



*Empowered lives.
Resilient nations.*

Liberia: Financial Diagnostic Update & Feasibility Study for the Possible Entry of a Third Party Cash Management Partner or Agent Aggregator

22nd April 2016

Table of Contents

A. EXECUTIVE SUMMARY	4
A.1 FINANCIAL DIAGNOSTIC	4
A.2 FEASIBILITY STUDY FOR THE POSSIBLE INTRODUCTION OF A THIRD PARTY CASH MANAGEMENT PARTNER OR AGENT AGGREGATOR	7
B. LIBERIA FINANCIAL DIAGNOSTIC	9
B.1 OVERVIEW	10
B.1.1 ECONOMY	10
B.1.2 INFRASTRUCTURE	10
B.2 POLICY AND REGULATIONS	13
B.2.1 MOBILE MONEY REGULATIONS	13
B.2.2 ASSESSMENT OF POLICY AND REGULATIONS	15
B.3 FINANCIAL SECTOR	16
B.3.1 BANKING SECTOR	17
B.3.2 OTHER FINANCIAL SERVICE PROVIDERS	21
B.4 REMITTANCE AND PAYMENTS SERVICES	22
B.4.1 REMITTANCE SERVICES	23
B.4.2 PAYMENT SERVICES	24
B.4.3 ASSESSMENT OF REMITTANCE AND PAYMENT SERVICES	25
B.5 MOBILE MONEY	25
B.5.1 PROVIDERS	25
B.5.2 AGENT NETWORK	26
B.5.3 ASSESSMENT OF MOBILE MONEY SECTOR	27
B.6 HIGH VOLUME PAYMENT STREAMS	27
B.6.1 GOVERNMENT TO PERSON (G2P)	29
B.6.2 GOVERNMENT TO BUSINESS (G2B)	29
B.6.3 DEVELOPMENT PARTNERS TO GOVERNMENT (D2G)	30
B.6.4 DEVELOPMENT PARTNERS TO BUSINESS (D2B)	30
B.6.5 DEVELOPMENT PARTNERS TO PERSON (D2P)	31
B.6.6 BUSINESS TO GOVERNMENT (B2G)	31
B.6.7 BUSINESS TO BUSINESS (B2B)	31
B.6.8 BUSINESS TO PERSON (B2P)	31
B.6.9 PERSON TO GOVERNMENT (P2G)	31
B.6.10 PERSON TO BUSINESS (P2B)	32
B.6.11 PERSON TO PERSON (P2P)	32
B.6.12 ASSESSMENT OF POTENTIAL STREAMS FOR MOBILE MONEY	32
C. FEASIBILITY STUDY	33
C.1 BACKGROUND	33
C.1.1 DEFINING FEASIBILITY	34
C.1.2 METHODOLOGY	35
C.2 CONTEXT: DEMOGRAPHICS, COMMERCIAL ACTIVITY AND INFRASTRUCTURE	35
C.2.1 OVERVIEW	35
C.2.2 NORTHWEST (BOMI, GRAND CAPE MOUNT AND GBARPOLU)	36
C.2.3 NORTH CENTRAL (BONG, LOFA AND NIMBA)	37
C.2.4 SOUTH CENTRAL (MONTERRADO, MARGIBI AND GRAND BASSA)	38

C.2.5 SOUTHEAST (RIVERCESS, SINOE, GRAND GEDEH, MARYLAND, RIVER GEE AND RIVER KRU)	39
C.2.6 LOCATING THE OPPORTUNITIES AND CHALLENGES	39
C.3 LIQUIDITY ANALYSIS	40
C.3.1 QUANTIFYING LIBERIA'S TRADE NETWORKS	40
C.3.2 UNDERSTANDING LIBERIA'S TRADE NETWORKS	41
C.4 ASSESSING THE COMMERCIAL OPPORTUNITY	43
C.4.1 CALCULATING THE COSTS	44
C.4.2 SIZING THE MARKET OPPORTUNITY	44
C.4.3 PROJECTING FUTURE REVENUES	45
C.5 CONCLUSION: CHARTING A PATH FOR AN AGENT AGGREGATOR	45
<u>D. RECOMMENDATIONS</u>	<u>47</u>
D.1 SHORT-TERM RECOMMENDATIONS	47
D.2 MEDIUM-TERM	48
<u>ANNEX A: POPULATION DENSITY BY COUNTY</u>	<u>49</u>
<u>ANNEX B: OVERVIEW OF MAIN SOURCE OF EMPLOYMENT BY COUNTY</u>	<u>50</u>
<u>ANNEX C: COMPANIES REGISTERED WITH BUILDING MARKETS CATEGORISED BY COUNTY AND SECTOR (1)</u>	<u>52</u>
<u>ANNEX D: COMPANIES REGISTERED WITH BUILDING MARKETS CATEGORISED BY COUNTY AND SECTOR (2)</u>	<u>53</u>
<u>ANNEX E: CONCESSION COMPANIES BY COUNTY</u>	<u>54</u>
<u>ANNEX F: SUMMARY OF INTERVIEWS WITH IMPORTERS IN MONROVIA</u>	<u>56</u>
<u>ANNEX G: SUMMARY OF INTERVIEWS WITH RETAILERS IN NIMBA</u>	<u>57</u>

A. Executive Summary

A.1 Financial diagnostic Update

Overview

- **Despite ongoing improvements, Liberia's infrastructure continues to pose challenges to the provision of financial services, including mobile money.** Out of approximately 10,600 km of roads, only around 657.2 km are paved, creating problems for the Central Bank of Liberia (CBL) and commercial banks distributing cash to branches across the country. In addition, Liberia's limited electricity production capacity means that banks and mobile network operators (MNO) incur significant operating costs due to the widespread use of generators.
- **Combined, Liberia's MNOs are estimated to provide coverage across 90% of the country.** Although the quality of their coverage is frequently poor, SIM subscription rates have increased steadily in recent years. According to the Liberia Telecommunications Authority (LTA), the country's three leading MNOs have around 3.2 million subscribers as of November 2015. However, given the widespread practice of subscribing to more than one operator, the actual number of unique subscribers is difficult to discern.
- **As of December 2015, Liberia lacks an efficiently functioning payments system.** In response, the Payments System Act was passed and the CBL has embarked on a series of initiatives to address this problem, including the implementation of a Real-Time Gross Settlement System (RTGS), which is due to go live in 2016, and a Central Payments Switch that will create interoperability between ATM and POS networks.

Policy and Regulations

- **Although Liberia has developed an enabling environment for the mobile money sector, uptake has been slow.** The significant expense associated with liquidity management and float rebalancing reduces the attractiveness for providers of mobile money services and agents engaged by the sector. This problem is especially acute in rural areas, where the limited banking footprint exacerbates liquidity challenges.
- **While aggregator models have the potential to increase transaction volumes and agent coverage in Liberia, such structures require a suitable regulatory framework, and the regulations currently in place do not provide detailed guidance on the permissible role of aggregators.** For instance, the regulations allow for the use of *Wholesale Agents*, but key questions on the roles and supervision of sub-agents are not addressed. Furthermore, the regulations do not provide any guidance on the contracting requirements, service level agreements or control of the day-to-day operations (including liquidity management).

Financial Sector

- **The availability and uptake of formal financial services in Liberia is low, with banks and microfinance institutions (MFIs) so far having struggled to scale their operations across the country.** According to a financial inclusion baseline survey conducted by the Central Bank of Liberia (CBL), almost 80% of the country's population is unbanked.
- **As of 2015, Liberia has a non-performing loan (NPL) ratio of 17%, one of the highest in West Africa.** Although progress had resulted in a decrease in the country's NPL ratio from over 20% in previous years, this positive trajectory was disrupted by the onset of Ebola and decline in natural resource prices. Other factors contributing to a reduction in profitability in the banking sector include increased competition following the entry of new banks and high operating costs.
- **An overall shortage of liquidity in the banking system poses a major structural constraint on the provision of financial services.** One of the CBL's core responsibilities is regulating the supply of money, but without branch offices outside Monrovia the Central Bank is unable to fulfil this role properly. Commercial banks, who are responsible for managing the liquidity of their branches, in turn face challenges. The economic slowdown has diminished their ability to generate liquidity at branch-level, and the physical movement of cash needed to fill any gaps is a costly and challenging endeavour. As a consequence, liquidity management at bank branches has become a major problem, and remote branches regularly face cash shortages.
- **There are fewer than four bank branches per 100,000 adults in Liberia, the vast majority of which are concentrated in Montserrado and Margibi counties.** 51 out of Liberia's 87 bank branches are located in Montserrado alone, where around 30% of the population lives and 80% of businesses are registered, and the five new branches that have been established since 2013 are based in either Montserrado or Margibi. While these counties are comparatively well-served by the banking sector, the less commercially vibrant counties of Gbarpolu, Grand Kru, River Gee and River Cess have no bank branches.
- **The gap left by commercial banks has been partially filled by the recent establishment of nine Rural Community Financial Institutions (RCFIs).** As a consequence, every county now has at least one RCFI. In addition to these institutions, there are 20 registered microfinance institutions (MFIs), 400 credit unions and 1,450 Village Savings & Loan Associations (VSLAs). Of these, the largest MFI is run by NGO BRAC, which has around 44,000 active customers and a gross loan portfolio of \$3.27 million.

Remittance and Payment Services

- **To date, formal remittance and payments services used in Liberia have only achieved limited market penetration partly due to structural constraints.** The services used in Liberia – namely MoneyGram, Western Union, Ecobank Rapid Transfer, Automated Teller Machines (ATM) and Point of Sales (POSs) and mobile money – continue to be affected by a lack of foundational infrastructure, such as electricity supply and technology.
- **Formal and informal remittances are a major form of money transfer in Liberia.** Quantifying transaction volumes is difficult to document with accuracy, however, given the prevalence of funds being transferred through friends and relatives. The main domestic alternatives to these informal means are bank transfers, mobile money and Ecobank Liberia Rapid Money Transfer. The latter product was launched in 2010, and subsequently grew steadily to 9,642 transactions worth US\$5.3 million in 2013. However, 2014 saw a steep decline, largely due to the onset of Ebola, to 656 transactions worth around US\$400,000.
- **In terms of value and volume, Western Union and MoneyGram are the main services used for person-to-person transfers.** In 2014, Ecobank Liberia and LBDI combined processed US\$118 million worth of Western Union and MoneyGram transactions, and the Central Bank estimates that the other seven banks processed transactions of similar value. These services primarily used for international transfers due to the high costs involved.
- **There are currently 61 ATMs and 117 POSs in Liberia, most of which are clustered in Monrovia, but operational problems related to insufficient cash, power supply and internet connectivity persist.** Despite these problems, some progress has been made in recent years. Ecobank, for instance, processed 275,000 transactions worth US\$4.2 million through its ATM network in 2014, an increase from the US\$3.84 million worth of transaction in 2013.
- **In addition to the infrastructural impediments to the increased use of remittance and payment services, other constraining factors exist.** Fees remain high, restricting usage to predominantly high-end customers, and the individual payments systems appear to be primarily focused on person-to-person remittances rather than developing into integrated payment platforms that bring different market segments together.

Mobile Money

- **With mobile phone usage at around 60% in Liberia, the potential to leverage mobile technology to expand the provision of financial services remains significant.** As of April 2016, there are two mobile money service providers: Lonestar Cell MTN Mobile Money and Smile Cellcom Money. However, the latter was only launched in March 2016 while the former's platform has only facilitated a low volume of primarily

person-to-person transactions. Although MTN Lonestar is planning to upgrade its system, it currently operates a single currency platform and does not have enough cash out points, limiting its ability to process bulk payments. As of November 2015, MTN Lonestar claimed to have around 900 agents, over 60% of which are concentrated in Montserrado and Nimba.

- **Lonestar continues to face challenges around the recruitment, management and retention of agents.** The most critical one relates to the low volume of transactions it processes and the low commissions it pays, which has resulted in a large number of registered agents becoming dormant. In addition, the burden of liquidity management is borne by the agents themselves, which requires several trips to banks to rebalance their float. The time and money incurred in the processes diminishes their commission.
- **Although Lonestar has around 700,000 registered mobile money subscribers as of November 2015, utilisation remains low, at less than 10% of Lonestar subscribers.** One reason for the limited adoption of mobile money in Liberia relates to how the service was marketed: attention was focused on person-to-person transfers while businesses were never actively encouraged to create mobile payment options. In addition, MTN Lonestar has acknowledged that agent management and liquidity have been the main challenges to improved performance.

High Volume Payments Streams

- **Evidence from several countries, including Brazil, Pakistan and the Philippines, have shown how high volume payment streams can serve as drivers for the adoption of DFS.** Based on an analysis of data supplied by several government ministries and agencies, it is clear that, as the country's largest employer and recipient of revenues, there are a number of high-value potential payment streams to and from the Government of Liberia (GoL) with significant potential for digitisation. The government has already piloted the use of mobile money for bulk disbursements (teacher salary payments), and there are plans to scale and expand the use of mobile money for other government-to-person (G2P) payments with the Ministry of Health examining its possible use.

A.2 Feasibility Study for the Possible Introduction of a Third Party Cash Management Partner or Agent Aggregator

Defining Feasibility

- **Assessing the potential for a third party cash management partner or agent aggregator to establish a commercially viable, country-wide network will need to focus on three factors.** Context – analysing population density commercial activity and infrastructure by county in order to identify where the regional opportunities and challenges are; liquidity – identifying where cash outside the financial sector can be

leveraged; and evaluating the potential market size in bulk payment streams versus the likely operating costs.

Context: Demographics, Commercial Activity and Infrastructure

- **Liberia’s population density exhibits significant regional variation.** This largely reflects differences in the level of commercial vibrancy and quality of infrastructure between Liberia’s different counties.
- **Given the logistical challenges involved in establishing agent networks and the state of Liberia’s infrastructure, an agent aggregator would face serious difficulties in parts of the country.** The areas that offer a more benign environment for an agent aggregator to establish a physical presence are South Central Liberia (Montserrado, Margibi and Grand Bassa), Nimba and Bong. These counties have better road networks, more bank branches, are more commercially vibrant, and have higher population densities. In contrast, the more rural counties – notably the Southeast (although not including Maryland), Gbarpolu and Lofa – pose particular problems, largely due to the poor conditions of the roads, challenging terrain, limited number of bank branches and low population densities.

Liquidity Analysis

- **Wholesale and retail trade activities constitute the largest or second largest source of employment in every county, ranging from an estimated 4% of River Cess’ workforce to 48% in Montserrado.** This is a good indication of the substantial movement of cash that passes through Liberia’s trading networks, and indicates the extensive geographical reach these networks enjoy. Although it is difficult to produce precise figures for the value of goods traded across the country, looking at the value of imports and manufacture of key goods offer some indication. According to the Ministry of Commerce and Industry, the combined value of these goods is US\$707 million. This constitutes a conservative estimate of the value of goods traded across Liberia.
- **Many firms engaged in trading activities combine different roles, creating blurred lines between the different types of companies involved in supplying goods from source to end-user.** Nevertheless three broad categories of firms can be identified: importers and manufacturers, most of whom double as wholesalers; large retailers, who are based in key urban centres and sell to other businesses as well as end-users; and small retailers, who primarily sell their goods to end-users.
- **Across Liberia, trade is facilitated with credit extended by importers and manufacturers to retailers.** According to Monrovia-based importers and Nimba-based retailers, loans are repaid either repaid in cash or bank deposits. As the mobile money services in Liberia currently only offers a LD\$ platform, business-to-business transactions are only possible when small amounts are being transferred.

With wholesalers paying importers in US\$, the exchange rate offered through MTN Lonestar's platform serves as a disincentive.

- **With significant quantities of money flowing from retailers to suppliers based in Monrovia, potential exists to use the cash held by retailers to support a mobile payments system managed by an agent aggregator.** The latter could repay the credit retailers have accrued back to the suppliers in Monrovia, thus unlocking an extra liquidity stream. The rice trade in particular exhibits potential. As rice supplies are sold at a slower rate than other goods, wholesalers extend more credit to retailers to reduce their inventory. As a consequence, rice suppliers would have greater incentive to secure their credit and facilitate the cash transfer from their customers to their office in Monrovia with the support of an aggregator.

Assessing the Commercial Opportunity

- **An agent aggregator would need around US\$2 million over a three-year period to establish and manage a national network in Liberia.** This includes US\$300,000 in upfront costs for a technology platform and integrating it with banks and MNOs, and running costs of up to US\$60,000 per month. For this to be an appealing investment, such a company would need to aim for a rate of return of 30% within five years. If monthly operational costs are US\$60,000, net revenues of US\$260,000 will need to be generated by the fifth year.
- **The estimated market size in G2P, donor-to-person (D2P) and business-to-person (B2P) payments is US\$371 million every year.** Even if all payments streams were digitised, only a small portion would likely be processed through a mobile money platform. If an agent aggregator processes 10% to 20% of these payments, the transaction volume would be between US\$37.1 million and US\$74.2 million annually.
- **In addition to volumes, the commissions charged by an agent aggregator will determine feasibility.** With a 1% commission, transactions worth US\$72 million would need to be processed to cover operating costs and US\$312 million to generate monthly revenues of US\$260,000. With a 2% commission transactions of US\$36 million and US\$156 million would need to be processed to reach each respective milestone. Given the estimated market size in G2P, D2P and B2P payments, it is highly unlikely that a 1% commission would be sufficient to make this promising business venture.

B. Liberia Financial Diagnostic

B.1 Overview

Liberia, ranked 175th out of 187 countries in the 2014 Human Development Index, is one of the world's poorest countries. Challenged by high levels of poverty corruption, unemployment and illiteracy, it is estimated that 83.8% of Liberia's population lives on less than \$1.25 a day, and 94.9% of the population on less than \$2.00 a day in 2007.¹

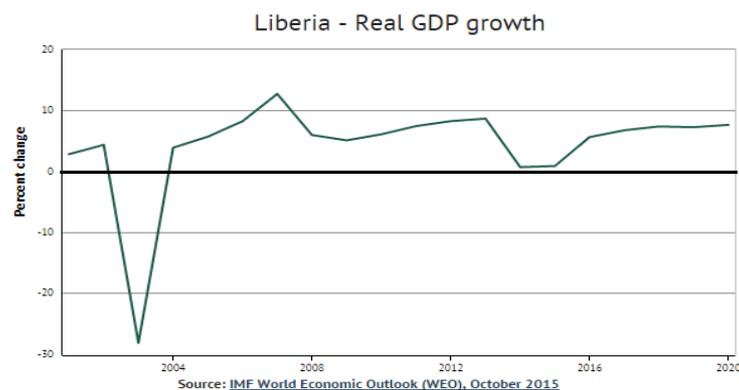
Liberia - Quick Facts

- Capital city: Monrovia
- Area: 96,320 (2014)
- Population: 4.397 million (2014)
- GDP (current US\$): \$2.027 billion (2014)
- Ease of Doing Business rank: 174 (2015)

Liberia's fourteen-year civil war left 200,000 dead and resulted in a breakdown of governance, destroying the country's institutions, infrastructure and economy in the process. Supported by foreign donors, Liberia embarked on reforming the economy, which experienced steady growth from 2005 to 2013, primarily due to the resumption of mining activities in 2010. However the Ebola outbreak in 2014 combined with the slump in iron ore and rubber prices halted further growth. The epidemic disrupted economic activity across the country, stalling growth in key sectors.

B.1.1 Economy

Originally projected to grow by 5.9% in 2014, Liberia's economy grew by an estimated 0.7% that year due to the onset of Ebola and a slump in commodity prices. The short-term economic outlook remains relatively poor as the resumption of agriculture and mining operations



remains slow. As a consequence, Liberia's GDP growth projection for 2015 has been revised down to 0.3% from the pre-Ebola forecast of 6.8%.

Liberia has a dual currency regime under which both the US dollar and Liberian dollar are legal tender. The country's economy is heavily dollarized with the US dollar estimated to account for around 90% of money supply according to a 2009 IMF study.² The economy continues to be dependent on multilateral and bilateral support for debt relief.

B.1.2 Infrastructure

Roads

¹ World Bank, Poverty and Equity Database, 2015

² Dedollarization in Liberia—Lessons from Cross-country Experience, IMF Working Paper WP/09/37

Out of Liberia’s approximately 10,600 km of roads, only around 657.2 km are paved. A number of initiatives are currently underway to improve roads in critical areas. According to the Ministry of Public Works, the main route from Monrovia’s Red Light intersection to the Ganta-Guinea border is about 80% to 90% complete; this 180.36 km route will be completed by the end of 2015.³ Funding has also been secured from the African Development Bank (AfDB) to pave the road from Harper to Fish Town, and to construct a bridge over the Cavalla River connecting Liberia to Cote d’Ivoire in the Southeast. In addition, talks are currently underway to secure funding to pave the road from Fish Town to Zwedru. Construction on the 70 km road from Ganta to Yekepa began in 2015 after the contract was awarded in December of 2014. The Liberian government has also secured funding to pave the 137 km Gbarnga to Konia road while discussions to secure funding for the Konia to Voinjama and Mendikorma sections are ongoing. When complete, these improvements have the potential to spur increased economic activity through the improved access to goods, services and markets.

Energy

While the Liberia Electricity Corporation (LEC) has been Liberia’s sole generator, transmission, and distribution company, recent legislation has opened space for the private sector to become active in this area. At present, Liberia produces between 15 MW and 25 MW of electricity via a series of diesel generator units operated by LEC in a “leopard spot” configuration throughout the capital city. The Mount Coffee hydropower plant is scheduled to come online in 2018, and will have a generating capacity of 50MW. The Government of Liberia (GoL) has also secured funding to extend energy distribution networks beyond Monrovia. The completion of two new 10 MW heavy fuel oil (HFO) plants in 2016 will increase Liberia’s total power production capacity further.

Telecommunications

Lonestar MTN, Cellcom, and Novafone are the recognized leading GSM MNOs in Liberia. Lonestar MTN is estimated to have around 43% of the market share and Cellcom to have 55.7%. However, a number of discrepancies exist when reporting on market share and number of subscribers. GSMA estimates 2.6 million mobile connections in Liberia with a SIM penetration rate of 59%,⁴ while the national regulator, the Liberia Telecommunications Authority (LTA), reports that Cellcom has approximately 1,333,700 subscribers, Lonestar around 1,294,500, and Novafone 595,100, putting the total number of mobile connections closer to 3.2 million.⁵ However, given the significant number of people who subscribe to more than one mobile provider, the actual penetration rate is difficult to discern.

Telecom Sector - Quick Facts

- GSM Operators 3
- Number / Mobile subscriptions 3,223,300
- Mobile Broadband Penetration 6%
- SIM Penetration 59%

Source: GSMA Intelligence 2015

³ Discussions with Ministry of Public Works, Liberia 26 Nov. 2015

⁴ GSMA Intelligence, <https://gsmaintelligence.com/markets/2042/dashboard/>

⁵ Conversation with LTA, November 28, 2015

LIBTELCO, the State-run telecommunications company, operates a CDMA network that only covers Monrovia. Currently, LIBTELCO’s CDMA network has been retired with the company focusing primarily on fibre service offerings to large clients in and around the Monrovia area.⁶

Mobile phone coverage is relatively well established across Liberia. Lonestar has the most expansive geographical coverage, which extends to all major towns and cities, while Cellcom has the second most extensive reach. Novafone’s coverage is primarily focused on providing data services to Monrovia and surrounding areas, although the company also has a number of towers in rural areas. According to an IFC Mobile Money Scoping report, mobile phone coverage stood at 90% in 2012.⁷

Figure 1: Telecommunications Coverage



Payment Systems

At present, Liberia lacks an efficiently functioning payments system, which is critical to facilitating transactions and enhancing the efficiency of financial markets. The Central Bank of Liberia (CBL), the country’s financial regulator, demonstrated its commitment to modernisation after the Payments System Act was passed. CBL is also currently implementing a Real-Time Gross Settlement System (RTGS), which is due to go live in early 2016, that will speed-up the settlement of interbank funds transfers;⁸ a Central Payments Switch that will create interoperability between ATM and POS networks; and a local switch for acquiring and processing card transactions domestically. CBL has also operationalized a Scripless Securities Settlement System (SSSS), which will facilitate the electronic process of government and CBL-

⁶ Meeting with LIBTELCO, November 30, 2015

⁷ IFC, 'Mobile Money Scoping: Country Report – Liberia', June 2012, http://www.ifc.org/wps/wcm/connect/03a11b004e466bbca8daa87a9dd66321/MobileMoneyScoping_Liberia.pdf?MOD=AJPERES

⁸ Central Bank of Liberia, Annual Report 2015

issued securities, and Automated Check Processing and Clearing House System (ACP / ACH) system, which will reduce the check clearing time to one or two days instead of the three that were previously required.⁹ The regulator has also established a national Collateral Registry to facilitate lending and increase the access of financing.

B.2 Policy and Regulations

CBL was established in 1999 as the successor to the National Bank of Liberia with the objective of *achieving and maintaining price stability in the Liberian economy*. Its core functions include issuing legal tender, regulating money supply and managing the country's foreign exchange reserves. The Central Bank's responsibilities also include regulating bank and non-bank financial institutions¹⁰ and implementing necessary regulations and standards for the creation and maintenance of efficient and safe mechanisms for payments, clearing and settlements.¹¹

More recently, developing policies that promote increased access to financial services has emerged as one of the CBL's priorities. CBL's National Strategy for Financial Inclusion (2009-2013)¹² outlined a roadmap for *building a sustainable microfinance industry, in order to secure diversified and affordable financial services for all*. The strategy facilitated the development of a new regulatory and supervisory framework for the microfinance sector, which led to the introduction of the Microfinance Policy and Regulatory & Supervisory Framework in 2009, and the Prudential Regulations for Micro-Finance Deposit-taking Institutions in 2012.¹³

In 2013 CBL adopted the Maya Declaration principles, under which it committed itself to promoting Rural Community Finance Institutions (RCFIs) and developing a comprehensive consumer protection and market conduct regulatory framework for the financial sector. CBL's resolve to achieve key Maya Declaration financial inclusion indicators (such as a 40% increase in the number of people with access to formal financial services and 50% increase in the number of access points by 2017) are demonstrated by the following ongoing initiatives:

- Leveraging Mobile Money
- Strengthen the Liberia Credit Union National Association (LCUNA)
- Strengthen the National Apex of Village Savings and Loan Association (NAPEX)
- Establishing Rural Community Finance Institutions (RCFIs)

B.2.1 Mobile Money Regulations

Mobile money is internationally recognised as one of the most promising platforms for extending financial inclusion. The Central Bank also seeks to expand the use of mobile money as a way to efficiently provide safe and convenient financial products to the unbanked population. Through the issuance of "Guidelines for Mobile Money Services" in August 2011,

⁹ Central Bank of Liberia, Annual Report 2015

¹⁰ Including Non-bank financial services institutions such as brokers, dealers, currency exchanges etc)

¹¹ Act To Authorize The Establishment Of The Central Bank Of Liberia: http://www.cbl.org.lr/doc/about/cbl_act.pdf

¹² CBL, 'The Liberian Strategy for Financial Inclusion (2009-2013)', June 2009, [http://www.cbl.org.lr/doc/major/LiberiaStrategyforFinancial\(2008-2012\).pdf](http://www.cbl.org.lr/doc/major/LiberiaStrategyforFinancial(2008-2012).pdf)

¹³ The Liberian Strategy for Financial Inclusion (2014–2019) was not publically available as of December 2015.

CBL sought to stimulate the sector by providing a legal and regulatory framework for digitally driven financial services. The framework prescribed a bank-led model, which was seen as an obstacle in the accelerated growth of the ecosystem. CBL subsequently passed the new Mobile Money Regulations in May 2014 with the aim of removing some of the key barriers that were impeding the development of Mobile Money in Liberia.

Enabling Regulatory Environment

The revised regulations foster an enabling mobile money environment by opening up the sector to players other than banks. Non-bank institutions can offer mobile money services once their application has been approved by CBL through subsidiaries established solely for the purpose. The regulations prohibit monopolistic practices and, although not explicitly mandated, they encourage interoperability between service providers and with conventional financial channels.

Permissible Services

Authorised service providers are permitted to offer a wide range of transfers and payments that must be available in both legal tenders, US dollars and Liberian dollars. The permitted services are:

- Account Opening & Maintenance
- Cash-in and Cash-out
- Account-to-Account transfer
- Person-to-Person transfers (P2P)
- Bill Payments
- Merchant Payments
- Loan disbursements and repayments
- Person to Government payments (P2G)
- Government to Person transfers (G2P)
- Business to Person transfers (B2P)
- Other services (as permitted by CBL)

Transaction Limits and Know-Your-Customer Requirements

The 2014 regulations aim to reduce entry barriers and simplify the processes associated with opening mobile money accounts through the adoption of a risk-based approach. Multiple account levels, with varying transaction limits, have been introduced to manage Anti-Money Laundering (AML) and Countering Financing of Terrorism (CFT), and the Know-Your-Customer (KYC) requirements have been tiered proportional to associated risk levels. Furthermore, service providers must ensure compliance with the relevant AML and CFT regulations and policies, and are responsible for monitoring and reporting any suspicious customer or agent activity.

Table 1: KYC Requirements

Limits or equivalent for Liberian Dollars	Level 1	Level 2	Level 3	Over the Counter
Maximum Balance	US\$1,000	US\$4,000	US\$10,000	Single Transaction of US\$ 100
Aggregate Daily Transaction	US\$250	US\$1,000	US\$2,000	
Aggregate Monthly Transaction	US\$2,000	US\$8,000	US\$20,000	

Means of Identification	Flexible, to be established by providers	Driver's license, passport or voter identification	Level 2 + utility bill, income tax certificate or bank statement	
--------------------------------	------------------------------------------	----------------------------------------------------	------------------------------------------------------------------	--

Use of Agents

Licensed mobile money providers are permitted to engage agents for the distribution of their services after suitability assessments and due diligence have been conducted. Depending on the agreement, agents can perform any or all of the following functions:

- Register new Customers
- Provide cash in/cash out services
- Provide Customer support
- Conduct OTC transactions
- Other services (as permitted by CBL)

Providers need to institute effective policies and procedures for managing their agent networks, with agent agreements incorporating clauses that ensure service level and customer protection. Providers are responsible for monitoring and supervising their agents and assume full liability for their actions.

While the regulations permit strategic partnerships and the appointment of super agents to promote and expand mobile money services, these agreements must be non-exclusive and agents cannot be bound to a single provider.

Customer Protection and Grievance Redress

The mobile money regulations provide guidelines and set minimum requirements for addressing grievances and protecting customers. Mobile money providers must ensure customers understand the terms and general features of the service; a customer's acknowledgment of understanding must be captured when a mobile money account is opened. Furthermore, providers must ensure that the approved schedule of charges, along with contact detail for registering complaints, are available to the customer and displayed at agent locations. The regulations state further that grievance redress mechanisms must be established by the provider, and that complaints can be communicated through a variety of channels, including physical service points, emails and a free-of-charge call centre.

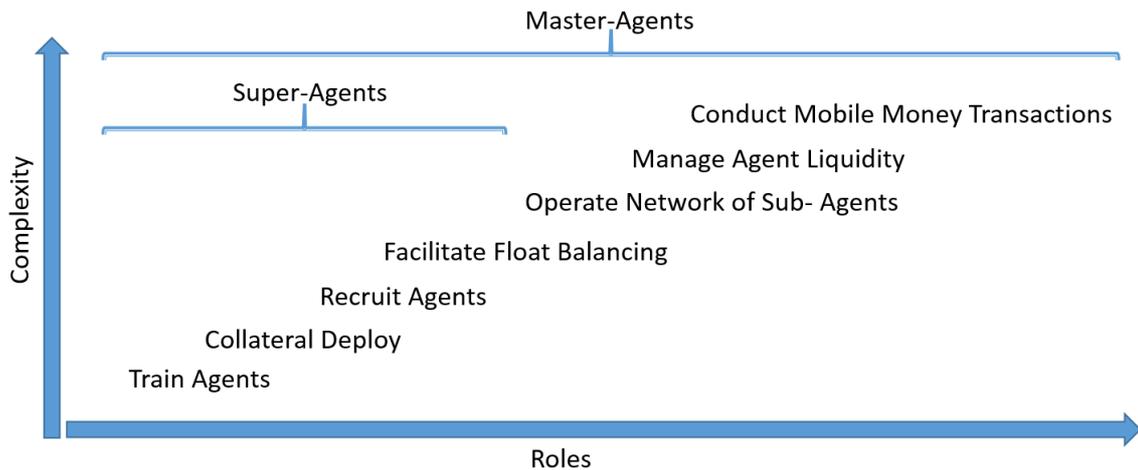
B.2.2 Assessment of Policy and Regulations

Liquidity management is a huge expense and float rebalancing reduces the attractiveness of mobile money business for providers and agents alike, particularly in Liberia's rural areas where the limited banking footprint further exacerbates the problem. This is a key reason why uptake of mobile money services has been sluggish in Liberia, even though the enabling regulatory environment allows non-bank actors to offer services, eases customer sign-up through entry level accounts, bars exclusive relationships, and encourages interoperability.

Across Africa, Asia and Latin America, specialized third-party agent network management firms are emerging that have enabled rapid scaling of the agent network by helping mobile money providers overcome infrastructural deficiencies and liquidity challenges. Commonly

referred to as *Agent Aggregators*, these outsourced firms perform some of the critical tasks on behalf of providers, including building and managing agent networks, and ensuring liquidity at agent locations. Though semantics vary, aggregators are generally sub-classified as *Super-agents* or *Master-agents*, depending on the scope of their roles and degree of responsibility.

Difference In Degree Of Responsibilities



Adapted from: *Building, Incentivising and Managing a Network of Mobile Money Agents - Focus on Agent Networks, GSMA*

Aggregator models present the opportunity to efficiently build transactional volume and agent coverage in Liberia. However, such models and structures can flourish only with a conducive regulatory framework, and Liberia's current regulations are vague and unclear on the appointment and permissible role of aggregators. The regulations allow the use of *Wholesale Agents*, implying

Liberian Mobile Money Regulations

"Authorized Institutions may also appoint **Wholesale Agents** to perform the services allowed under these Regulations"

Where the allowed services are:

- (i) Registering new Customers
- (ii) Providing cash in/cash out services
- (iii) Providing Customer support
- (iv) Conducting OTC transactions
- (v) Others as may be approved by Central Bank of Liberia

providers can engage a collection of outlets or franchises through aggregators, for offering services allowed at conventional agent locations. However, vital questions on roles and supervision of these sub-agents are not available. Furthermore, the regulations do not provide any guidance on the contracting requirements, service level agreements or control of the day-to-day operations (including liquidity management).

B.3 Financial Sector

Poor infrastructure represents a major obstacle to the development of Liberia's financial sector, which is shallow and remains vulnerable to political and economic instability. Lack of vital infrastructure – including all-weather roads, connectivity and electricity – drives-up the cost of delivering formal financial services across the country. As a consequence, availability

and uptake of formal financial services in Liberia is low. According to the World Bank's 2014 Global Findex data, only 59% of the country's adult population has formal accounts, 27% save and 7% borrow formally.¹⁴ Banks (of which Ecobank is the largest) and Microfinance institutions (of which AccessBank and BRAC are the larger ones)¹⁵ have struggled to scale their operations and fill the huge gap in supply of formal financial services in the country.

B.3.1 Banking Sector

Nine commercial banks with over 80 branches across the country dominate Liberia's financial sector. After being decimated during the civil war, Liberia's banking sector began to develop rapidly with the return of constitutional governance and an improved security situation. Before the 2005 elections there were five licensed banks: Liberia Bank for Development and Investment (LBDI), Ecobank Liberia, International Bank (IB), First International Bank (FIB) and Global Bank. Between 2005 and 2011 the number of banks increased rapidly with the addition of United Bank of Africa (UBA), Guaranty Trust Bank (GTBank), Afriland First Bank and Access Bank Liberia. The licensing of Access Bank was prompted by the need for increased focus on the microfinance sector and expanding access to financial services for low-income earners, while Afriland's entry was intended to provide some focus to the agriculture sector.

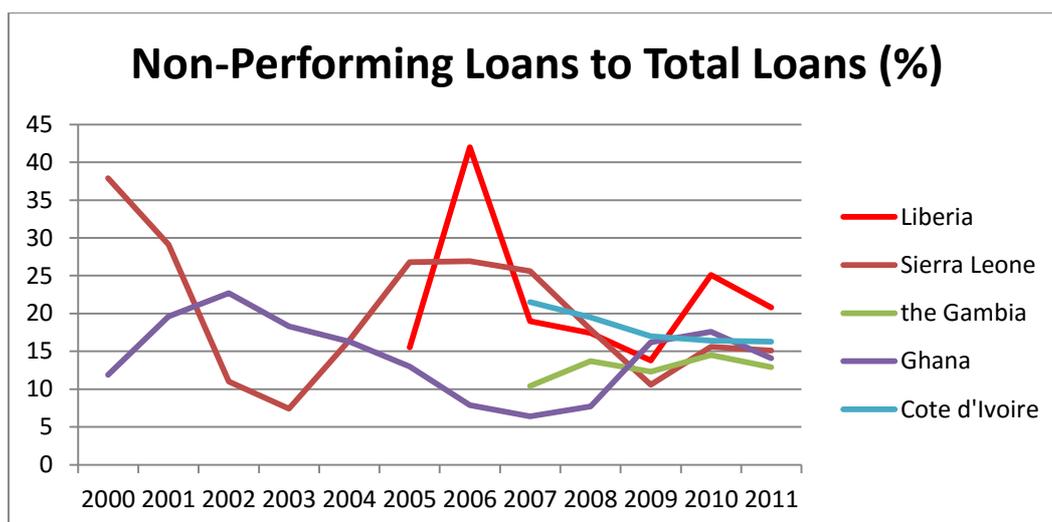
As the economy continues to recover from its previous disarray, the financial sector is shaping up to capitalize on the cash flows that are fuelling reconstruction and investment in the various sectors of the economy. Commercial credit at end-November 2014 totalled US\$334 million, 4.3% more than the level recorded at end-November 2013. However, commercial banks in Liberia operate essentially on depositors' cash, as there is limited long term funding available to financial institutions.

Health of the Banking Sector

Liberia has one of the highest non-performing loan (NPL) ratios in West Africa. As of 2015, the industry NPL stood at 17%, down from over 20% in previous years. Tough measures introduced by the CBL and commercial banks in 2012 to address this problem have had some success, which resulted in the NPL ratio being reduced to 14% in 2013. This positive trajectory was disrupted by the onset of Ebola and decline in natural resource prices, which culminated in an economic downturn and an increase in the NPL ratio to 18.7% (valued at \$52 million) in 2014. This is almost double the limit of 10% deemed to be tolerable by CBL.

¹⁴ World Bank, Global Findex, <http://datatopics.worldbank.org/financialinclusion/country/liberia>

¹⁵ Mix Market, Liberia Market Profile, <http://www.mixmarket.org/mfi/country/Liberia>



Risk factors and weaknesses have depressed bank profitability. These losses have largely been due to the persistence of non-performing loans – especially public sector loans renegotiated at less than face value – and increased competition with the recent entry of new banks. High operating costs, of which fuel cost to operate generators is a huge component, have also contributed to bank losses.

Table 2: NPLs by bank

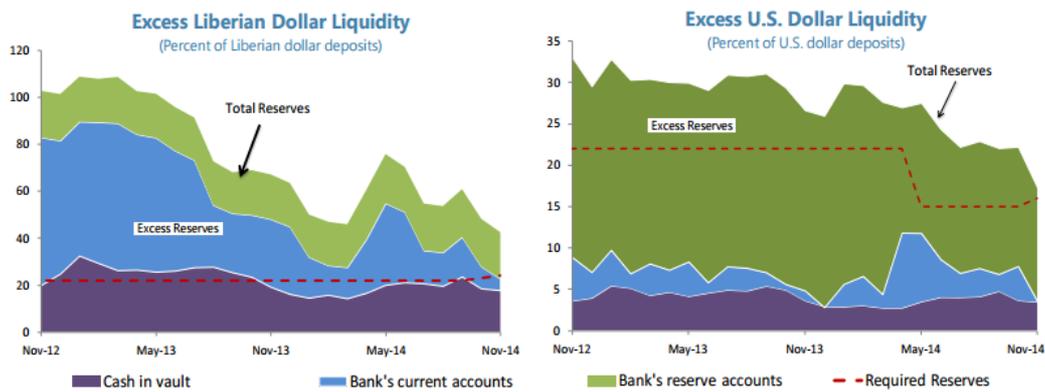
Bank Name	Non-Performing Loan Ratio	
	2014	2013
Access Bank	8.8%	5%
Afriland First Bank	N / A	N / A
Ecobank Liberia Limited	15%	16%
First International Bank	N / A	N / A
Global Bank Liberia	N / A	N / A
Guaranty Trust Bank	N / A	N / A
International Bank	N / A	12%
LBDI	12%	12%
United Bank of Africa	N / A	N / A
Sector Total	18%	14%

Source: Central Bank of Liberia

Liquidity Supply

As noted above, one of the CBL's core responsibilities is regulating the supply of money in Liberia, which involves importing US dollars and supporting the country's dual currency system. However, without branch offices outside Monrovia, the CBL is unable to adequately fulfil this role, contributing to an overall liquidity shortage in the banking system.

The banks are adequately capitalized and liquid, but face low profitability amid high risks posed by non-performing loans, the number of which has increased following the onset of Ebola. Where banks remain liquid, the economic slowdown caused by Ebola has greatly diminished their ability to generate liquidity at branch-level, particularly at branches outside Monrovia.



Sources: Liberian authorities and IMF staff estimations.

Every commercial bank is responsible for managing the liquidity of its branches. The banks do this by forecasting cash needs by their account holders, comparing proceeds from deposits and scheduling the physical movement of cash as needed to fill any gaps that exist. Physically transporting cash from Monrovia to their branches further afield is a costly and challenging endeavour given the state of Liberia’s roads.¹⁶ As a consequence, liquidity management at bank branches has become a major problem, and remote branches regularly face cash shortages. For security reasons, little coordination between the nine commercial banks and CBL exists when it comes to moving cash around the country. These deliveries are surrounded with considerable secrecy to ensure that suspicion is avoided in the event that money is stolen en route to its destination.

For the community banks, this liquidity support is provided directly by CBL. Between the nine community banks, there are about 20,000 account holders, most of whom are rural farmers. However, these community banks are increasingly positioning themselves to provide additional services including salary payments to teachers, health workers and other civil servants in the rural areas. Such services would likely increase the liquidity demands beyond the CBL's current support levels.

These liquidity shortages not only constrict economic activity but also erode trust in the formal financial sector. CBL has been working with banks to ensure branches have sufficient liquidity to meet deposit withdrawals. However, liquidity remains a challenge in rural areas and financial service providers will need to explore innovative models, mechanisms and sources to manage their liquidity.

Retail Branch Networks

According to a financial inclusion baseline survey conducted by the Central Bank of Liberia (CBL), almost 80% of the country’s population is unbanked.¹⁷ With 280,000 and 170,000 respectively, Ecobank Liberia and LBDI have by far the largest customer bases; all other commercial banks service less than 50,000 customers. The value of customer deposits held at both banks combined also exceeds those held at all other banks. According to the CBL, in

¹⁶ For Example, GT Bank funds its branches twice a week based on internal forecasts and only Ecobank is known to import US dollars on a regular basis

¹⁷ Central Bank of Liberia, Policy Statement 2015, p. 6

2014 Ecobank Liberia and LBDI's deposits were worth \$218 million and \$107 million respectively (see Table 4).

Table 3: Geographical Distribution of Bank Branches

County	Population	Bank Branches		
		2015	2014	2013
Bomi	84,119	1	1	1
Bong	333,481	3	3	2
Gbarpolu	83,388	0	0	0
Grand Bassa	221,639	6	6	6
Grand Cape Mount	127,076	1	1	1
Grand Gedeh	125,258	1	1	1
Grand Kru	57,913	0	0	0
Lofa	276,863	2	2	2
Margibi	209,923	10	9	9
Maryland	135,938	4	4	4
Montserrado	1,118,241	51	50	48
Nimba	462,026	7	7	7
River Cess	71,509	0	0	0
River Gee	66,789	0	0	0
Sinoe	102,391	1	1	1
Total	3,476,608	87	85	82

Source: Central Bank of Liberia

There are fewer than 4 branches per 100,000 adults in Liberia, and the spread of branches across the country is highly uneven. This largely reflects variations in the level of economic activity and population density. Montserrado for instance, where around 30% of Liberia population lives and 80% of businesses are registered, has 51 bank branches. Other counties with higher than average number of bank branches are Margibi, Grand Bassa and Nimba. In contrast, the less densely populated and less commercially vibrant counties of Gbarpolu, Grand Kru, River Gee and River Cess have no bank branches (see Table 3). Since 2013 five new bank branches have been established. These are overwhelmingly located in counties already with significant concentrations of branches. Four of the five new branches are located in Montserrado and Margibi, adjacent counties that already had the highest and second highest number of branches in Liberia.

Table 4: Value of Customer Deposits by Bank

Bank Name	Total Deposits (USD Million)	
	2014	2013
Access Bank	24	20
Afriland First Bank	18	21
Ecobank Liberia Limited	218	224
First International Bank	21	21
Global Bank Liberia	24	16
Guaranty Trust Bank	54	52
International Bank	86	74
LBDI	107	101
United Bank of Africa	44	67
Total	596	596

Source: Central Bank of Liberia

B.3.2 Other Financial Service Providers

As Liberia's banks gradually extend their geographical reach, other financial service providers primarily focused on rural communities have expanded their presence as well. A stated objective of the CBL has been the establishment of new Rural Community Financial Institutions (RCFIs). Managed and owned by the communities they serve, five RCFIs were established in 2015 with the support of the CBL and technical assistance of Afriland, increasing the total number to nine (see Table 5). While there are no bank branches in four Liberian counties, every county now has at least one RCFI.

Table 5: Rural Community Financial Institutions (RCFI)

County	Number of RCFIs
Gbarpolu	1
Grand Kru	1
Lofa	2
Nimba	2
River Gee	1
Rivercess	1
Sinoe	1

Source: Central Bank of Liberia

RCFIs, which are licensed by the CBL, provide a range of services such as deposit taking, paying government salaries, and MoneyGram and Western Union services. According to CBL, most RCFIs – with Afriland's support – were involved in paying the salaries of government employees in 2015, and the Ministry of Finance & Development Planning is exploring how to involve all RCFIs in providing this service in the future.

Table 6: MFIs Documented and Regulated by the CBL

MFI	Customer Base	Branches	Gross MFI Portfolio
BRAC Liberia	28,900 active borrowers 44,800 active customers	42 (18 rural)	\$3.27 million
LEAP	6,394 - 8,230 women	11 (3 in Monrovia)	\$682,910
Liberty Finance	3,655 borrowers	6 (3 in Monrovia)	\$503,842
Foundation for Women	2,157 - 2,445 women	N / A	\$483,640
Combined Efforts to Aid Liberians	350 - 340 women	2	\$65,512
APAM-Excel	125 - 71 women	1 in Monrovia	\$80,000
Action Greater Harvest	N / A	N / A	N / A
Community Livelihood Assistance Program	N / A	N / A	N / A
LEAD	N / A	N / A	N / A

Source: Central Bank of Liberia

In addition to the nine RCFIs, there are 20 registered microfinance institutions (MFIs), 400 credit unions and 1,450 Village Savings & Loan Associations (VSLAs). Of these, the largest MFI is run by NGO BRAC, which has around 44,000 active customers and a gross loan portfolio of \$3.27 million (see Table 6). Although credit unions and VSLAs have yet to be licensed or

registered with the CBL, the Central Bank disburses finance through hundreds of these organisations as well as MFIs. In 2013 the CBL supported 764 VSLAs, credit unions and MFIs with loan disbursements worth just over LD\$367 million.¹⁸

B.4 Remittance and Payments Services

The remittance and payment services used in Liberia are MoneyGram, Western Union, Ecobank Rapid Transfer, Automated Teller Machines (ATM) and Point of Sales (POSS) and mobile money. To date, none of these services have achieved significant market penetration, partly because of structural constraints.

Table 7: Overview of Liberia's Banks (2015)

Bank Name	Customers	Branches	ATMs	POS	Products and Services
Ecobank Liberia	• 280,000	• 24 Branches (9 in Monrovia, 3 in Margibi, 2 in Nimba, 1 in Bong, 1 in Grand Bassa, 1 in Maryland, 1 and Grand Gedeh)	• 35	• 53	<ul style="list-style-type: none"> • ATMs and POS • Visa Cards (Any POS and Ecobank ATMs, globally accepted) • Western Union/Money Gram • Rapid Transfer Services (local money transfer service) • Mobile Money E-banking (online wire transfers to other Ecobank accounts)
LBDI	• 170,000	• 17 (8 in Monrovia, 3 in Margibi, 2 in Nimba, 1 in Grand Bassa, 1 in Grande Cape Mount, 1 in Bong, and 1 in Bomi)	• 0	• 0	<ul style="list-style-type: none"> • Western Union/Money Gram
United Bank of Africa	• Over 39,000	• 6 branches (5 in Monrovia, 1 in Nimba)	• 16	• 64	<ul style="list-style-type: none"> • ATMs and POS • Visa Cards (ATMs and Internationally accepted) • Western Union/Money Gram
Access Bank	<ul style="list-style-type: none"> • 44,000 depositors • 9,000 borrowers 	• 6 (5 in Monrovia, 1 in Grand Bassa)	• 0	• 0	<ul style="list-style-type: none"> • Western Union/Money Gram
IBLL	• 44,000	• 10 (6 in Monrovia, 2 in Maryland, and 2 in Margibi)	• 4	• 0	<ul style="list-style-type: none"> • ATMs • Money Gram
Guaranty Trust Bank	• 22,500	• 8 (5 in Monrovia, 1 in Margibi, 1 in Nimba and 1 in Grand Bassa)	• 5	• 0	<ul style="list-style-type: none"> • ATMs • Visa Cards • Western Union/Money Gram
Afriland First Bank	• 5,000 - 8,000	• 2	• 0	• 0	<ul style="list-style-type: none"> • Western Union/Money Gram
First International	N / A	• 9	• 0	• 0	<ul style="list-style-type: none"> • Western Union/Money Gram
Global Bank PHB	N / A	• 5	• 0	• 0	<ul style="list-style-type: none"> • Western Union/Money Gram

Source: Central Bank of Liberia and analysis of commercial banks

¹⁸ FAO, 'The Impact of the Ebola Virus Disease on Village Savings and Loans Associations Montserrado, Margibi, Bong and Lofa Counties', p. 10

Some Liberian banks are exploring how to best leverage technology and overcome the limitations of their branch networks and expand the reach of their service. For instance, Ecobank is currently focused on modernising its systems and offering access to its services through Internet Banking and larger ATM & POS networks. However, the lack of foundational infrastructure (notably electricity supply and technology) restrict Alternate Delivery Channel (ADC) from being an effective means to channel financial services. As a consequence, there are less than 2 ATMs per 100,000 adults in Liberia and POS devices are limited to high-end urban locations (see Table 7).

B.4.1 Remittance Services

Both formal and informal remittances are a major form of money transfer in Liberia. The volume of transactions is always difficult to document, especially in the informal sector where funds are transferred through friends and relatives. Current alternatives to informal domestic fund transfers are bank transfers, mobile money and Ecobank Liberia Rapid Money Transfer. These three account for almost all domestic remittances.

Table 8: Remittance Transactions

	Ecobank Bank				LBDI			
	2014		2013		2014		2013	
	Volume	Value (US\$)	Volume	Value (US\$)	Volume	Value (US\$)	Volume	Value (US\$)
Western Union Transaction	111,154	\$37,752,111	118,270	\$40,681,364	185,389	\$51,282,752	195,711	\$57,197,284
MoneyGram Transaction	82,131	\$24,656,453	22,059	\$4,548,534	132,400	\$3,705,194	84,254	\$1,886,833
Ecobank Rapid Money Transfer	656	\$398,911	9,642	\$5,341,920	N / A	N / A	N / A	N / A

Source: Central Bank of Liberia

Western Union and MoneyGram

In terms of value and volume, Western Union and MoneyGram are the main services used for person-to-person transfers. Given how few people are banked in Liberia, this is understandable as these services do not require bank accounts and allow cash to be collected. As seen in Table 8, the value of these services at Ecobank Liberia and LBDI was worth around \$118 million in 2014. According to the Central Bank, the value of Western Union and MoneyGram transactions made through the other seven commercial banks combined is equivalent to Ecobank Liberia and LBDI's. Unsurprisingly, these services are primarily used for international transfers. This is largely due to the high costs involved and the fact that neither service is prominently associated with domestic use.

Ecobank Rapid Transfer Service

Ecobank is the only financial institution providing a formal local form of transfer service through its Rapid Transfer product. Rapid Transfer works in a similar way to Western Union and MoneyGram: recipients collect their cash from Ecobank branches. After launching the product in 2010, use of the Rapid Transfer Service steadily increased to 9,642 transactions worth US\$5.3 million in 2013. The next year saw a steep decline – only 656 transactions

worth around US\$400,000 were reported in 2014 – largely due to the spread of the Ebola virus.

Although Ecobank has the most expansive branch network in Liberia, not all communities have access to them. Where users do have access to an Ecobank branch, the high costs associated with the service means that usage is generally restricted to emergency situations or for businesses with no other means of quickly or securely transferring money within the country (see Table 9 for the fee structure of the Rapid Transfer service).

Table 9: Ecobank Liberia Ltd Rapid Transfer Rates

Tranches (US\$)	Rapid Transfer Charges
0 - 100	8.70
101 - 200	12.60
201 - 300	15.20
301 - 400	21.40
401 - 500	24.30
501 - 750	33.60
751- 1000	44.10
1001 - 1500	57.70
1501 - 2000	59.50
2001 - 2500	114.90
2501 - 3000	115.00
3001 - 3500	127.20
3501 - 4000	134.90
4001 - 4500	148.00
4501 - 5000	182.90
5001 - 5500	192.60
5501 - 6000	200.00
6001 +	222.00

Source: Ecobank

B.4.2 Payment Services

ATMs and POSs

Automated Teller Machines (ATMs) and Point of Sales (POSs) have been in development in Liberia for over five years. At present, according to CBL’s 2015 Annual Report, there are 61 ATMs and 117 POSs in the country, most of which are clustered in Monrovia. However, problems in the provision of such services persist. ATMs are often out of service or have insufficient cash, and their locations are determined more by power supply and security considerations than by customer convenience. Use of POSs is undercut by poor Internet connectivity, which reduces their reliability for people with electronic cards. Nevertheless, Ecobank – which is one of the lead providers of these services alongside United Bank of Africa (UBA) – has made steady progress in recent years. In 2014 its ATMs processed 275,000 transactions worth US\$4.2 million, an increase from the US\$3.84 million worth of transaction in 2013.

Electronic Cards

At present, three banks offer electronic card payment services: Ecobank, UBA and Guaranty Trust Bank. The two leaders in this area, Ecobank and UBA, provide non-account based

electronic cards that can be loaded and used worldwide and for online transactions. In addition, these banks also provide visa card services linked to their customers' accounts.

B.4.3 Assessment of Remittance and Payment Services

The development of remittance and payment services faces several structural obstacles, notably poor roads, unreliable electricity supply and the limited number of bank branches in Liberia. Furthermore, commercial banks remain too disinterested to introduce products and services targeted at the poor, severely limiting the number of potential customers as a consequence. The fees for remittance services restrict use to high-end customers. Furthermore, the individual payments systems presently in operation appear to be primarily focused on solving one problem (such as person-to-person remittances) rather than developing into integrated payment platforms. An integrated payment service would bring different market segments together more quickly and, most likely, in a most cost effective manner.

B.5 Mobile Money

A number of studies have shown that in many countries people remain unbanked primarily due to the costs associated with accessing these services and time required to reach a branch. A survey conducted by CBL in 2015 stated that distance to access a financial institution was a major factor in discouraging people from opening bank accounts.¹⁹

With mobile phone usage at nearly 60% in Liberia, the opportunity to leverage mobile technology to expand access to financial services exists. The CBL has been actively working to exploit the expansion and uptake of mobile services for overcoming

barriers that restrict financial inclusion in Liberia. The GoL recently endorsed the Ministry of Education's Mobile Money Payment System for Rural Teachers and the ministries of Gender, Children & Social Protection and Youth & Sports are currently utilizing the Mobile Money Payment System in the implementation of a number of social safety net projects. A recent analysis found that the addition of a mobile money component to GoL's current payment processes could provide net benefits of more than \$22.5 million per year based on productivity savings of \$13 million from increased working hours and another \$9.5 million in government worker travel cost savings.²⁰

Mobile Money - Quick Facts

- | | |
|----------------------------|-----------------|
| • Service Providers | 1, Lonestar MTN |
| • Registered MM Wallets | 700,000 |
| • Estimated Active Wallets | <10% |

Source: Lonestar MTN, 2015

B.5.1 Providers

As of April 2016, Liberia has two mobile money service providers: MTN Lonestar, which launched its mobile money service in September 2011 in partnership with Ecobank and CBL

¹⁹ The Fletcher School Leadership Program For Financial Inclusion Policy Memoranda 2015

²⁰ ICT Works, 'Digitizing Payments one Cabinet at a Time', 16th October 2015, <http://www.ictworks.org/2015/10/16/digitizing-payments-one-cabinet-at-a-time/>

(and subsequently announced another partnership with GT Bank in June 2013), and Cellcom, which launched its service in March 2016. With Ecobank, the service can be accessed through the Internet web portal and from handsets using the USSD menu. Users can store money in their Lonestar mobile money wallets and send and receive money without visiting a bank. They can also make payments, buy airtime and pay bills (such as DSTv, LEC and school fees). Similarly, with GT Bank, the service can be accessed through the Internet and via a phone app.

To date, MTN Lonestar mobile payments platform has only facilitated a low volume of primarily person-to-person transactions. This largely stems from the fact that MTN Lonestar operates a single currency platform and does not have enough cash out points, limiting its ability to make bulk payments. Limitations on Lonestar’s current Fundamo mobile money platform have prevented it from offering US dollar wallets (more than 60% of all cash transactions are in US dollars) and a firm date for migration to the new mobile money platform is not available.

B.5.2 Agent Network

GT Bank and Ecobank effectively serve as Lonestar’s super agents, but both banks have yet to link their client accounts to Lonestar’s mobile money platform. Plans to do so in the future are reportedly being considered. Lonestar claimed to have 586 agents nationwide in March 2015; in November 2015 Lonestar stated its agents numbered 900. According to the most recent data Lonestar was willing to supply, more than 60% of these agents are located in Montserrado and Nimba, and agent density in most other counties is critically low (see Table (10)).

Table 10: Lonestar's Agent Network (March 2015)

	Number of Agents	Percentage
Montserrado	277	47%
Nimba	94	16%
Lofa	46	8%
Bong	40	7%
Maryland	31	5%
Grand Gedeh	24	4%
Margibi	21	4%
River Gee	15	3%
Grand Bassa	11	2%
Sinoe	9	2%
Grand Cape Mount	7	1%
River Cess	5	1%
Gbarpolu	2	0%
Grand Kru	2	0%
Bomi	2	0%
Total	586	100%

Although commissions are paid for recruitment and transactions, volumes continue to remain low. Lonestar intimated that on average, agents gross around \$60/month. The low volumes and low commissions has resulted in a large number of registered agents becoming dormant.

Lonestar was unwilling to supply actual average monthly pay-out volume figures at this time, but felt they enjoyed an advantage in the market and that this product remained viable.

Liquidity Management

For most retailers currently operating as Lonestar mobile money agents, the burden of managing liquidity is borne by the agents themselves and requires several trips to participating banks to rebalance their float. This means that an agent who does not have significant capital to use as float could end up going to the bank multiple times per day, incurring a time and money cost and diminishing their commission in the process. Several agents cited this challenge as a key factor for their lack of engagement.

B.5.3 Assessment of Mobile Money Sector

As of November 2015, Lonestar estimated that it had around 700,000 registered mobile money subscribers, equating to around 28% of Liberia's adult population. Utilization remains low, however, at less than 10% of subscribers. By way of comparison, 77% of the adult population in Kenya are registered for mobile money services. A closer regional comparison is Ghana, which had approximately 5.4 million registered mobile money subscribers in 2014, of whom around 2.3 million (42%) were active.

The limited adoption of mobile money in Liberia to date is in part to do with how it has been marketed. Too much focus was placed on targeting people wishing to transfer money to family and friends; businesses were never encouraged to create mobile money payment options and the convenience of paying with mobile money was never demonstrated to customers. Furthermore, it has inadvertently been narrowly marketed as a service better suited for the unbanked, poorer sections of society.

Practical difficulties also continue to pose considerable obstacles. According to MTN Lonestar, the two main challenges to improved performance of the mobile money product are agent management and liquidity. Regarding liquidity, bank branches outside Monrovia rarely have sufficient cash on hand to serve all of their client needs. As for managing mobile money agents, low volumes and unattractive commissions reportedly make it difficult to retain agents. Allowing third party management focused on recruitment, the establishment of better incentive structures could make agent opportunities more attractive, in turn facilitating an uptake in agent registrations and an expansion of agent networks. While no survey was conducted to quantify the potential increase in an agent's performance that an aggregator could deliver, four MTN Lonestar agents in Monrovia and one in Nimba County responded positively to the idea of having a third party managing the logistics of coordinating the provision of electronic float or short-term cash for bulk payments.

B.6 High Volume Payment Streams

Evidence from a number of countries has shown how high volume payment can serve as drivers for the adoption of DFS. Brazil, Pakistan and the Philippines have demonstrated how the digitisation of payment streams has resulted in increasing DFS use but also on building

sustainability from the provider and agent perspective.²¹ With the development of DFS is at a nascent stage in Liberia, a number of bulk payment streams could be explored for such a transition that could in turn drive consumer adoption of DFS.

As the country's largest employer and recipient of revenues, there are several high-value payment streams to and from the Government of Liberia (GoL). These include payments such as government salary payments; government social safety net payments to vulnerable communities; government payments for goods and services to local businesses; income and property taxes paid to government by individuals and businesses; and fees paid to government coffers for items such as vehicle tag and registration fees, business registration and licensing fees.

Table 11: Summary of High Volume Drivers

High Volume Drivers				
Drivers	Description	Volume of payments (per month or annum)	Value of payments in 2014 (US\$)	Potential streams for Mobile Money
Government to Business (G2B)	• Payments for good an services	• N / A	• 123,407,553	• Weak
Government to Person (G2P)	• Social Safety Net Payments • GoL Salary Payments • NASSCORP Beneficiary Payments	• N / A • N / A • N / A	• 1,076,839 • 166,740,377 • 3,669,351	• High • High • High
Business to Government (B2G)	• Taxes • Revenues from Fee for license and permits	• N / A • N / A	• 189,436,121 • 17,341,935	• Medium • Medium
Business to Business (B2B)	• Payments for goods and services in value chain	• N / A	• 89,059,486	• High
Business to Person (B2P)	• Salary and Benefit Payments by Registered Entities to Employees	• N / A	• 83,370,188	• High
Person to Government (P2G)	• Taxes • NASSCORP contribution • Utilities • Public transport	• N / A • 114,611 • N / A • 1,843,053	• 45,194,933 • 23,282,620 • 32,948,506 • 805,002	• Weak • Medium • High • High
Person to Business (P2B)	• Purchases • Bill payments	• 5,809,423 • N / A	• 148,342,248 • 136,098,395	• Medium • Medium
Person to Person (P2P)	• Domestic & International remittances	• N / A	• 952,635,591	• Medium
Development partners to Government (D2G)	• Aid	• N / A	• 322,406,774	• Medium
Development partners to Business (D2B)	• Payments for goods and services	• N / A	• 48,404,953	• Weak
Development partners to Person (D2P)	• Salaries to employees • Transfers	• 953,853 • 132,049	• 68,294,844 • 48,205,395	• Strong • Strong

Sources: Central Bank of Liberia, Ministry of Commerce & Industry, Ministry of Health, Ministry of Education, Ministry of Finance & Development Planning, Ministry of Gender & Development, NASSCORP, National Transit Authority

²¹ European Investment Bank, 'Digital Financial Services in Africa: Beyond the Kenyan Success Story', December 2014, http://www.eib.org/attachments/country/study_digital_financial_services_in_africa_en.pdf

B.6.1 Government to Person (G2P)

With 130,007 civil servants on the government's payroll in 2014, the GoL is Liberia's largest employer. According to the 2014 national budget, government salary payments that year totalled US\$166,740,377. The education and health sectors recorded the second and third highest budget allocations. Compensation of employees in the education sector was reported at US\$38,729,553 in 2014 while salaries in the health sector were reported at US\$8,148,440. Most civil servants working in health or education are based in rural areas, and to date most of them have received payments by cheque. Recently, however, there has been a push to digitise some of these payments, with the GoL granting approval to pay teachers using mobile money in late 2015.²²

Social safety net programmes in Liberia are highly dependent on external financial assistance, with donor funding comprising around 94% of total spending in this area in 2014.²³ The Ministry of Gender and Development – with support from UNICEF, the European Union, and a start-up grant from the government of Japan – piloted Liberia's first Social Cash Transfer (SCT) programme to address the needs of the country's most vulnerable and food insecure residents. The programme targeted 20,000 households and provided cash transfers of US\$50 per month over a period of 9 months. In 2014, Mercy Corp Liberia implemented a USAID-funded project to provide cash transfers to a target of 130,000 beneficiaries receiving US\$42 per month for a one-year period. At the end of the project some 81% of beneficiaries had been reached.²⁴

The Liberian National Social Security Corporation (NASSCORP) has implemented an automated system for registering beneficiaries and making beneficiary payments.²⁵ In 2010, NASSCORP claimed that some 4,184 beneficiaries received approximately US\$1.4 million in annual payments.²⁶ More recently NASSCORP claimed that it had revalidated over 6,167 beneficiaries during its last validation exercise in late 2015, with approximately 2,260 receiving payments totalling US\$3,669,351.18 over the course of that year.

B.6.2 Government to Business (G2B)

Government payments to businesses are primarily in the form of grants or government expenditures for goods and services. In 2014 the GoL introduced a number of initiatives to help stimulate the private sector, including a provision to set aside 25% of the national budget to procure goods and services from local entities. The 2014 budget shows that the government spent approximately \$123,407,553 on the procurement of goods and services.

²² ICT Works, 'Digitizing Payments one Cabinet at a Time', 16th October 2015, <http://www.ictworks.org/2015/10/16/digitizing-payments-one-cabinet-at-a-time/>

²³ 'The State of Social Safety Nets 2014', http://health.bmz.de/events/Events_2011-2014/Quality_of_Growth-The_Contribution_of_Health_and_Social_Protection/State-Social-Safety-Nets-2014.pdf

²⁴ USAID, 'Economic Recovery from Ebola for Liberia (EREL) Fiscal Year (FY) 2015 Quarter 4 Report', http://pdf.usaid.gov/pdf_docs/PA00KT6C.pdf

²⁵ 'The Impact of ICT at NASSCORP', <http://www.nsitf.gov.ng/issa2015/Liberia.pdf>

²⁶ Claims Department Presentation to Board of Directors, Dec 2010

B.6.3 Development Partners to Government (D2G)

Liberia currently receives support from 25 development partners through bilateral and multilateral partnerships. According to the Ministry of Finance and Development Planning's Division of External Resources and Debt Management, in the first two quarters of the 2014/2015 financial year the GoL received \$322,406,774 in grants and loans. The health sector received the highest amount of donor funding at US\$87,565,566 (27.2%) while education received US\$28,935,071 (9.0%).²⁷

Development Partners	FY2014/2015 Projection	FY2014/2015 Quarter 1 & II Actual Disbursements		Total Disbursement
		Grant	Loan	
African Development Bank	105,715,167	9,574,181	-	9,574,181
Bill & Melinda Gate Foundation		115,439		115,439
DfID	12,611,000	1,811,250		1,811,250
European Investment Bank	30,119,454		10,755,821	10,755,821
European Union	114,405,626	52,245,662		52,245,662
France	1,180,540	-		-
Germany	28,850,000	3,709,010		3,709,010
GIZ	700,000	353,450		353,450
Global Fund	23,351,192	-		-
IFAD	6,711,331	932,718		932,718
India	706,185	706,185		706,185
International Development Association	138,728,009	25,217,874	23,221,135	48,439,009
International Monetary Fund	48,000,000		48,000,000	48,000,000
Ireland	5,354,155	5,499,082		5,499,082
Japan	42,735,000	7,865,000		7,865,000
Norway	48,464,629	-		-
Sweden	53,470,000	10,204,414		10,204,414
UNDP		2,472,744		2,472,744
United Nations Children Fund	30,000,000	48,629,935		48,629,935
UNHCR		2,629,429		2,629,429
United Nations Peace Building	3,549,500	7,967,098		7,967,098
United Nations Population Fund	2,530,000	1,306,553		1,306,553
USAID	107,194,199	58,512,477		58,512,477
World Food Programme	27,014,400	-		-
World Health Organization	2,494,291	677,317		677,316
Grand Total	833,884,679	240,429,819	81,976,956	322,406,774

Source: FY 2014/15 Mid Year Development Assistance Report, MFDP Liberia.

B.6.4 Development Partners to Business (D2B)

Donors usually procure goods and services from local businesses and issue contract tenders for which businesses bid. Based on CBL data, payments from donor agencies to local businesses via local banking institutions totalled US\$48,404,953 in 2014.

²⁷ Republic of Liberia, Ministry of Finance and Development Planning, 'Final FY2014/15 Mid-Year Development Assistance Report', February 2015

B.6.5 Development Partners to Person (D2P)

In 2014, development partners made 953,853 payments to locally employed staff that totalled US\$68,294,844. In addition, donors made 132,049 direct transfers that totalled US\$48,205,395.

B.6.6 Business to Government (B2G)

In 2014, 295,041 businesses were registered in Liberia, of which 189,782 were corporate taxpayers. In 2015 government revenues from businesses were reported to have been \$206,778,056, which included payments for taxes, fees and permits. This excludes maritime revenues estimated at US\$2.18 million.

B.6.7 Business to Business (B2B)

Based on commercial bank records, business-to-business payment transactions were estimated at around \$89,059,486 in 2014. This only includes transaction recorded through banking transactions. Liberia does not currently have a system in place that is able to track B2B transactions effectively, especially as many business payments are not processed through formal banking channels.

B.6.8 Business to Person (B2P)

According to the CBL, in 2014 businesses made direct deposits worth US\$83,370,188.50 to 665,432 individuals. As with B2B payments, however, not all B2P payments are processed through formal channels, which means that actual number is likely to be higher.

B.6.9 Person to Government (P2G)

Although Liberia has a population of over 4 million people, it only has a base of individual taxpayers of 216,040. These individuals are responsible for paying around \$45 million in taxes every year, including property and incomes taxes. In addition, 114,611 employees made contributions to NASSCORP in 2014 totalling US\$23,282,620. Utility payments to government service providers between July 2014 and February 2015 ranged from US\$592,000 to US\$866,000.²⁸ The GoL budget estimates revenues payments including both water and electricity of \$32,948,506.00 for the 2015/16 fiscal year.

With a fleet of around 75 buses, the National Transit Authority (NTA) provides transportation services across Liberia. Around 1.8 million people use public transport and are responsible for generating revenues for the NTA of approximately US\$800,000 annually. This figure includes revenues from government ministries and agencies that contract the NTA to provide transportation for their employees.

²⁸ LEC Monthly Status Report to the Board of Directors, February 2015.

B.6.10 Person to Business (P2B)

P2B payment figures were recorded for purchases made for goods and services directly via banking institutions. These include payments for goods made via cheques as well as payments for subscription services such as Internet and satellite TV, which are usually paid as cash directly into providers' accounts via bank sub-branches established at providers' business locations. The CBL reported approximately 5,809,423 purchases totalling US\$148,342,248.00 as well as bill payments to service providers totalling US\$136,098,395.

B.6.11 Person to Person (P2P)

Remittances to individuals occur as cash transfers between individuals. A good capture of this is international incoming wire transfers to the country as well as mobile money and other individual-to-individual domestic cash transfers such as Ecobank's Rapid Transfer service. According to the CBL, the total value of remittances processed through formal channels in 2014 totalled US\$952,635,591.

B.6.12 Assessment of Potential Streams for Mobile Money

Based on value, transactions (size, number and frequency), and demand, G2P, D2P and B2P payment streams have a high potential for digitisation in the short to medium-term. The government has already piloted the use of mobile money for bulk disbursements (teacher salary payments), and there are plans to scale and expand the use of mobile money for other G2P payments with the Ministry of Health examining its possible use. Given the Cabinet's recent approval for teacher salary payments, other government ministries and agencies could follow suit. Senior directors at NASSCORP have also expressed their interest in mobile money for beneficiary payments and have held discussions with MTN Lonestar.

In the medium-term, P2G and B2G payments also show strong potential for digitisation, especially given the government's focus on increasing revenues (LEC, for example, currently accepts payments via third party vendors who operate POS systems for electricity credits). However more can be done in this area and government can do more to drive this change. In the past, slow network connectivity hampered online business transactions. However, now that fibre connectivity is in place and key government agencies and departments (such as the Ministry of Finance, Ministry of Commerce and the Freeport of Monrovia) are connected to the metro fibre network, the development of the applications that can facilitate and improve these payment streams can and should be explored.

C. Feasibility Study

C.1 Background

The concept of third party aggregation in the area of digital financial services (DFS) is not new, but few successful deployments have been realised in Africa. Two notable examples are Blue Label in South Africa and Fawry in Egypt, companies that established networks of 30,000 and 50,000 agents in their respective markets to deliver bill payments and prepaid services. One model currently being explored in Liberia involves combining the technology solution for payment aggregation with active agent management and liquidity support for cash-outs and bank withdrawals. While different mobile payment providers and banks may opt for building and managing their own networks, a third party aggregator can help to accelerate the adoption of digital financial services in Liberia by building a strong distribution network that can be leveraged by all operators.

The main case for aggregation is that it improves agent economics and reduces the costs borne by each service provider to build an effective national distribution network on its own. At present, both the banking and telecom sectors are fairly concentrated, with Ecobank and LBDI holding around 75% of all retail bank accounts, and MTN Lonestar and Cellcom having about 98% of all mobile subscribers. However, even with MTN Lonestar and Ecobank working together on Lonestar Mobile Money, the service has not been able to generate substantial transaction volumes and commissions to maintain agent interest. It costs time and money for agents to manage their liquidity and provide the continuous assistance that customers often require. Thus, it is difficult for them to stay motivated without meaningful volumes and commissions when there are competing opportunities for them to make money in the main business operations.

Looking ahead, the presence of four mobile network operators and nine commercial banks serving a country of 4.3 million people suggests that Liberia could become a highly fragmented DFS market when more institutions roll out their own mobile or card-based transaction services. If each of them tries to do it alone, then it is likely that they will end up facing the same difficulty with their agent networks, and shying away from the high costs of expanding beyond the obvious urban centres. In that sense, the presence of a third party aggregator will have a significant benefit of freeing up the service providers to focus their resources on innovation, customer education and more cost-effective delivery of basic financial services.

Another role that an aggregator can play is to build an acceptance network of merchants from whom customers can purchase basic goods and services through electronic payments. This will make it much easier for customers to switch from the current cash-based culture. However, a key challenge that we foresee in the absence of an aggregator is that most merchants will be turned off by the hassle of having to maintain different mobile phones or point-of-sale devices to receive payments from different MNO or bank account holders.

C.1.1 Defining Feasibility

Although Blue Label and Fawry offer examples of successful agent aggregator models in Africa, differences in context and proposed operating model limit their utility as case studies to guide the entry of similar entities in Liberia. Egypt and South Africa are more densely populated, have a significantly higher GDP per capita, and more bank branches per 100,000 people than Liberia (see Table 12). Combined, these three factors indicate that it would be less commercially viable to sustain an agent network of similar scale operating in Liberia. Furthermore, Blue Label and Fawry achieved success by focusing primarily on bill payments and prepaid services; their customers were predominantly using services that involved them paying money to agents rather than cashing out. This reduces their dependence on external liquidity sources. In contrast, the model being considered for Liberia centres on cashing-out services, which requires liquidity support in a country with a challenging financial infrastructure.

Table 12: Liberia in Comparative Perspective

	South Africa	Egypt	Liberia
Population size	54 million	89.6 million	4.4 million
Population density (persons per square mile)	115	232	102
GDP per capita	\$6,477.9	\$3,198.7	\$461
Bank branches per 100,000	10.3	4.9	3.9
Percentage of adult population (aged 15+) with an account at a financial institution	70%	14%	18.8%

Instead of being guided by how Blue Label and Fawry achieved success, any assessment of the feasibility for a third party cash management partner to operate a country-wide network in Liberia must focus on the following factors: context – analysing population density, commercial activity and infrastructure by county; liquidity – identifying where cash outside the financial sector can be leveraged; and assessing the potential market versus the likely operating costs.

Context: Demographics, Commercial Activity and Infrastructure

Assessing the feasibility for an agent aggregator to enter Liberia must be framed by an analysis of the operational environment, especially the demographic, economic and infrastructural context. Population density, commercial activity and quality of roads are closely interlinked, and will form the basis of this analysis. Looking at the demographics and local economies by region will indicate where the level of demand for mobile money services will be greatest, and which regions require more concentrated agent networks. Given the logistics involved in managing an agent network, terrain, the quality and geographical reach of transportation routes and mobile phone coverage will also need to be considered.

Liquidity

An agent aggregator would need access to a sufficient supply of liquidity in order to operate effectively. Within the context of mobile money, liquidity is defined as an agent's ability to service customer demands to cash in or cash out e-money. However, given the insufficient cash supply in Liberia's banking system combined with the limited geographical coverage of the country's commercial banks, a third party cash management partner would need to identify and leverage alternative sources of liquidity.

Assessing Market Size

In the short-term, little potential exists for a consumer-led model to foster increased usage of a mobile payments platform. However, as noted above, some government payments are currently being piloted, and support within the government and donor communities for digitising G2P, D2P and B2P payments appears to be growing. By comparing the market size of these payment streams with the likely operating costs an agent aggregator would incur, an assessment of the commercial viability for an agent aggregator to enter Liberia can be made.

C.1.2 Methodology

In assessing the feasibility for a third party cash management partner to become active in Liberia we have relied on data supplied by the Liberia Institute for Statistics and Geo-Information Services (LISGIS), government agencies such as the Ministry of Commerce and Industry, and Building Markets Liberia. This data has grounded our analysis of Liberia's demographics, liquidity and bulk payment streams. We paid particular attention to deepening our understanding of alternative source of liquidity and bulk payment streams through interviews with key government stakeholders, donor representatives, and executives and owners of wholesale and retail companies based in Montserrado, Nimba and Bong counties.

C.2 Context: Demographics, Commercial Activity and Infrastructure

C.2.1 Overview

Liberia's population density exhibits significant regional variation (see Annex A). In broad terms, the country's Southeast²⁹ is less populous and has fewer major urban centres³⁰ than the rest of the country. However, such regional distinctions are not uniformly applicable (see Figure 2 for a population density map); considerable contrasts within regions and counties exist. These intra- and inter-regional differences in population density largely reflect the variations in commercial vibrancy and quality of infrastructure between Liberia's counties.³¹ The more economically active ones, such as Montserrado and Nimba, are more populous and enjoy better road networks than most other areas, while poorer counties such as River Cess and River Gee have fewer population centres and limited access to well-maintained

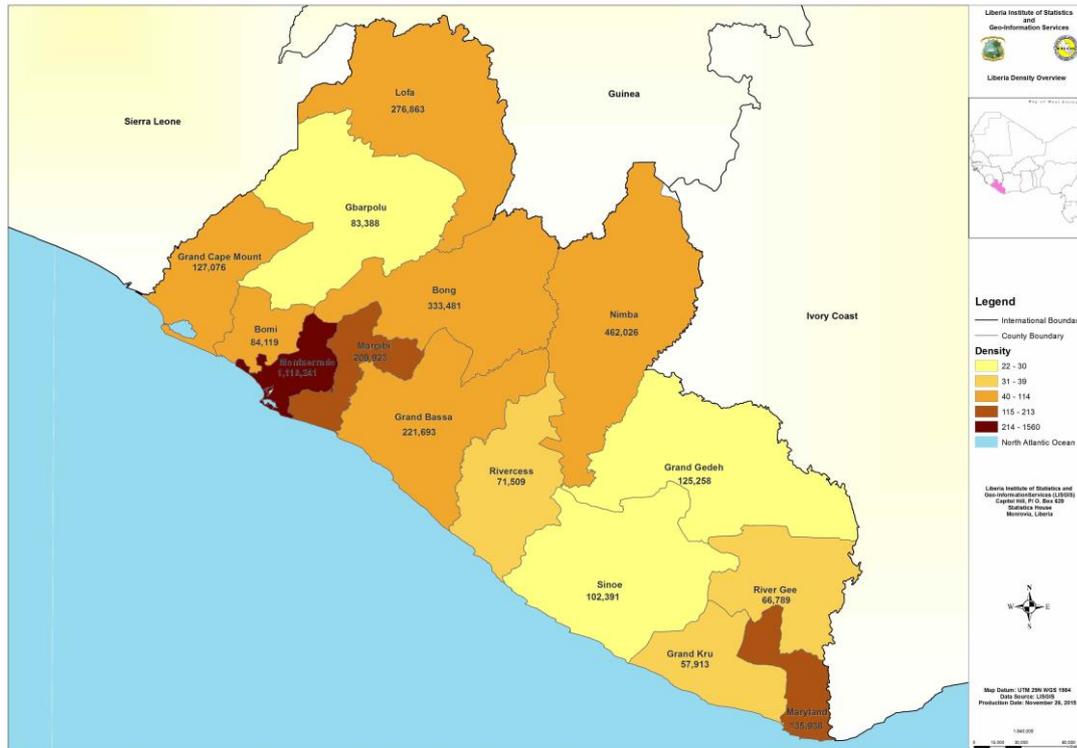
²⁹ The Southeast is defined in this study as being comprised of the following counties: River Cess, Grand Gedeh, Sinoe, River Gee, Grand Kru and Maryland

³⁰ Major urban centres are defined in Liberia as towns or cities with a population of 5,000 or more.

³¹ Liberia Institute of Statistics and Geo-Information Services, '2008 National Population and Housing Census: Preliminary Results', June 2008

transportation routes. This analysis is intended to identify where the market for mobile money has the greatest potential and where the most critical challenges lie.

Figure 2: Population Density



C.2.2 Northwest (Bomi, Grand Cape Mount and Gbarpolu)

While Bomi has 109 persons per square mile, Grand Cape Mount and Gbarpolu have 65 and 22 respectively, below Liberia’s average of 93. In addition, the Northwest’s only major urban centre, Tubmanburg (13,114), is located in Bomi. The administrative capitals of Grand Cape Mount and Gbarpolu, Robertsport and Bopolu, registered less than 2,000 inhabitants each in Liberia’s 2008 census.

Bomi, Grand Cape Mount and Gbarpolu have a rich array of natural resources, notably rubber, timber, gold, diamonds and iron ore. However, while a number of companies have won concessions in these counties (see Annex E),³² these resources have yet to be fully exploited. Production was slow to revive following the civil war,³³ and the Northwest’s infrastructure challenges, notably poor road networks and electricity supply, have hampered extraction activities. The collapse of the benchmark iron ore price in 2014, when it lost around 47% of its value following a global supply glut and falling Chinese demand for steel, has also brought most mines to a standstill. In December 2015, iron ore was being sold at US\$39.6 per metric ton while the cost of iron ore extraction in Liberia is US\$42.

³² For instance, Sime Darby Inc now has a concession for oil palm and rubber production in Bomi, while three companies – B & V Company, Bassa Timber & Logging and Sun Yeun – have logging concessions that are at varying stages of development in Grand Cape Mount. In addition, a number of mining companies, such as Western Cluster and Bea Mountain, are currently conducting exploration activities for iron ore, gold and diamonds.

³³ Republic of Liberia, Bomi County Development Agenda 2008-2012: http://www.mia.gov.lr/doc/Bomi%20CDA_web.pdf

Beyond the nascent development of the Northwest's natural resources, commercial activity is limited. Building Markets Liberia's database of local businesses serves as a useful proxy for the level of commercial vibrancy of Liberia's 15 constituent counties. Out of the 3,826 businesses registered with the organisation, only 70 are based in Bomi, Grand Cape Mount and Gbarpolu (see Annex A). This is also reflected by the main sources of employment in the Northwest. Agriculture, fisheries and forestry employs most economically active people in the region, accounting for 58%, 65% and 75% of the workforce in Bomi, Grand Cape Mount and Gbarpolu respectively (see Annex B). Within this sector, subsistence farming provides the main source of income. Beyond agriculture, wholesale and retail trade is the second largest employer in the region.

Although a small number of roads are paved, notably the Monrovia-Tubmanburg highway, Liberia's Northwest has acute infrastructure challenges. Damaged bridges, a difficult terrain comprised of thick forests and hills, and flooding during the annual May to October rainy season compound the problem of poor road conditions, hampering commercial activity in Liberia's Northwest in the process. These conditions hinder farmers from getting their produce to the market and essential goods being transported to and within the region.

C.2.3 North Central (Bong, Lofa and Nimba)

Bong, Lofa and Nimba are among Liberia's most populous counties, but their large surface areas reduce their population densities. Nimba and Bong have 105 and 97 persons per square mile respectively, while Lofa has 70. Nevertheless, these counties contain concentrated populations with seven out of Liberia's 18 major urban centres located in this region.

Liberia's North Central has considerable agriculture and mining potential. Significant mining concessions have been granted to China Union and Arcelor Mittal in Bong and Nimba counties respectively (see Annex E). However, while China Union revived production at the mine and exported the first 50,000 metric tons of iron ore in 2014, the benchmark price drop has disrupted further activity.

However, significant commercial activity takes place in Bong and Nimba beyond resource extraction. The second and fifth highest number of companies registered with Building Markets Liberia are based in Nimba and Bong respectively (see Annex C), and both counties host vibrant markets. Nimba in particular has a number of popular markets, with Ganta attracting visitors from Monrovia, Guinea and Cote d'Ivoire who engage in trading activities there.³⁴ Commercial activities in these counties are supported with a better road network than most other areas of Liberia. The highway connecting Monrovia to Ganta is one of the country's few major all-weather roads.

Lofa County, formerly Liberia's primary food producer and once known as the country's "bread basket", has experienced high levels of food insecurity following the civil war's end. Even as agriculture production has increased, the sector's ability to generate cash in Lofa is stunted by the county's underdeveloped rural infrastructure and limited access to Monrovia

³⁴ Republic of Liberia, Nimba County Development Agenda 2008-2012: <http://www.emansion.gov.lr/doc/NimbaCDA.pdf>

due to the poor condition of the Gbarnga-Mendikorma highway. This problem is especially acute during the rainy season when trucks carrying large quantities of farm produce are often unable to travel along this route. Even smaller vehicles face challenges and require considerably more time to transport their goods to the capital.

C.2.4 South Central (Montserrado, Margibi and Grand Bassa)

Liberia's South Central is the country's most populous and commercially active region. Combined, 3,069 of Building Market's companies are based in these three counties. Montserrado has a population density of 1,533 persons per square mile, while Margibi and Grand Bassa have 198 and 72 respectively. Montserrado's population is heavily concentrated in Monrovia, where 1,010,970 of the county's 1,144,806 inhabitants reside. Margibi and Grand Bassa also have significant urban centres, with Kakata and Buchanan among Liberia's largest towns.

As the gateway for foreign investment entering Liberia and host to around 80% of all companies registered with the Liberia Revenue Authority, Montserrado is Liberia's most economically significant county.³⁵ As a consequence, it is the only county where the agriculture sector does not dominate the local economy; instead, according to Liberia's 2010 Labour Survey, trade and services are the main source of employment (see Annex B). Montserrado also hosts a number of companies engaged in manufacturing activities. A comparatively good road network in and around Monrovia serves Montserrado's population and businesses. In some of the county's rural areas, however, roads are often poorly maintained and difficult to pass, especially during rainy season.

Businesses based in Margibi and Grand Bassa benefit from their proximity to Monrovia, the country's largest market for goods. As an indication of the level of commercial activity in Margibi and Grand Bassa, 388 of Building Market's companies are located there. While agriculture is the largest source of employments – 48% across both counties – the local economies are more diversified than other areas of Liberia. Wholesale and retail trade drives significant commercial activity, which has in part been associated with the port at Buchanan, a key export point for Liberia's natural resources.

A number of major mining and rubber concessions are also based in Margibi and Grand Bassa, but recent commodity price drops have reduced their contributions to the local economy. Firestone Liberia Inc in Margibi and Liberia Agricultural Company in Grand Bassa manage two of the country's largest rubber production facilities. However, while rubber exports increased by 6% in 2015, the decline of international rubber prices in recent years is likely to affect further investment and expansion in the sector. Two major international mining companies, Arcelor Mittal and BHP Billiton, have iron ore concessions in this region as well, but the 50% drop in the benchmark iron price in 2014 has also affected their operations.

While Margibi and Grand Bassa are connected to Monrovia with better road networks than Liberia's Northwest and Southeast – their respective county capitals are connected to

³⁵ Building Markets Liberia (2014) 'Gathering Competitive Momentum: Overview of the Liberian Economy', p. 20

Montserrado with paved roads – challenges remain. For instance, the Kakata-Monrovia highway, which links Margibi to Monrovia, is vulnerable to landslides.

C.2.5 Southeast (Rivercess, Sinoe, Grand Gedeh, Maryland, River Gee and River Kru)

Apart from Maryland, all counties in Liberia’s Southeast have a population density of between 27 and 38 persons per square mile, well below the country’s average. In addition, only five major urban centres are located across all six counties, two of which are in Maryland. The administrative capitals of Rivercess and Grand Kru, Cesstos City and Barclayville, only have 1,341 and 1,380 inhabitants respectively.

Subsistence farming is the most significant source of employment in this sparsely populated region, followed by wholesale and retail trade. In certain parts of the Southeast mining, logging and oil palm and rubber production activities have increased in recent years. Five companies have logging concessions in Rivercess, two of which (Liberia Tree & Trading and Atlantic Resources) are currently exporting. In Maryland, three companies have oil palm concessions, one of which (Cavalla Rubber Corporation) has already begun to produce. There are additional logging and mining concessions in Grand Gedeh. Sinoe and River Gee do not appear to have any active agriculture, rubber, logging, or mining concessions. The fact that only 167 of Building Market’s companies are based in all six counties suggests that business activity in the Southeast is less lively than elsewhere in Liberia.

Although a number of road-building projects are currently underway in the Southeast, this region’s infrastructure and access to Monrovia is especially limiting. The poor condition of the primary road connecting Nimba to Grand Gedeh, for instance, prevents travel along this route for several months every year, imposing limitations on transport options to Liberia’s Southeast from the capital. The problem is particularly acute in more rural counties such as Rivercess and Grand Kru.

C.2.6 Locating the Opportunities and Challenges

Given the logistical challenges involved in establishing agent networks and the state of Liberia’s infrastructure, an agent aggregator would face serious difficulties in parts of the country. The areas that offer a more benign environment for an agent aggregator to establish a physical presence are South Central Liberia, Nimba and Bong. These counties have better road networks, more bank branches, are more commercially vibrant, and have higher population densities. In contrast, the more rural counties – notably the Southeast (although not including Maryland), Gbarpolu and Lofa – pose particular problems, largely due to the poor conditions of the roads, challenging terrain, limited number of bank branches and low population densities.

C.3 Liquidity Analysis

Depending on the assessment of immediate needs and opportunities, it may be more important to focus initially on building agent networks in key population centres and expanding gradually from there. However, if national coverage is required from Day 1, then the distribution build-out will be more challenging due to the low footprint of bank branches to support agent liquidity. With the absence of bank branches in four counties (Gbarpolu, Grand Kru, River Cess and River Gee) and presence of only one branch in a further four counties (Bomi, Grand Cape Mount, Grand Gedeh and Sinoe), alternative sources of liquidity would need to be identified in order for an agent aggregator to establish a country-wide operation. As the analysis of commercial activity of Liberia's counties showed, wholesale and retail activities constitute the largest or second largest source of employment in every county. Although there is considerable variation, ranging from an estimated 4% of River Cess' workforce to 48% in Montserrado, this is a good indication of the substantial movement of cash within this sector and the extensive countrywide reach such networks have.

C.3.1 Quantifying Liberia's Trade Networks

The networks of importers, manufacturers, wholesalers and retailers that ensure continuous supply of widely consumed goods and building materials (mostly from Monrovia and nearby areas) to the rest of the country have significant potential to form the basis of an agent network. Not only do they generate significant revenues, they also rely on well-established commercial relationships that stretch from Liberia's capital to rural communities.

Table 13: Key Imported Consumer Goods

Commodity	Value (US\$) 2013
Bulk petroleum product and mineral fuels	293 million
Products of the milling industry	155 million
Other food and beverage products	81 million
Building materials (incl. cement)	62 million
Total	591 million

Source: Ministry of Commerce & Industry

Given the significant levels of informality in Liberia's economy, precise figures for the value of goods traded across the country are unavailable. But looking at the value of imports and manufacture of widely bought goods – notably food, beverages, petroleum products and building materials – offer some indication. As tables 13 and 14 show, the combined value of these goods, as recorded by the Ministry of Commerce and Industry, is approximately \$707 million. While a significant portion of these goods will be consumed in Monrovia, retailers further afield will still need to manage relatively sizable trade volumes.

Table 14: Value of Domestic Production of Key Goods

Commodity	Value (US\$) 2012
Alcoholic beverages	64 million
Staples	19 million
Grain mill products	17 million
Non-alcoholic beverages	16 million
Total	116 million

Source: Ministry of Commerce & Industry

C.3.2 Understanding Liberia's Trade Networks

Many companies engaged in trading activities combine different roles. For instance, importers will tend to simultaneously act as wholesalers and even retailers, while other firms will combine wholesale with retail roles. Although the lines between the different types of firms involved in supplying goods from source to end-customer are blurred, three broad categories of companies can be identified. Importers and manufacturers, most of whom are based in Monrovia and double as wholesalers; large retailers, who are based in key urban centres across the country and who sell to other business as well as end-users; and small retailers, who are mostly located in villages and sell their goods to end-users. In order to deepen our understanding of how trade is conducted in Liberia, we interviewed a number of importers and manufacturers in Monrovia, and wholesalers and retailers in Nimba County (see Annex F and Annex G for summaries of the interviews). Through these interviews, we have explored how goods are traded, how cash transfers are managed, and what would motivate actors involved in trading activities to become super agents.

Identifying the Key Players

At the apex of these trading networks sit a small group of major importers and manufacturers. According to the Ministry of Commerce and Industry, Liberia's top ten importers were responsible for bringing goods worth \$435 million into Liberia in 2013 (see Table 15). These entities tend to double as wholesalers; as a consequence, few companies, if any, are solely engaged in wholesale activities. A representative from a company that imports and distributes rice and scratch cards claimed that they generate monthly sales of around \$17 million across 72 proprietary outlets in all 15 counties. An executive from a company that imports cement claimed that his firm generates monthly revenues of approximately \$1.2 million from sales to retailers in 12 counties (excluding River Cess, Gbarpolu and Lofa).

With wholesale activities primarily concentrated in the hands of importers and manufacturers, the number of wholesalers outside Monrovia is limited. Even in Ganta, a key trading hub, no wholesale businesses of rice, cement or petroleum products are present. All retailers that were interviewed there claimed that they source their supplies directly from importers in Monrovia. As a consequence, these importers and manufacturers rely on a developed distribution system comprised of outlet stores and / or retailers to sell their products outside Liberia's capital.

Table 15: Top Ten Importers in 2013

Company	Import Volume (2013)
Total Liberia Inc	\$125 million
United Commodities Inc	\$70 million
Animata & Sons Inc	\$39 million
Supplying West Africa Trading Inc	\$36 million
Monrovia Oil Trading Corp	\$33 million
West Oil Investment Inc	\$31 million
Fouani Brothers Corp	\$28 million
Petro Trade Inc	\$28 million
NP (Liberia) Ltd	\$23 million
A-Z Corporation	\$22 million

Source: Ministry of Commerce & Industry

Beyond the importers and manufacturers that manage their own outlets, quantifying the number of retailers in Liberia is difficult to assess given the sheer number of companies involved, many of which operate informally. The lack of data on these entities also makes gauging their financial health challenging. Based on interviews conducted with owners of retail firms in Nimba, Liberia's retailers exhibit significant variation in size and geographical coverage. A number of retailers claimed to own several outlets spread across two counties, with their customer base comprised of smaller retailers in rural areas and end-users. Others stated that they own one shop that is restricted to selling to end customers. The monthly turnovers that retailers in Nimba claimed to generate also differed considerably. One beverages store in Ganta claimed to purchase between \$20,000 and \$25,000 worth of drinks per month, while another claimed to make monthly purchases of between \$2,353 and \$4,706.

Cash Management

Across Liberia, trade is facilitated with credit extended by importers and manufacturers to retailers. The repayments are made in cash or through bank deposits. Most of the Monrovia-based importers and Nimba-based retailers use banks to manage their cash. The rice importer claimed that some customers pay through bank deposits while the rest pay in cash at their proprietary outlets. The cement importer stated that most of his customers pay for their purchases by carrying cash to Monrovia, while a few customers make deposits to bank accounts. The majority of retailers interviewed in Nimba claimed that they pay their suppliers by depositing money in the bank; the remainder pay in cash. As the mobile money services in Liberia currently only offers a LD\$ platform, business-to-business transactions are only possible when small amounts are being transferred. With wholesalers paying importers in US\$, the exchange rate offered through MTN Lonestar's platform serves as a disincentive.

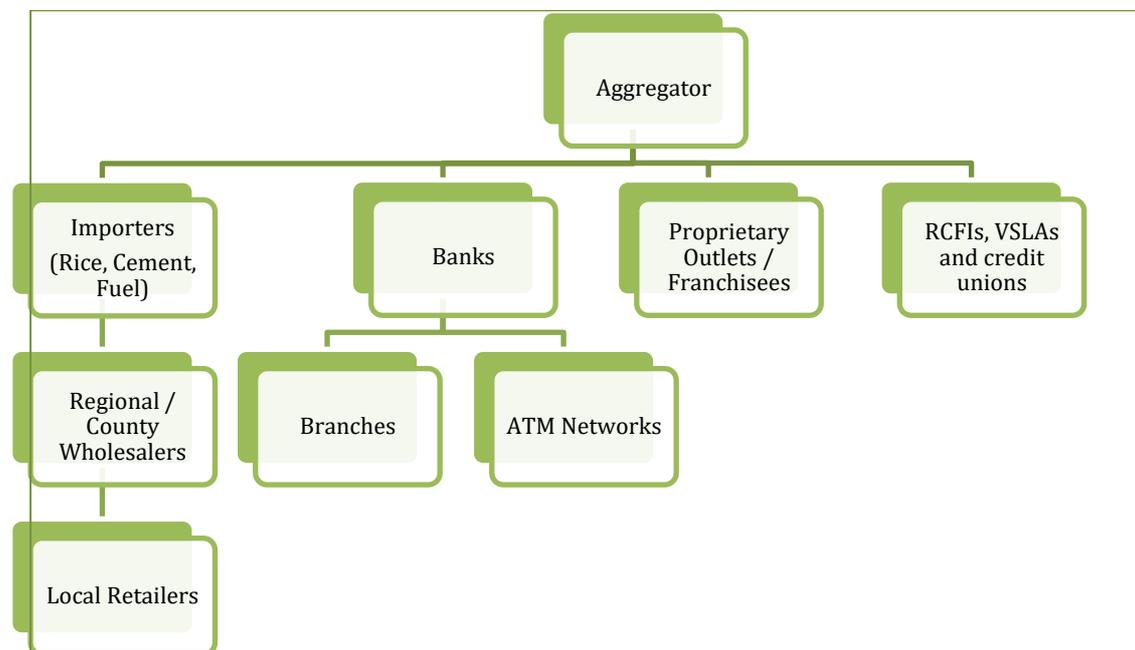
Assessing Trader Interest in becoming Super Agents

All importers and retailers interviewed expressed interest in the prospect of serving as super agents performing cash-in and cash-out duties for an agent aggregator. Their overriding motivation centred on the possibility that such a network could ease one of their key operational challenges, namely how to transfer cash. The two representatives from the import companies stated that such a system could reduce their credit risk and facilitate cash collections from wholesalers and retailers. Similarly, the six retailers noted that their participation in an agent aggregator network could simplify how they pay their suppliers in

Monrovia. Among those interviewed, the prospect of receiving a commission was a secondary motivation.

Given the quantities of money that flow from retailers to Monrovia-based suppliers, potential exists for an agent aggregator to use the cash held by retailers to support mobile money payments. In return, the agent aggregator would repay the credit that the retailers had received from their suppliers in Monrovia, thus helping to unlock an extra stream of liquidity. The trade in rice appears to offer particular promise. As rice supplies are sold at a slower rate than other goods, importers doubling as wholesalers extend more credit to retailers to reduce their inventory. As a consequence, rice suppliers would have greater incentive to secure their credit and facilitate the cash transfer from their customers to their office in Monrovia with the support of an aggregator.

The chart below captures the combination of resources that can be used by an aggregator for liquidity management and delivery of services to customers. In many areas, it is likely that wholesalers and retailers who are good suppliers of cash will not necessarily be the best people to handle customer transactions, especially for bulk payments to large numbers of recipients. It will therefore be necessary to complement the agent network with proprietary outlets and dedicated staff or franchisees that will coordinate with the liquidity suppliers for cash and liaise directly with customers. Based on the expected level of activity in different parts of the country, the aggregator can determine where these proprietary outlets are most needed and prioritize those areas.



C.4 Assessing the Commercial Opportunity

C.4.1 Calculating the Costs

Before estimating the potential market opportunity in Liberia and projecting future revenues, the likely operational costs that an agent aggregator will incur needs to be calculated. Based on other agent aggregators models in Sub-Saharan Africa, in particular Splash Mobile Money in Sierra Leone, such a company will require US\$2 million over a three year period to establish and manage a national network. This includes US\$300,000 in upfront costs for a technology platform and integrating it with banks and telecommunications companies, and running costs to cover staff, district offices, marketing, agent recruitment and monitoring, and ongoing technology support, which are likely to escalate to US\$60,000 per month.

In addition to estimating the operational costs, the potential for such an investment to generate returns will also need to be considered. In order to achieve an investment rate of return of 30% within five years, such a business would need to generate about US\$200,000 of earnings before interest, taxes, depreciation, and amortization (EBITDA) per month in the fifth year of operating. This means that if monthly operational costs are US\$60,000, net revenues of US\$260,000 will need to be generated.

C.4.2 Sizing the Market Opportunity

Given the limited traction mobile money has had in Liberia to date, and considering the operating costs associated with establishing and running an agent network, digitising high volume payment streams would significantly increase the commercial appeal for companies seeking to enter this space. As noted above, the estimated market size for G2P, D2P and B2P payments is around US\$371 million annually:

- **G2P – US\$171.5 million** (US\$1.1 million in social safety net payments every year; US\$166.7 million in GoL salary payments; and US\$3.7 million in NASSCORP beneficiary payments)
- **D2P – US\$116.5 million** (US\$68.3 million donor salaries to employees and US\$48.2 million in donor transfers)
- **B2P – US\$83 million** (in salary and benefit payments by registered entities annually dispersed to 665,432 people)

Realistically, only a small portion of these payments would be processed through a mobile money platform in the foreseeable future. Assuming that all payment streams listed above are digitised, and that an agent aggregator processes 10% to 20% of these payments, the transaction volume managed by this operator would be between US\$37.1 million and US\$74.2 million. This would be in addition to P2P payments, the market for which is impossible to accurately quantify given the high level of informality in Liberia's economy. However, a conservative estimate, based solely on the international and domestic remittances recorded by the CBL in 2014, suggests that this market segment is worth around US\$953 million. If 10% to 20% of these transfers are facilitated by an agent aggregator, that would increase the potential market by a further US\$95.3 million to US\$190.6 million. In total, therefore, the market size for an agent aggregator could be estimated at somewhere between US\$132.4 million and US\$264.8 million.

C.4.3 Projecting Future Revenues

While an agent aggregator’s path to viability will be primarily determined by the market size in payments, the commissions it charges are another important factor. As Table 16 shows, with a 1% commission the agent aggregator would need to facilitate US\$72 million worth of payments annually – almost 20% of the total market in G2P, B2P and D2P payments – just to cover its running costs. Given that most potential investors would want some return on their investment within a five-year period, this prospect lacks commercial appeal. For a 30% rate of return, and a 1% commission, an agent aggregator would need to process US\$312 million worth of transactions per annum by year five in order to achieve this aim, an unlikely prospect considering the realistic market size.

Table 16: Transaction Volumes Required to Achieve Target Revenues

Commission	Transaction Volumes Required to Cover Operating Costs of US\$720,000	Transaction Volumes Required to Generate Revenues of US\$3.12 m
1%	US\$72 million	US\$312 million
1.5%	US\$54 million	US\$234 million
2%	US\$36 million	US\$156 million

In order to be viable, therefore, the facilitation of bulk payments would require a 2% commission. This would mean that an agent aggregator’s operating costs would be covered if it processes a volume of US\$36 million payments, less than 10% of the G2P, D2P and B2P payment streams. Such an approach would be counterproductive for P2P payments if consumer adoption is to be encouraged. As Table 17 shows, however, when P2P payments at 1% commission are combined with bulk payments originating from government, donors and businesses that are processed with a 2% commission, the commercial opportunity remains attractive.

Table 17: Agent Aggregator Revenue Projections

Market Segment	Annual Transaction Volumes based on Different Percentages of Payments Processed via Mobile Money (US\$)			
	5%	10%	15%	20%
G2P (with 2% commission)	8.56m	17.15m	25.73m	34.3m
D2P (with 2% commission)	5.83m	11.65m	17.48m	23.30m
B2P (with 2% commission)	4.15m	8.30m	12.45m	16.60m
P2P (with 1% commission)	47.63m	95.26m	142.89m	190.52m
TOTAL VOLUMES	66.17m	132.36m	198.54m	264.72m
[REVENUES]	[847,000]	[1.69m]	[2.54m]	[3.39m]

C.5 Conclusion: Charting a Path for an Agent Aggregator

Given the myriad of challenges an agent aggregator would face in establishing a physical presence across Liberia, few viable paths to entry exist. Physical constraints, notably poorly maintained road networks, the concentration of cash-generating commercial activity in select

regions, and limited liquidity access mean that a country-wide agent aggregator network could only be established incrementally. The initial phase of an agent aggregator's entry into Liberia should focus on the following:

- *Recruit importers and wholesalers as super agents.*
An agent aggregator should focus on achieving national reach through a small number of super agents. Although retailers in Nimba County claimed to generate significant revenues, further analysis would need to be undertaken to confirm their ability to participate in an agent network. Instead, the first set of super agents to be recruited by an agent aggregator would need to be the small group of Monrovia-based importers and wholesalers, who have demonstrably robust turnovers and operate through sizable networks of outlets and / or distribution partners. Initially, two or three companies engaged in wholesale activities should be recruited as super agents. Selection criteria should be partly based on their geographical coverage and volume of sales they process every month. The main reason for keeping the number of super agents is to increase the incentive for their active involvement.
- *Aggressively expand across Montserrado, Margibi, Grand Bassa, Bong and Nimba counties.*
Combined, these counties host around 68% of Liberia's population, 90% of businesses, 75% of education and health workers, and 60% of public administration employees.³⁶ In addition, these areas have better maintained road networks and a reasonable number of bank branches between them. Within Liberia, therefore, the development of mobile money services is likely to be easiest and most lucrative in these areas, and an agent aggregator should concentrate resources in these areas.
- *Study how traders ensure continuous supplies to remote regions*
Traversing difficult terrain and navigating unpaved roads clearly poses considerable hurdles in parts of Liberia. However, key goods such as rice and petroleum products are still delivered to these areas, even during rainy season. According to one former rice trader, retailers stockpile key products in preparation for rainy season to ensure sufficient supplies in more remote regions. An agent aggregator should assess further how traders manage the logistical challenges they face in order to see how they can best process payments in these areas.
- *Hold partnership discussions with banks and telecommunications companies*
In preparation for entering Liberia, an agent aggregator would need to hold discussions with banks and mobile operators to explore how amenable they would be to forging partnerships.

³⁶ These estimates are based on i) Liberia's 2008 census, ii) data from the Liberia Revenue Authority and Building Markets Liberia and iii) the 2010 Labour Survey.

D. Recommendations

D.1 Short-term Recommendations

1. ***Support CBL in providing greater clarity and guidance on regulations affecting agent aggregators***

Discussions with CBL indicated they will fully support any initiative that helps providers achieve scale and accelerates the development of the ecosystem. Where

they do not have a standing policy on agent aggregators, they will be willing to review such an application if it came to them. In this context, CBL needs to provide clear guidance to encourage the introduction of agent aggregator models in Liberia who can help providers scale their footprint and solve the liquidity management challenge. The policy will need to strike the right balance between stimulation of agent network infrastructures and instilling safeguards to protect customers. Specifically, greater clarity will be needed on:

- Permissible aggregators models and roles of relevant actors (super-agents, master-agents, sub-agents and others players who play a role in the distribution model)
- Contracting and documentary requirements that need to be a part of legal agreements, particularly regarding the recruitment of sub-agents
- Liability for the actions the master-agent, sub-agent and other players executing service on behalf of Mobile Money providers
- Guidelines on branding, commissions, reporting obligations, training and other activities needed to ensure customer protection
- Necessary checks and balances to be setup by Mobile Money providers for monitoring of the distribution channel

2. *Conduct further analysis of high volume payment streams*

USAID recently funded a detailed study that mapped P2G payments. Within the timeframe of this study, only a cursory analysis has been possible, and further analysis would provide greater clarity on the opportunities and challenges of specific payments. To this end, it is recommended that a thorough study of high-potential revenue streams be conducted to map the volumes, frequency and average amounts of each identified stream. The mapping should also analyse the current transaction mechanism and payment process. This assessment will help reveal the pain points in the process, and opportunities for bringing in efficiencies through transition to mobile money.

D.2 Medium-term

3. *Encourage and support CBL to establish branch offices outside Monrovia*

With the liquidity challenges faced by the banking sector and the limited geographical distribution of bank branches outside Monrovia, Liberia's financial infrastructure does not presently offer a conducive environment for mobile money or the DFS ecosystem more broadly to develop. Given the added demands that are being placed on commercial and rural banks to assist with the payment of government salaries, the need to address this challenge is becoming increasingly urgent. A number of agents with MTN Lonestar have reported having insufficient cash on hand to satisfy all of their customers' needs. If mobile money services are to be expanded, solutions to this problem will need to be developed. Although the CBL has sought to address this problem in rural areas with support for the development of RCFIs, further steps

are required. Part of the solution should involve the CBL opening branch offices outside Monrovia.

4. Encourage and support other donors and government agencies to digitise high volume payment streams

Digitising bulk payments, beginning with G2P and D2P, has significant potential to stimulate Liberia’s DFS ecosystem and encourage the entry of an agent aggregator into the country. As a consequence, advocating the potential benefits to government partners and donors and encouraging them to digitise G2P and D2P payments should be a priority. This should be accompanied with support to help them overcome any technological challenges.

5. Conduct demand-side research in order to better understand consumer habits

At present, little is known about how people use their mobile phones or manage their finances in Liberia. While a growing body of research focused on supply-side barriers and how these can be overcome is developing, understanding the demand-side part of the equation is at a nascent stage at best in Liberia. Having an improved understanding of people’s financial habits and preferences, how they save and borrow, and when their income cycles occur could significantly contribute to identifying where the main opportunities and challenges exist for greater consumer adoption of mobile money.

6. Provide technical support to mobile money providers on agent management and liquidity

As seen from MTN Lonestar’s mobile money service, managing an agent network and ensuring it remains liquid are some of the key challenges operators face in Liberia. In part this is linked to the overall challenge of liquidity in the banking system and the country’s poorly maintained road network. Working with MTN Lonestar and any other future provider of mobile money services to help address these problems and help overcome some of these operational challenges could help them expand their presence beyond Montserrado County.

Annex A: Population Density by County³⁷

County	Population			
	Number	Surface area (square miles)	Density (persons per square mile)	Major Urban Centres
Bomi	82,036	750	109	Tubmanburg (13,114)
Bong	328,919	3,387	97	Gbarnga (34,046)

³⁷ Liberia census 2008

Gbarpolu	83,758	3,741	22	None
Grand Bassa	224,839	3,741	73	Buchanan (41,106)
Grand Cape Mount	129,055	1,993	65	None
Grand Gedeh	126,146	4,048	31	Zwedru (23,903)
Grand Kru	57,106	1,504	38	None
Lofa	270,114	3,854	70	Voinjama (26,594), Fova (19,522), Zorzor (5,131)
Margibi	199,689	1,010	198	Kakata (33,945)
Maryland	136,404	887	154	Pleebo (22,963), Harper (17,837)
Montserrado	1,144,806	737	1,553	Monrovia (1,010,970)
Nimba	468,088	4,460	105	Ganta (41,106), Sacleapea (12,117), Sanniquellie (11,415), Karnplay (7,664)
River Cess	65,862	2,160	30	None
Sinoe	104,932	3,914	27	Greenville (16,434)
River Gee	67,318	1,974	34	River Gbeh (7,313)

Annex B: Overview of Main Source of Employment by County³⁸

REGION	LABOUR FORCE PARTICIPATION (Number and %)	MAIN SOURCE OF EMPLOYMENT
--------	----------------------------------------------	------------------------------

³⁸ Liberia Labour Force Survey 2010

NORTHWEST	Bomi	31000 (47.5%)	Agriculture, fisheries and forestry (58%); wholesale trade and retail (14%); and manufacturing (11%).
	Grand Cape Mount	62000 (67.9%)	Agriculture, fisheries and forestry (65%); wholesale trade and retail (15%); and Mining (7%).
	Gbarpolu	34000 (68.7%)	Agriculture, fisheries and forestry (75%); wholesale trade and retail (10%); and Mining (5%).
NORTH CENTRAL	Bong	179000 (58.8%)	Agriculture, fisheries and forestry (66%); wholesale trade and retail (14%); and Manufacturing (5%).
	Lofa	135000 (69.1%)	Agriculture, fisheries and forestry (75%); wholesale trade and retail (11%); and Manufacturing (4%).
	Nimba	164000 (54.2%)	Agriculture, fisheries and forestry (66%); wholesale trade and retail (16%); and Manufacturing (6%).
SOUTH CENTRAL	Montserrado	362000 (38.3%)	Wholesale trade and retail (47%); agriculture, fisheries and forestry (8%); Manufacturing (8%); construction (6%); transportation (5%); and education (5%).
	Margibi	75000 (41.1%)	Agriculture, fisheries and forestry (48%); wholesale trade and retail (20%); and manufacturing (12%).
	Grand Bassa	75000 (50%)	Agriculture, fisheries and forestry (48%); wholesale trade and retail (31%); and manufacturing (8%).
SOUTHEAST	Grand Gedeh	27000 (47.2%)	Agriculture, fisheries and forestry (54%); wholesale trade and retail (24%); and Mining (4%).
	Grand Kru	26000 (61.1%)	Agriculture, fisheries and forestry (78%); and wholesale trade and retail (9%).

	Maryland	28000 (36.8%)	Agriculture, fisheries and forestry (48%); wholesale trade and retail (18%); manufacturing (14%); and education (9%).
	River Cess	35000 (68.6%)	Agriculture, fisheries and forestry (88%); and wholesale trade and retail (4%).
	Sinoe	18000 (25.4%)	Agriculture, fisheries and forestry (55%); wholesale trade and retail (10%); and education (9%).
	River Gee	22000 (51.1%)	Agriculture, fisheries and forestry (81%); and wholesale trade and retail (6%).

Annex C: Companies Registered with Building Markets Categorised by County and Sector (1)³⁹

	NORTHWEST			NORTH CENTRAL			SOUTH CENTRAL		
	Bomi	Grand Cape Mount	Gbarpolu	Bong	Lofa	Nimba	Montserrado	Grand Bassa	Margibi
Primary Industry (incl agriculture and fisheries)	1	2	1	6	9	7	52	3	6
Automotive				6	4	21	124	6	12

³⁹ Building Markets Liberia, November 2015

Business and Consulting Services				7		3	70	3	
Construction and Renovation	9	7		23	14	34	322	35	50
Financial and Legal Services				1		4	40	2	
Food and Beverages	4	8		25	12	48	284	25	34
Handicrafts and Artisans		2		7	1	14	230	12	5
Health, Medicine and Recreation	5			2		6	100	6	9
Heavy Machinery / Equipment	2	4		2			56	6	2
Home Essentials	3	1		14	2	16	199	12	19
Household and Industrial Services		1				4	104	5	4
IT Services and Equipment				5			65	2	1
Laundry and Dry Cleaning		3					10		1
Manufacturing				5	1	3	24	5	3
Media and Communication		1		1	1	3	45	3	1
Office Furniture, Equipment and Supplies				2		1	65	4	5
Oil, Coal, Fuels and Natural Gas	1	1		8	1	10	40	9	2
Printing and Copying		1		2	3	6	131	4	1
Real Estate and Insurance							28		1
Restaurants and Catering	5	5		13	1	17	284	20	7
Scientific Research							9		
Security Services and Equipment	1				1	3	75	3	5
Telecommunication Services and Equipment					1	1	35	1	
Transportation, Logistics and Courier Services					1		160	3	8
Travel, Accommodation and Rentals		1		6	3	12	59	13	14
Wholesalers		1		15	3	18	70	7	9
TOTAL	31	38	1	150	58	231	2681	189	199

Annex D: Companies Registered with Building Markets Categorised by County and Sector (2)⁴⁰

SOUTHEAST						
	Maryland	Grand Gedeh	Grand Kru	River Cess	River Gee	Sinoe
Primary Industry (incl agriculture and fisheries)	1	1				
Automotive	7	5				2
Business and Consulting Services		1				

⁴⁰ Building Markets Liberia, November 2015

Construction and Renovation	20	8				6
Financial and Legal Services						
Food and Beverages	16	3				11
Handicrafts and Artisans		2				2
Health, Medicine and Recreation						1
Heavy Machinery / Equipment						
Home Essentials	9	2				1
Household and Industrial Services						
IT Services and Equipment		1				
Laundry and Dry Cleaning						
Manufacturing		1				1
Media and Communication						
Office Furniture, Equipment and Supplies	1	3				
Oil, Coal, Fuels and Natural Gas	2	2				
Printing and Copying		6				
Real Estate and Insurance						
Restaurants and Catering	5	7				
Scientific Research						
Security Services and Equipment						
Telecommunication Services and Equipment						
Transportation, Logistics and Courier Services						
Travel, Accommodation and Rentals	4					3
Wholesalers	15	14				4
TOTAL	80	56	0	0	0	31

Annex E: Concession Companies by County⁴¹

County	Sector	Company	Activities	Status
Bomi	Mining	Western Cluster	Iron ore	Exploration
		Bea Mountain	Gold & Diamond	Exploration
	Agriculture	Sime Darby, Inc.	Oil Palm & Rubber	Production/Selling/Planting Oil Palm
Bong	Mining	China Union	Iron Ore	Production & Shipment

⁴¹ Government of Liberia, National Bureau of Concessions

		BHP Billiton	Iron Ore	Exploration	
		AmLib Inc.	Gold	Exploration	
Gbarpolu	Forestry	Alpha Logging	Logging	Production	
		B & V Company	Logging	Production	
Grand Bassa	Mining	Arcelor Mittal	Iron Ore	Production & Shipment	
		Agriculture	Liberia Agricultural Company	Rubber	Production & Export
			LIBINCO, Inc.	Oil Palm	Nursery & Planting
			Tarpeh Timber	Logging	Production
			Akewa Group	Logging	Production & Export
Grand Cape Mount	Mining	Bea Mountain	Gold & Diamond	Exploration	
		Forestry	B & V Company	Logging	Production
			Bassa Timber & Logging	Logging	Pre-felling Operations
			Sun Yeun (1)	Logging	Production & Sawmilling
			Sun Yeun (2)	Logging	Not too active
Grand Gedeh	Mining	Putu Iron Ore Mining	Iron Ore	Exploration	
		AmLib Inc.	Gold	Exploration	
	Forestry	Euro-Liberia Logging	Logging	Pre-felling Operations	
		Geblo Logging	Logging	Production & Export (NOT ACTIVE)	
		International Consultant Capital	Logging	Production	
Grand Kru	Forestry	Atlantic Resources	Logging	Production & Export	
Lofa	Forestry	Alpha Logging	Logging	Production	
		Ecwood	Logging	Logging & Sawmilling	
Margibi	Mining	BHP Billiton	Iron ore	Exploration	
	Agriculture	Firestone Liberia, Inc.	Rubber	Production & Export	
		Salala Rubber Corporation	Rubber	Production/Selling	
Maryland	Agriculture	Cavalla Rubber Corporation	Oil Palm & Rubber	Production/Selling	
		Maryland Oil Palm Plantation	Oil Palm	Nursery & Planting	
		Golden Veroleum, Inc.	Oil Palm	Nursery & Planting	
	Forestry	Atlantic Resources	Logging	Production & Export	
Montserrado					
Nimba	Mining	Arcelor Mittal	Iron ore	Production & Shipment	
		BHP Billiton	Iron ore	Exploration	

	Agriculture	Liberia Company (Cocopa)	Rubber	Production/Selling
River Cess	Forestry	EJ & J Investment	Logging	Production
		Liberia Tree & Trading	Logging	Major Producer and Exporter
		Euro-Liberia Logging	Logging	Pre-felling Operations
		International Consultant Capital	Logging	Production
		Atlantic Resources	Logging	Production & Export
River Gee				
Sinoe	Forestry	Geblo Logging	Logging	Production & Export (NOT ACTIVE)

Annex F: Summary of Interviews with Importers in Monrovia

1. Importer 1	
Business	Rice and scratch cards
Location	HQ in Monrovia with 72 proprietary outlets across all 15 counties
Supply source	Rice is imported; scratch cards are purchased from the mobile network operators

Customers	Customers are mainly wholesaler-retailers who purchase in bulk for further distribution to smaller retailers and end users
Business volumes	Company claims to handle 70% of airtime distribution and 60% of rice imports. That would translate to approximately \$7M of monthly scratch card sales and \$10M of monthly rice sales throughout the country
Cash management	Customers make payments through bank deposits and cash payments at various outlets. The firm already works with Lonestar as a mobile money super agent
Incentives for becoming a super agent	Reduce credit risk by facilitating collections from customers who take stock to sell and pay later. Although they are already familiar with mobile money, a dedicated 3 rd party can help to improve cash collection
Other	N / A
2. Importer 2	
Business	Cement
Location	HQ in Monrovia
Supply source	Imported
Customers	Key wholesalers mainly in 12 counties excluding Lofa, River Cess and Gbaportu. Smaller volumes are sold directly to retailers
Business volumes	Monthly sales of around \$1.2M (~100K tonnes sold annually)
Cash management	Most buyers move with cash to Monrovia. Some make deposits to bank accounts. No use of mobile money at present.
Incentives for becoming a super agent	Reduce credit risk and facilitate collections from wholesalers and retailers
Other	Wholesalers and retailers may not necessarily be willing to take on the customer-facing duties of agents but can still serve as sources of cash in their local communities.

Annex G: Summary of Interviews with Retailers in Nimba

1.	
Business	Petroleum and cement
Location	3 outlets in Ganta; 1 in Gbarnga City; 1 in Tappita City.
Supply source	Monrovia, every two weeks. Money is deposited in the supplier's account in advance of purchase. Also uses mobile money to pay supplier.

Customers	Customers from the street; other petrol stations. People from nearby villages and towns will purchase petrol from Ma Queen and take back on motor bikes. For cement just sells for cash; for petrol gives credit to trusted customers.
Business volumes	Purchase \$12,000 worth of petrol every month. Sell 10,000 gallons per week. Purchase 4,000 bags of cement per month.
Cash management	The different branches reconcile the cash every week give it to the owner. He deposits in the bank.
Incentives for becoming a super agent	Support paying suppliers in Monrovia.
Other	N / A
2.	
Business	Electronics
Location	1 outlet - Ganta
Supply source	Monrovia - paid up front.
Customers	N / A
Business volumes	Monthly sales of around \$30,000
Cash management	Keep cash in bank.
Incentives for becoming a super agent	N / A
Other	Estimated that there are 5 electronics shops in Ganta with similar sales volumes. Has acted as a Lonestar agent. The commission was fine, but poor customer service. Very slow to convert electronic money to cash.
3.	
Business	Petrol
Location	4 branches in Ganta and 1 elsewhere in Nimba.
Supply source	Monrovia - deposit money in importer's account. Always cash up front.
Customers	Supply 8 other stations in Ganta. Sells on credit to certain customers
Business volumes	28,000 gallons per week across all 4 branches in Ganta. Unsure at the time of the interview how much the other branch sells.
Cash management	When money is collected, cash deposited in the owner's bank account.
Incentives for becoming a super agent	Help agents get stock and secure credit.
Other	Estimate that there are 6 petrol traders in Ganta with similar volume.
4.	
Business	Electronics
Location	Ganta
Supply source	Monrovia - every week
Customers	Sells to end user.
Business volumes	\$7,000 to \$10,000 every week in revenue.

Cash management	N / A
Incentives for becoming a super agent	There are so many delays in banking system - delays business. Finding another way to facilitate could be beneficial.
Other	N / A
5.	
Business	Alcoholic and non-alcoholic beverages
Location	Ganta
Supply source	Factories in Monrovia - pay cash into the bank accounts of suppliers.
Customers	Supplies people from the street and other traders Nimba, neighbouring counties and Guinea.
Business volumes	Purchase of \$20,000 to \$25,000 per month.
Cash management	N / A
Incentives for becoming a super agent	N / A
Other	N / A
6.	
Business	Petrol
Location	1 petrol station in Saclepea
Supply source	Fuel is purchased from an importer in Monrovia. They pay in cash upfront.
Customers	Customers include locally operating NGOs. Customers are generally drawn from Saclepea and beyond. Will extend credit to known customers.
Business volumes	Approximately 6,000 gallons of petrol are bought and sold every month.
Cash management	N / A
Incentives for becoming a super agent	N / A
Other	N / A
7. MIATA	
Business	Alcoholic and non-alcoholic beverages
Location	Ganta
Supply source	Drinks sourced from Monrovia
Customers	Sells to customers form Ganta and further afield, notably Bong.
Business volumes	Sales of LD 50,000 to LD 100,000 per week (approximately \$543 to \$1,086 per week).
Cash management	N / A
Incentives for becoming a super agent	N / A
Other	N / A