indirect revenues – gain on increased airtime sales and greater customer retention (see Focus Box 9). In the case of South Sudan, in the short term the transactions are likely to largely be cash-in and cash-out, and the balance being maintained in the accounts would be minimal. Therefore, reducing costs might not be feasible given the business considerations, without subsidizing mobile money service providers, as discussed above (see R2).
- **Deploy roving mobile money agents and place additional agents in communities targeted for cash assistance during a pay-out period.** Accessibility of mobile money services was mentioned as a key enabling condition by a significant share of the population. Mobile money providers should thus consider deploying roving agents who move around markets, including having additional agents when and where beneficiaries are likely to cash-out after cash transfer disbursements, while also taking necessary steps to ensure agent security, as detailed in Section 9.1. Disadvantage of these methods is that if agents are not located close enough to beneficiaries, or if there are not enough of them, beneficiaries will be forced to travel long distances and wait in lines, which in themselves carry risks to beneficiaries.
- **Build awareness and capacity among beneficiaries and other potential users to facilitate and encourage usage of mobile money.** Potential users are on average very vulnerable, and thus have unique needs that will require innovative and customized solutions. Given low digital and financial literacy levels, leveraging the benefits of mobile money will depend on users understanding the system, including how to use it and how to avoid fraud, personal errors etc. This could be achieved through communication campaigns and sensitization programs in communities. Training sessions should cover the basics of using a phone and mobile money functionality, in the local dialects, and should educate people on how mobile money can improve their daily lives. Mobile money service providers could seek the support of development partners, that could dedicate time and resources during the implementation of cash assistance programs to ensure that communities’ digital and financial literacy skills are strengthened (see R2).
- **Develop an accessible and culturally appropriate helpline service and reimbursement scheme in case of theft.** Toll-free call centres and/or information points, in the local dialects, would increase user-friendliness. Similarly, the design and effective implementation of a reimbursement scheme in case of theft would enable beneficiaries to have a smoother user experience. These services would need to be advertised to render mobile money services more attractive.

Recommendation 7. Mitigate risks of fraud, money laundering and leakages to warring parties through robust monitoring and screening arrangements. South Sudan is particularly prone to fraud due to low general, financial and digital literacy. The unstable political environment has also nurtured money laundering and illicit financial flows. Mobile money service providers have at their disposal a range of detective and preventive control methods to reduce such risks. The risk of scams to users can be addressed through fraud awareness campaigns: Safaricom in Kenya had, for instance, disseminated SMS blasts, radio announcements in local dialects, and newspaper ads to communicate on fraud and mitigate the risks of scams. EasyPaisa, Pakistan’s major mobile money operator, has additionally put detective controls in place, in the form of screening processes to detect suspicious transaction

patterns, which can inform related efforts in South Sudan. Mitigating risks related to fuelling criminal activities and warring parties requires a combination of both approaches, with a special focus on KYC requirements to ensure only subscribers whose identity can be verified have access to mobile money services, and monitoring systems.

10.3.2. RECOMMENDATIONS FOR LONGER-TERM DEVELOPMENT OF THE MOBILE MONEY SECTOR FOR MNOs AND THIRD-PARTY MOBILE MONEY SERVICE PROVIDERS

Recommendation 8. Expand and upgrade telecommunications infrastructure to provide reliable connectivity and, at the same time, strengthen access to energy sources. At least 2G mobile coverage is needed to develop mobile money services,¹⁹⁷ and adequate infrastructure thus constitutes a prerequisite for mobile money. Given that South Sudan's telecommunications infrastructure remains largely under-developed, significant investments will be required. However, high deployment costs (due to the difficult terrain and lack of supporting infrastructure to deploy equipment), coupled with low commercial returns (due to low population densities and low purchasing power), will render services not commercially viable on their own, at least in the short to medium term. This will in turn induce a lack of interest from operators in deploying infrastructure in under-served areas, creating significant *market failures*. Promoting the deployment of networks will thus require innovative funding solutions. In particular, PPPs could be explored to address current market failures, subsidize plans to expand or upgrade infrastructure and reduce risks of investment in areas where market forces alone are insufficient to provide adequate coverage. When expanding the connectivity infrastructure, strengthening access to energy sources can potentially be supported by sharing the electricity provided for the connectivity infrastructure in the communities, e.g., by installing additional solar capacity when deploying ICT infrastructure, allowing for the extra available energy to be purchased by citizens and local businesses.

Focus Box 11: Partnerships to address market failures in the ICT sector

PPPs to deploy ICT infrastructure have been successfully implemented in a number of countries. For instance, the World Bank, through its Regional Communications Infrastructure Program, financed subsidies to create PPP infrastructure investments in rural areas in Tanzania. Similarly, in Uganda, the UNCDF and other development organisations worked with MNOs to extend coverage, by insuring MNOs in case of losses and by financing moveable (cell-on-wheels) temporary sites, progressively being upgraded to permanent structures for 2G and 3G¹⁹⁸.

Recommendation 9. Prevent liquidity shortages through development of a robust agent distribution network and the inclusion of traders and merchants in the system. This can be achieved through the following activities:

- **Build a robust agent distribution network, by leveraging existing systems, including the use of IVTSs.** While deploying roving agents is a short-term solution to facilitate adoption of mobile money services (see R6), an agent distribution network, which is able to manage liquidity and operate within a reasonable distance from potential mobile money users, is paramount to develop a mobile money ecosystem. Existing systems, including airtime resellers and IVTSs, should be leveraged as agents, since they already have access to liquidity. Other intermediaries, such as traders and gas stations, are also likely candidates.¹⁹⁹ Additionally, local

¹⁹⁷ Mobile money platforms typically only require a 2G network (can be accessed by USSD). However, other components of cash assistance projects can benefit from 3G connectivity, such as registration of mobile money accounts for beneficiaries.

¹⁹⁸ GSMA. 2017. Humanitarian Payment Digitisation: Focus on Uganda's Bidi Bidi Refugee Settlement.

¹⁹⁹ KII with the representative of a humanitarian and development partner.

banks and larger money transfer companies, like LEM, could serve as a potential network of *master agents* as they have a relatively wide-reaching network of branches and are more liquid. Telesom's ZAAD mobile money service in Somaliland is an example of a successful hierarchical agent structure. Telesom leveraged pre-existing retail locations, and created a two-tiered agent hierarchy, with the largest stores acting as master agents, or 'dealers', while the smaller agents were consumer-facing. Dealers proved instrumental in ensuring that agents had adequate liquidity at all times.²⁰⁰

- **Facilitate traders' and merchants' acceptance of digital payments by incentivizing them to accept mobile money.** Promoting merchant payments would reduce cash-out needs and liquidity management issues. It would also create positive network effects and ensure that mobile money stays within the system. Awareness efforts should include utility companies to promote digital payments of bills (i.e. electricity, water, etc.), as this has proven a successful way to expand the ecosystem in Kenya. In addition, early sensitisation of employers and merchants has been key in Somalia and greatly contributed to creating an integrated system by reducing cash-outs (see Focus Box 9). Traders and merchants could receive subsidies for the acquisition of payment devices in the short term. Analyses of value chains used by traders and merchants could also be conducted to understand what specific incentives could motivate them to accept mobile money. Such services would also enhance the value proposition for mobile money service providers.

Recommendation 10. Develop a mobile money ecosystem and foster wider financial inclusion through more active and diversified usage of mobile money accounts. Specifically, this could include:

- **Incentivize people to keep money on their account** (akin to a saving account), if pricing models allow. In fact, high inflation in South Sudan may render such incentivization necessary to compensate for the losses associated with storing money on one's account. For instance, in Mexico, prize-linked savings programs were implemented, whereby bank account holders receive lottery tickets based on the amount of money in their account.²⁰¹ The approach proved successful in enhancing usage of bank account services. A similar approach could also be used in South Sudan to encourage people to save on mobile money accounts.
- **Incentivize firms to send salaries through mobile money and shift the payments of civil servants to mobile money** (assuming relative security and stability and improved fiscal position by the Government to pay salaries). Experiences with mobile money in other countries, including in Somalia and Kenya, have demonstrated that receiving salaries on a mobile money account can trigger more active and varied usage of mobile money services. Hence maximizing the number of people who receive their salaries or allowances directly on their mobile money account would go a long way in developing a robust mobile money ecosystem. In Somalia, the World Bank-funded ICT Sector Support Program is currently piloting services that enable civil servants to receive salary payments from the Somalia federal government through mobile money. This would also foster traceability and transparency of payments.
- **Design evolving services.** In the first place, mobile money service providers could launch restricted usage services, such as traditional Customer-to-Customer payments, which are less likely to flood markets with increased amounts of cash that they cannot absorb. Only once these services have been tested, and once markets have proven resilient, mobile money

²⁰⁰ While information on Trinity Technologies' and Lukiza's agent networks is limited at this stage, key informant interviews conducted suggest that this is likely to be the structure adopted by the two third-party companies, as discussed in Part 7.

²⁰¹ Gertler, Paul, Sean Higgins, Aisling Scott, and Enrique Seira. "The Long-Term Effects of Temporary Incentives to Save: Evidence from a Prize-Linked Savings Field Experiment." Working Paper, March 2018.

service providers could transition to more evolved products, such as mobile credit when transaction histories enable credit scoring. Given the crucial role of remittances flows for the South Sudanese population, services providers could partner with remittances companies to develop attractive services aimed at transferring funds directly on users' mobile money accounts, as this proved to be a success factor in Somalia (see Focus Box 9).

Recommendation 11. Ensure that women and the most vulnerable segments are not excluded from mobile money. Research showed a significant gender divide in phone penetration, that is likely to be mirrored in mobile money penetration. Therefore, specific nuanced interventions would be required to ensure uptake by women. Similarly, in the long run, it will be particularly important to mitigate the risks of skewing the benefits of mobile money towards the well-educated and wealthy, entrenching digital divides and inequalities. Instead, once a stable customer base is achieved, mobile money service providers should ensure that investments in ICT and mobile money benefit the bottom of the pyramid, including those in rural areas. As such, substantial efforts and strategic partnerships with development partners will remain needed, to reach universal access and ensure that vulnerable groups, such as women and marginalized populations, can reap the benefits of wider mobile money uptake.