

Credit Participation and Access in postwar Economy: Evidence from Small Scale Enterprises in
Liberia

MUSA DUKULY,
Instructor, University of Liberia
Email: suawantiwar@yahoo.com
Cell: +231880647751

A paper to be presented at the African Finance Workshop in South Africa on August 7 & 8, 2012.

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Abstract

Small enterprises in post-war Liberia have huge potential of reversing negative consequences of conflict and spurring economic growth, but they are trapped in financing difficulties. The argument is reinforced that the credit market of Liberia is segmented and underdeveloped, with high level of asymmetric information, which has implications for screening errors, credit market participation and access. Suggestively, the development of credit market is critical to successful credit intervention, because it determines the strength of regulatory system; prudential guidelines; pricing of credit and ultimate ability of the small firms to participate in the credit market. The paper focuses on post-war period, looking at credit market participation and access in order to facilitate holistic integration of small enterprises in credit programs of Liberia. The paper immensely inform financial policy and add to existing literature by providing support to existing theories and presenting new evidence on the contextual nature of interaction between small firms and credit market in post-war economy. Microeconomic models and firm level micro data gathered from surveying of small-scale firms using the Liberia National Account of the Establishment Survey is used to buttress discussion. The answerable research question is: what factors influence credit market participation and access in a post-war economy? Credit market participation and access to credit are associated with diversity of factors such as credit market variables, skill/experience, firm size, performance indicators and market/institutional environment that defines firm operations. Hence, easing collateral requirements, strengthening prudential guidelines in regulatory systems, sensitizing borrowers, maintaining affordable and growing entrepreneurial culture are critical in developing credit markets, thus relaxing financial constraints.

ACRONYMS

ACDB	AGRICULTURAL COOPERATIVE DEVELOPMENT BANK
CBL	CENTRAL BANK OF LIBERIA
CCA	COMMON COUNTRY ASSESMENT
CFSNS	COMPREHENSIVE FOOD SECURITY AND NUTRITION SURVEY
EU	EUROPEAN UNION
IFC	INTERNATIONAL FINANCE CORPORATION
IFPRI	INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
IMF	INTERNATIONAL MONETARY FUND
GoL	GOVERNMENT OF LIBERIA
GDP	GROSS DOMESTIC PRODUCT
HIPC	HIGHLY INDEBTED AND POOR COUNTRY
LEAP	LOCAL ENTERPRISE ASSISTENCE PROGRAMME
LIMPAC	LIBERIA MACROECONOMIC POLICY ANALYSIS CAPACITY BUILDING PROJECT
LISGIS	LIBERIA INSTITUTE FOR STATISTIC AND GEO-INFORMATION SERVICES
LUBI	LIBERIA UNITED BANK INCORPORATED
MNL/MNP	MULTINOMIAL LOGIT MODEL/MULTINOMIAL PROBIT MODEL
MSEs/SMEs	MICRO AND SMALL SCALE ENTERPRISES/SMALL AND MICRO ENTERPRISES
MFI	MICROFINANCE INSTITUTIONS
NGOs	NON GOVERNMENTAL ORGANISATION
NHDR	NATIONAL HUMAN DEVELOPMENT REPORT
NHSB	NATIONAL HOUSING AND SAVING BANK
TI	TRANSPARENCY INTERNATIONAL
UN	UNITED NATIONS
UNIDO	UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION
UNCDF	UNITED NATIONS CAPITAL DEVELOPMENT FUND
UNDAF	UNITED NATIONS DEVELOPMENT ASSISTENCE FUND
UNDP	UNITED NATIONS DEVELOPMENT PROGRAMM
UNDESA	UNITED NATIONS DEPARTMENT OF ECONMIC AND SOCIAL AFFAIRS

1.0 BACKGROUND, MOTIVATION AND PROBLEM

1.1 Introduction

Financial access is vital for economic growth and poverty reduction. Across Africa, access to finance is rightly seen as a key to unlocking growth for the poor, as much as for expanding trade (Hulme and Mosley, 1996; Green *et al.*, 2008, Honohan and Beck, 2007). Green *et al.*, (2008) note that there is much less literature on micro and small-scale enterprises (MSEs) in developing countries. Few studies (Green *et al.*, 2008, Atieno, 2009; Aryeetey *et al.*, 1994, Akoten et al, 2010) have addressed factor influencing access to credit among small enterprises in Africa with less emphasis on postwar economy.

Most theories (Miller-Mondigliani, 1958; Fazzari *et al.*, 1988; Myers, 1984) on firms financing have been applied to large/medium firms, with limited focus on small enterprises. Miller-Modigliani (1958) argue that the source of financing does not matter for firms, but this is rarely the case for small enterprises, which evidently required external capital to grow. From the pecking order argument that is anchored to asymmetric information, firms prioritize the source of financing from internal to external, but the former are always insufficient for firms to undertake the required level of investment (Fazzari *et al.*, 1988). This presupposes that though financial institutions are disposed to excess liquidity, small firms are reportedly faced with financial constraints.

The scope of small firms financing problem, which is conceived to be mitigated by collateral availability, is wider than asymmetric information. Rigid credit policy, lack of training, and development related problems are other issues necessary to address problem of asymmetric information other than absolutely regarding collateral as prime remedy (Bigsten *et al.*, 2003). This inefficient nature of the credit market presupposes the lack of adequate information on credit market participation and access to credit. So, the research question that follows is what factors influence small enterprises participation in the credit market and have access to credit?

Table 1: Constraints to SMEs in selected post-war countries

Country	% of Firms Identifying Tax Rates as Major Constraint	% of registered Firms Competing Against Unregistered or Informal Firms	% of Firms with Line of Credit or Loans from Financial Institutions	% of Firms With a Checking or Savings Account	% of Firms Using Banks to Finance Investments	Loans Requiring Collateral (%)	% of Firms Identifying Access to Finance as a Major Constraint
Liberia	18.97	66.21	14.01	67.80	10.10	86.90	34.99
Guinea	39.36	62.80	5.96	53.88	0.87	55.56	58.30
Sierra Leone	42.52	80.34	17.37	67.80	6.90	83.44	34.57
Rwanda	44.65	47.07	37.58	82.72	15.90	96.66	35.95
Mozambique	30.80	75.45	14.19	75.69	10.54	90.58	50.10
Angola	23.00	77.68	4.14	79.01	2.13	93.45	55.26

Source: Enterprise Survey, 2009

Despite the huge relevance of MSEs, Table 1 reports how small firms in selected sub-Saharan Countries are faced with variety of constraints. In Liberia, MSEs are faced with multiple constraints aside from financing. Based on World Bank Enterprise Survey (2009) and Kaliba *et al.* (2010) on Liberia, other constraints affecting MSEs are lack of marketing, equipment and technology, external competition, inputs problems, licensing, registration requirement and institutional constraints. However, lack of access to finance is noted in World Bank Enterprise Survey as the dominant constraints to MSEs in Liberia due to collateral requirement. In Africa, Aryeetey *et al.* (1997), Fatoki and Odeyemi (2010), Bartra *et al.* (2003), Ayyagari *et al.* (2008), Bigsten *et al.* (2003), Bigsten and Soderbom (2006), Atieno (1994) noted financing as the leading constraint experienced by small firms. In Liberia, firms with line of credit from financial institutions constitute 14.01 percent; firms using banks to finance investments represent 10.10 percent¹ and firms identifying access to finance and collateral as a major constraints account for 34.9 percent and 86.9 percent respectively (Enterprises Survey, 2009).

The Liberia's Poverty Reduction Strategy (PRS, 2008) unveil several problems facing the financial industry, inclusive of poor access to loan, high intermediation costs (especially in rural areas), high volume of non-performing-loans, ineffective judicial procedures for loan recovery, and inadequate

¹ Slightly lower than sub-Sahara Africa, where 14.5% of firms use banks to finance investment

credit risk management systems. This assertion aligned with acknowledgement by Kaliba *et al.* (2010) that it is difficult to initiate, expand and own business in Liberia due to limited access to finance. In fact, the recent World Bank Survey (RPED) of SMEs shows that one of the major impediments to accelerating SMEs development is lack of access to finance, which would impede economic growth, employment and increase poverty.

Majority of those engaged with investment in small enterprises often seek finance through informal credit sources, compared with 10.1 percent from formal credit sources (World Bank Enterprise Survey, 2009). According to the Comprehensive Food Security and Nutrition Survey (CFSNS, 2006)², 53 percent of households reported access to credit, but the most common way to access credit was borrowing from friends or relatives (where 38 percent of all firms reported to have done so). Susu-clubs, an alternative source (informal) used to generate start-up capital (about 42 percent), are inadequate means of financing viable investment in urban Liberia, but yet there is no details about how the few small enterprises access credit in the face of the difficult business environment. Efforts targeted at small enterprises are based on the premises that they are the vital engine of economic development, but market and institutional failures impede their growth, thus justifying credit intervention programs.

According to United Nations Capital Development Fund (UNCDF), lack of comprehensive financing strategy is a hindrance to an efficient credit program in Liberia. This hindrance is partly due to the lack of comprehensive evidence, which this study has ventured to elicit. Moreover, the lack of empirical evidence on testable hypothesis on credit market participation and access by small enterprise in a post-war Liberia is vital impetus for the study.

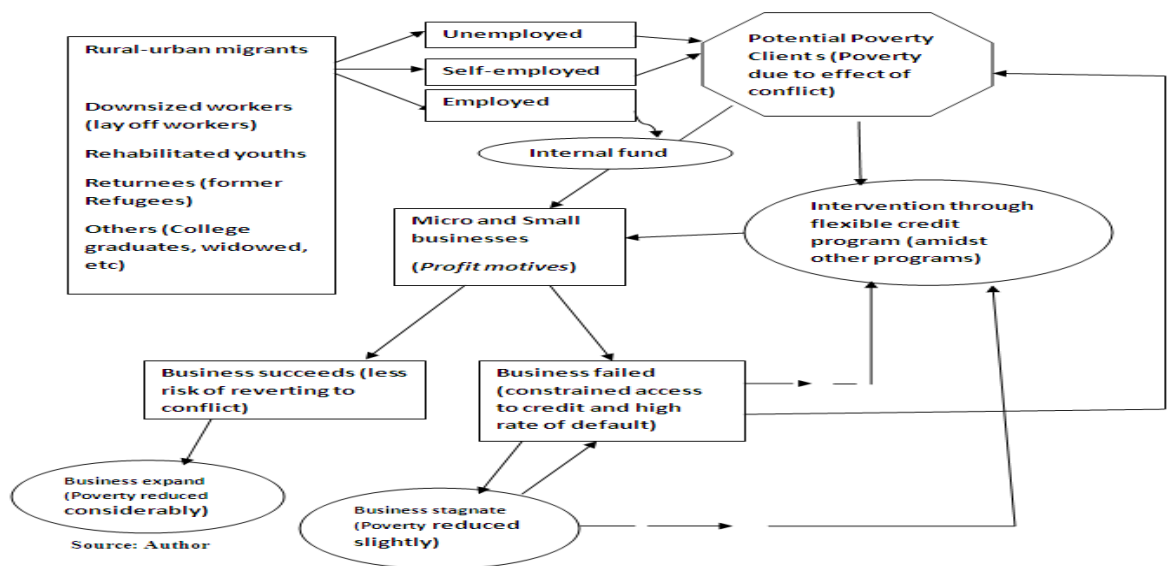
1.2 Prevailing post-war socioeconomic issues

Successful operation of micro and small scale firms is critical for the attainment of pro-poor growth, to minimize Liberia's reversion to political conflict. Viable employment opportunities, as well as useful skills and education that could serve as potential instrument to spur Liberia's

² The Comprehensive Food Security and Nutrition Survey (CFSNS) is based on cross-cutting assessment of the credit market.

investments, diminished during the conflict. Thus, majority of those who survived the civil conflict are engaged in diverse business ventures, with financing difficulties. Financing of small businesses is vital for economic growth to spur solidarity and assist war-torn community like Liberia to rebuild and even reconcile.

Figure 1: Socioeconomic framework of small enterprises in postwar Liberia



In this study, a framework (Figure 1) is developed to depict the post-conflict socioeconomic scenario of Liberia. This framework takes into account the categories of people, means of economic activities, intervention strategy and triggered effect on small firms. Three sets of agents are often considered in the urban credit market of Liberia: households/firms as potential borrowers, formal lenders (such as banks) and informal lenders (such as money lenders, relatives and friends; ROSCAs). As indicated in Figure 1, the post-war economic situation in Liberia is characterized by massive rural-urban migration, lay-off public workers, large number of war affected rehabilitated youths, returnees (refugees) from other countries and large unemployed college graduates.

Based on these issues, our framework considers three economic situations in which urban inhabitants in Liberia fall: unemployed, self-employed and employed. Given the high poverty incidence in postwar Liberia, we assume in the framework that most of the self-employed and unemployed workers are potential poverty clients who are forced to venture into micro and small

scale businesses financed through internal funds (owned funds) or intervention credit programs (formal or informal). With the poor economic condition, it is assumed that micro and small scale businesses are mainly financed through credit sources for business expansion or start-up³. From these credit sources, firms borrow from formal lenders, informal lenders or both for profit maximization. However, firms' characteristics, the market environment and credit requirements may contribute to success or failure of accessing external finance. Formulation of policies for increased access to finance is imperative for businesses to start and grow in Liberia (Kaliba *et al.*, 2010). But small firms are often affected by imperfections in financial markets to obtain credit.

In the context of market segmentation from the perspective of the framework, it is observed that micro and small firms with opportunities to invest in positive net present value projects in Liberia may be blocked from doing so because of adverse selection or moral hazard problems. The situation inducing credit rationing in post-war Liberia is slightly different given the risky nature of the business environment. Financial institutions in post-war Liberia mostly use credit rationing as risk mitigating strategy of averting possible financial loss. Since credit rationing is typical in credit markets of Liberia, some micro and small scale firms receive full loan amount while others get partial or are denied the amount of the loan applied for⁴. Finally, the framework further indicates that based on firms' credit market participation, there is possibility for firm to defaults, which may distort continuation of credit intervention. Credit default may be due to high costs of loans, information asymmetry and unfavorable investment climate. High level of credit defaults may result to distortion in economic activities, thereby leading to low growth and minimum reduction in poverty thereby further requiring intervention. Thus, lack of information on these issues could hinder policy formulation. The remainder of this paper is organized as follows: section two (II) provides an overview of the economic situation of Liberia to further motivate the focus of this paper. Section three (III) offers overview of theoretical framework, data and modeling issue. Section four (IV) presents the parametric and non-parametric analysis. Section five (V) is an informative conclusion and implications for policy consideration.

³ Aryeetey et al (1997) points that start-up financing of micro businesses by most enterprises in Africa are primarily funded by sources of the informal units such as susu groups, friends, relatives and credit societies,

⁴ Often loan applicants learn to exaggerate their credit needs to increase chances of requesting amount higher to their actual needs

2.0 Overview of Recent Economic Developments in Liberia

Liberia has a small economy, whose population is about 3.8 million, but the country is currently ranked as one of the lowest human development countries worldwide. The human development index is 0.364 (ranks as 162 out of 169 in 2010) with more than 60 percent living below poverty level, and per capita income averaging 193 USD from 2006-2010, declining from 548 USD in 1989. Thus, Liberia is now one of the poorest African Countries with an inequality represented by Gini coefficient ⁵of 52.6 (African Economic Outlook, 2011). Although the economy has experienced steady growth over the last three years averaging 7-8%, the unemployment rate in the formal sector is recorded at 80 percent⁶ while the informal sector contributes an average of about 80 percent to the total employment from 2007-2009 (GoL, 2009). Massive rural-urban migration, resulting into a large informal sector, has become one of the major policy challenges.

Table 2 reports the shares of commercial bank's credit by sector and contributions of sector to employment and GDP.

Table 2: Share of Employment, GDP and Commercial Bank Loans by Sector (2007-2009)

Sector	Share of Banks loans by sector (%)			Share of Employment by sector (%)			Share of GDP (%) by sector		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
Trade, Hotel & Restaurant	21.50	29.80	31.9	5.89	1.69	1.58	4.9	6	10
Transport, Storage & Communication	5.10	11.80	14.4	0.35	0.84	0.80	4	4.2	6
Construction	6.60	8.80	11	0.16	0.07	0.24	2	4.1	9
Agricultural	4.90	5.10	3.20	5.40	3.80	5.02	44.40	42.16	41.73
Mining and Quarrying	0.0	0.40	0.10	0.50	0.24	0.27	0.17	0.16	0.15

Sources: CBL (2009), GoL (2009)

⁵ Gini coefficient of one (1) defines perfect inequality, while zero Gini is perfect equality

⁶ This unemployment rates is considered by the Government of Liberia based on conjecture given the collapse of several concession companies throughout the country. The estimation is not based on any comprehensive survey to ascertain the composition of the labor market.

Total credit to private sector (as percentage of GDP) increased to 15.5 percent in 2009, compared with 11.6 percent in 2008 and 9.3 percent in 2007. Unlike in the pre-war period, post-war Liberia's economy is highly dependent on the Agriculture and the Trade, Hotel and Restaurant Sectors, as evidenced by their respective contribution to total employment. Though the Agricultural Sector contributes about 5 percent to employment, its share of banks loans is less, compared with the Construction Sector which received about 9 percent of banks' loan but contribute minimally to employment. While banks generally provide short-term loan contingent on collateral, the distribution of credit to sectors partly explains reason for the low reduction in poverty since majority of the credit does not seem to directly target more productive businesses.

2.1 The financial sector

Since independence in 1847, foreign bank (s) conducted monetary policy on behalf of the Government of Liberia until 1974, when the National Bank of Liberia was established. The transition from National Bank of Liberia to the Central Bank of Liberia (CBL) was effected in 1999 due to numerous shortcomings associated with the former.

In terms of financial deepening, it is observed in Table 2 that both broad money (M2)/GDP and credit to private sector/GDP ratio as measures of financial deepening have shown increasing performance from 2005 to 2010 (after the war in 2004), with persistent increase. M2/GDP ratio increased from 18.4 percent in 2005 to 33.2 percent in 2010. This reflects the growing competitiveness of the formal financial sector. In terms of credit to private sector as share of GDP, there has been improvement since the end of the conflict. However, these improvements do not seem significant as they are generally less than 20 percent, compared with other developing countries. Perhaps, this could be reflective of huge share of public sector in total lending from banks, which could crowd-out private sector or mitigate credit to SMEs.

Table 3: Formal financial sectors growth indicators (all in percentage)

Indicators	1997-2004	2005	2006	2007	2008	2009	2010
M2/GDP	48.2	18.4	21.1	23.1	27.8	30.5	33.2
Credit to private sector/GDP	8.6	6.8	8.6	9.9	12.5	15.4	17.1
Interest rate spread	13.4	13.6	12.1	11.3	10.3	10.1	10.1

Banks liquid reserves to assets	66.9	32.1	34.5	30.8	28.9	27.4	25.6
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Source: African Development Indicator, 2010

Notwithstanding, the improvements in financial deepening may be related to good macroeconomic performance management instituted by the government after the war, as evidenced by maintaining single-digit inflation and broad exchange rate stability in 2010. The persistently high lending rates vis-à-vis low deposit rates, indicative of wide interest rate margin is one of the most difficult problems facing post-war Liberia. The financial sector in Liberia remains heavily controlled; interest rates are set administratively and are usually negative in real terms. Though the spreads continued to decline, it still remains quite high compared to other sub-Sahara African countries. The trend of the interest rate and low financial deepening is inconsistent with McKinnon/Shaw analysis which predicts a financial deepening when interest rate is liberalized. However, this is not the case in Liberia, where regulated interest rate probably impedes penetration of small enterprises in credit market.

2.2 Credit markets in Liberia

Liberia has dualistic credit market (formal and informal) existing in rural and urban areas, where information problem is common to both credit markets, but the extent differs from one market to the other. The formal credit sector in Liberia is characterized by the dominance of commercial banks, development banks and few microfinance institutions, which are used to primarily serve households and firms.

According to the International Finance Corporation, IFC (2010), Liberia ranks 138 out of 183 in terms of ease of getting credit, evidenced by low rate of credit (9 percent of GDP in 2010) in the economy. Other than credit union, susu club and money lenders, credit market in Liberia is well defined by formal and informal credit institutions, though the market is dominated by formal credit. Like it is in many developing countries, the formal credit market in Liberia do not only limit credit access to micro and small scale enterprises due to lack of traditional collateral (wealth or property), it is also unable to cope with existing credit demand by small and medium enterprises (SMEs) because of unreliable sources of long or short term lending.

Non-bank financial institutions are also active in the credit markets. Many of them cater for small borrowers (especially those rationed out by banks). The cooperative credit union also plays a vital role in mobilizing deposits and providing small borrowers with access to credit. However, this informal credit market, which is sometimes (if not frequently) used as alternative sources for credit, is not an adequate lending base to address financing needs of SMEs.

2.3 Post war banking recovery

With the onset of post-war financial development, private banks, including foreign banks have been encouraged through CBL's policy to start or expand operations. Four banks existed in Liberia just before the end to the civil conflict in 2004. Financial institutions were pro-actively involved in contributing to employment and economic growth prior to the conflict, evidenced by existence of twelve (12) banks. This period was marked by job availability as a multiplier effect through long term loans extended to concession companies and other enterprises. To augment credit extension, commercial banks operating in Liberia increased from 6 in 2008 to 8 in 2009, driven by stability and Central Bank policy. With the extension of banking services to other parts of the country, large segment of the population may access credit for variant investments, except small enterprises. Currently, financial institutions are cautiously advancing loans, especially to small firms, which are inadequate to expand investment. Loans provided at the moment are often based on harsh term of arrangement. With interest rates being deregulated in the flourishing unorganized market for credit, commercial banks usually earmark substantial portion of credit for advancement to key sectors, mainly large and medium enterprises. This is because commercial banks in Liberia depend heavily on interest and non-interest sources of income, and do little lending to small enterprises.

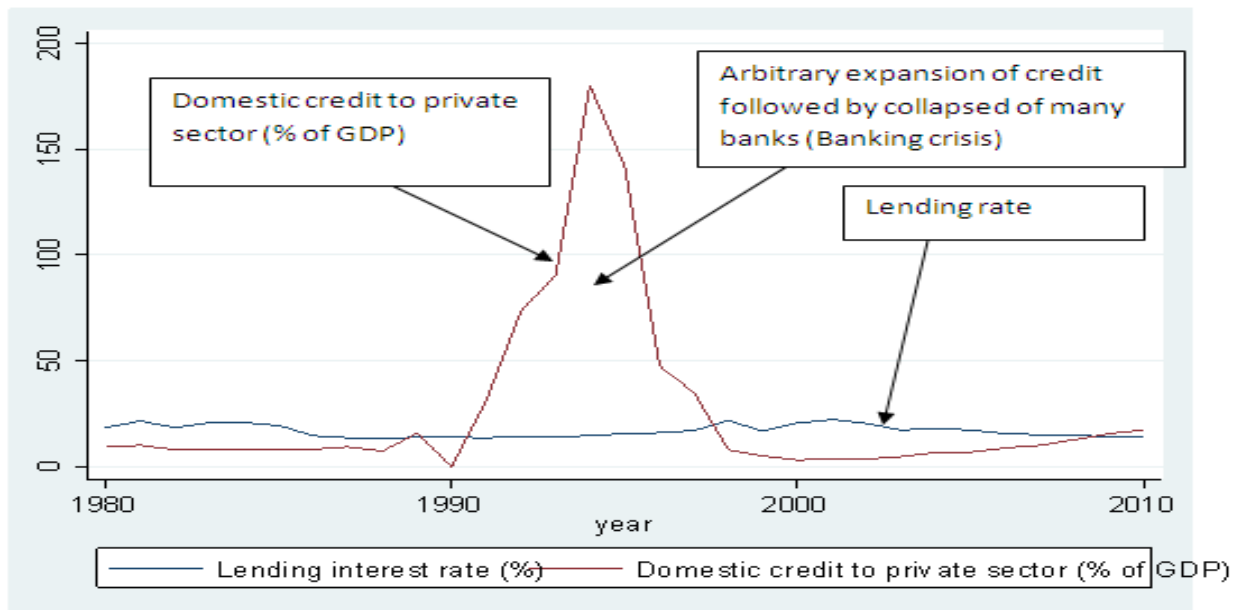
More appallingly, the Liberian credit market was seriously affected by the civil crisis, whereby the number of credit unions reduced by 87 percent from 65 in 1989, while many banks experienced bankruptcy or shutdown. Government owned banks such as the National Housing and Saving Bank (NHSB) as well as the Agricultural Cooperative Development Bank (ACDB) and other private banks like Liberia United Bank Incorporated (LUBI) and Dutch Bank Liberia Limited, which provided banking services to many small businesses before and sometimes during the crisis,

were severely hit. For the rural sectors, the Agricultural Cooperative and Development Bank (ACDB) served as important provider of credit before the conflict, but it is currently dormant due to decapitalization.

Four of the eight commercial banks have extended branches to several parts of the country while at the same time instituting micro-credit schemes. Recognizing the distinct access to the financial needs of SMEs, several financial institutions have started developing strategies to cater to this market. ECOBank and LBDI, which traditionally focused on corporate clients, have just begun targeting SMEs, but with heavy reliance on donor programs. Access Bank and other financial institution are also offering financial products to SMEs. However, it may take time for these credit institutions to acquire full knowledge about SMEs and develop appropriate financial products without a comprehensive study.

During the course of the conflict, banks exhibited arbitrary extensions of credit, which resulted in financial distress. Persistent bankruptcy during the course of conflict exacerbated the already strenuous economic condition the economy operated under as evidenced by many businesses losing huge amount entrusted with banks. Consequently, banks experienced confidence crisis which resulted to large segment of the public seeking nontraditional means of financial windows to meet their distinct consumption and investment needs (Figure 2).

Figure 2: Trend in Domestic Credit and Lending rate (1980-2010)



Source: Computed from World Development Indicators, 2011

At this same period (1989-2000), six commercial banks were forced to shut down either due to voluntary closure or bankruptcy emanating from poor performance of businesses, with only one of the six banks whose depositors were liquidated by CBL. At the moment, eight commercial banks provide financial services in both urban and rural parts of Liberia. Despite tremendous growth in the banking sector, banks seem to be finding it difficult to recover loans advanced to businesses and individuals in Liberia. The ratio of non-performing to performing loan in 2003 was relatively high across the three leading banks (EcoBank, LBDI and International Bank) with EcoBank recording the highest percentage of 61.7 percent. However, from 2004 to 2007, these banks achieved slightly good results in clearing their non-performing loans, which are still high. This achievement indicates that banks are actively struggling to overcome the problem.

2.4 Postwar investment challenges

The business environment, especially in post-war economy, has emerged as the prime suspect as to why firms' performance in Africa is poor, and improving the investment climate is policy priority for the continent (Bigsten and Soderbom, 2006). In Liberia, the business environment has been threatened by years of conflict. Despite recent emergence from conflict, there is growing investor

interest in Liberia, but at a large scale level - agriculture, construction and the extractive industries. While efforts have been made to ease the process of business establishment, dysfunctional judicial system driven by lack of training or outdated laws, inadequate salaries and culture of corruption⁷ continue to hamper investment.

Though the political risk rating of the country shows improvement-moving from 126 in 2006 to 107 in 2010 out of 140 countries, the regulatory environment is still not too encouraging for starting business. The index of economic freedom ranks Liberia as 157 out of 179 countries in 2010. However, about eight years of peaceful environment is tremendously helping Liberia's recovery from ravages of civil conflict, thereby ensuring smooth operation of businesses. It requires eight (8) procedures and 25 days on average to start foreign-owned limited liability company in Liberia and this statistics is better when compared to sub-Sahara Africa.

Liberia still lacks solid infrastructure, compared to most African countries, to boost investment and facilitate intra trade. Most of the country's infrastructures such as roads, electricity, and communication are still being revived, but not adequate to attract meaningful investment. Electricity is not widely available, thereby contributing to massive use of private electricity, which has cost implications for investment. Thus, facilities for investments are mainly concentrated in urban areas and almost virtually non-existent in the rural areas.

Following the end of the civil conflict in 2004 and the ushering of a democratically elected Government in 2005, several reforms have been instituted to strengthen market related institutions to stimulate investments of distinct natures but other administrative barriers still exist. Table 3 reports the doing business statistics in Liberia

Table 3: Doing Business Indicators for Liberia

Indicators	2010	2011
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⁷ Though Liberia experienced 37% improvement in the control against corruption, evidenced by hallmark in corruption perception index (CPI) by 10 basis from 97 in 2009 to 87 in 2010 out of 187 countries, the country is still ranked as most corrupt, evidenced by 89% of respondents (out of 750 persons) who claimed to have paid bribe to receive major services (TI, 2010). Besides, the World Bank Enterprise Survey (2009) alluded to corruption as constraint to investment.

Starting Business (Rank out 183)	57	64
Getting credit Rank (Rank out 183)	135	138
Protecting Investors (Rank out 183)	146	147
Enforcing contract(Rank out 183)	166	166
Ease of doing business (Rank out 183)	152	155

Source: Business Environment and Snapshot, 2011

Liberia was among top 10 reforming countries in 2009 Doing Business Report, but the country could not maintain the ranking in 2010. Even though there are barriers affecting the ease of businesses, Liberia improved on its ranking from 170th in 2008 to 157th in 2009 out of 181 countries in terms of the ease of Doing Business as defined by the Doing Business Survey⁸ of the World Bank in 2009. Generally, the rank in the ease of Doing Business statistics dropped from 152 (2010) to 155 (2011), which shows that reforms have not favored growth in businesses. While Liberia improved on its ranking from 57 (2010) to 64 (2011) out of 183 relative to ease of starting business, its rank of 147 out of 183 countries of protecting investor does not show impressive movement. While technological and human related factors are potential constraints, other constraints reflected in the latest Enterprise Surveys (2009) include corruption, crimes, theft and disorder as major constraints to doing business and investment. As evidence to corruption, about 55.4 percent of firms indicate making informal payments to get things done, compared with 36 percent for sub-Sahara Africa. The cost of starting business in Liberia is more than 50 percent of gross per-capita national income.

Seeking to empower Liberian businesses, a policy (known as Liberianization Policy) instituted to exclusively privilege Liberian citizens for specific businesses was considered as a mechanism of empowering Liberian entrepreneurs. This Act was amended in 1998, thereby extending the Liberianization policy to twenty-six (26) business activities. Considering the huge expected benefits the Act envisages for Liberian, it still remains ineffective in increasing Liberian participation in commercial industries due to enforcement lapses and costs of operation.

⁸ The Doing Business Survey takes into consideration "starting a business, dealing with construction permit, employing workers, registering property, protecting investors, and paying taxes. According to this statistics, it took 30 days for one to start a business. During the last 'Doing Business Survey', it was at 27. At present, records show that it takes 20 days for one to start a business in Liberia. This also means that most bottlenecks that were in the way of starting a business have been removed or improved upon in Liberia.

3.0 Theoretical frame and methodology discussion

3.1 Theoretical framework for credit market participation and access to credit

This study examines the deterministic factors of credit market participation and behavior of small scale firms in the credit market, building on the theoretical frameworks of Stiglitz and Weiss (1981), Kochar (1997), Bigsten *et al.* (2003). It is assumed that many small enterprises operate to optimize utility. Thus, firm's instantaneous utility derived from profit is given by $U(\pi_i)$. Based on risk aversion where, $U'(\pi_i) > 0$ and $U''(\pi_i) < 0$, and that firms maximize expected utility at given period with θ as the rate of preference or risk aversion. The expected utility of small enterprises is:

$$E\left(\frac{1}{1+\theta}\right)^i U(\pi_i) \tag{1}$$

Given this prime objective of small enterprises, π_i denotes firm i 's profit, which is function of the difference between revenue from sales and costs. Thus, firm i 's profit is given as:

$$\pi_i(p, q) = R_i(p_r, q) - C_i(p_c, q) \tag{2}$$

$$R'_{ip_r}(p_r, q) > 0, R'_{iq}(p_r, q) > 0, C'_{ip_r}(p_r, q) < 0, C'_{iq_r}(p_r, q) > 0 \tag{3}$$

From equation 2, $R_i(p_r, q)$ represents revenues from sales and $C_i(p_c, q)$ denotes costs of operation. Equation 3 denotes the marginal revenues and marginal costs. The components p_r and p_c in equation 2 are prices of small enterprises' outputs and inputs, respectively. Both revenue and costs are functions of Quantity q and Price p . Given the nature of the products, small enterprises are vulnerable to competitive market changes and usually faced with uncertainty of demand or market uncertainty, which makes it difficult to determine market demand for their products, credit market participation or repay loan. Demand uncertainty for products of firm i can be represented by an inverse demand equation given as:

$$P_i(q_i) = \bar{P}(q_i) + \varepsilon_i \quad 4$$

Where $\bar{P}(q_i)$ is the deterministic part of inverse demand function and ε_i is uncertainty component affecting turnover (net sales) of small enterprises.

From equation 2, the costs, $C_i(p_c, q)$ of producing output q can be extended further to include costs of credit market participation and waiting costs, credit charges collected by the lender beyond interest (application and service charges, bribes, travel expenses), which are all assumed to be combined and denoted as $c(A)$. In the absence of any credit cost, which is almost unlikely for many small enterprises in Liberia, the profit of these small enterprises is equal to gross operating surplus, which is the difference between gross operating sales and cost of inputs. Assuming the entire costs, $C_i(p_c, q)$ to initiate or expand investment of firms is based on external financing, profit by firm i is equivalent to market return $R_i(p, q)$, less credit payments $(1+r)B_i$ and cost of credit market participation, $c(A)$. Where B_i denotes total amount borrowed, A_i is credit participation and r_i is the interest rate.

Given firm i desire for external capital, a linear approximation of credit demand schedule and supply schedule is developed. These schedules are useful to generate the marginal framework necessary to guide the decision analysis of both the small enterprises and financial institutions (formal and informal). The schedules are listed as under:

$$L^d(X, M, N, r) = X_i\gamma_i - r_i\delta_i + M_i\tau_i + N_i\vartheta_i + e_i \quad \text{Loan demand} \quad 5$$

$$L_f^s(X, M, r) = X_1\gamma_1 + r_1\delta_1 + M_1\tau_1 + e_1 \quad \text{Formal Sector Supply} \quad 6$$

$$L_i^s(X, M, r) = X_2\gamma_2 + r_2\delta_2 + M_i\tau_i + e_2 \quad \text{Informal Sector Supply} \quad 7$$

Where X 's are firms' characteristics, M denotes manager attributes, N defines characteristics of credit market elements, L^d and L^s are unobservable firm's demand for and supply of loan, r denotes interest rates, γ 's, δ 's, τ 's and ϑ are parameters, and the e 's are stochastic error terms. $L^d = 1$, if credit market participation is from formal credit market and it takes value of 2 in

the informal credit market. A firm desired stock of debt depends on a set of explanatory variables, X_i , which determines whether a firm would desire to hold positive debt and can be represented by the latent demand function in equation 5. From equation 5, L^d is demand for loan, which is an unobservable or latent variable. Though small enterprises may desire positive debt amount for expansion, it may be subject to lenders' (formal and informal) evaluation (shown in equations 6 and 7). Since small firms are often denied from accessing finance, X_1 and X_2 are vectors of variables that affect the firm's decision to apply for and access debt from either formal or informal.

3.2 Issue of empirical model

The empirical investigation looks at the key factors that influence credit market participation and access to credit, including: credit market variables such as interest rate, requirement and procedure; skills/experience in business operations, firm size; firm performance; and market environment that defines firm operation. In order to establish how policy could affect the demand for credit, vis-à-vis credit market application and access, we have chosen to estimate the elasticity as a simulation to understand the effect of a change on credit demand

3.2 Data

This study provides an explorative examination of small enterprises financing in Liberia. The study employed a survey design, thereby collecting qualitative and quantitative data on small enterprises' credit experience in urban Liberia. The field work was implemented between the months of July 2010 and September 2010, considering fifteen (15) enumeration areas (EAs). Prior to the field work, preliminary information was gathered on the study area from the sampling frame to determine the EAs. The study was carried out in three different periods. While the first period entailed implementation of the pilot survey, the second and third periods involved carrying out the actual data collection which constituted face-to-face interviews, direct observations and focus group discussion⁹. Following the pilot survey, data collection instrument was appropriately refined based on results from the pilot study.

⁹ The focus discussion is only used as cross-cutting issues to emphasize some of the findings.

The main source of data for this study is the survey of small businesses using the National Account Sampling frame (Establishment Survey Sampling Frame-2007) conducted by Liberia Institute of Statistics and Geo-Information Service (LISGIS) in 2007. The target population is the set of all small enterprises in Montserrado and Nimba of Liberia, constituting the services, manufacturing and trade (commerce) sector with 5-19 employees that were operational before/in the year 2007. Our decision to use the World Bank Enterprise results (2009) as baseline serves as potential reason for selecting the study areas.

3.3 Sampling technique and sample size

The sample size is based on Yamane (1967: 886)¹⁰ formula to calculate sample size whose precision level is 0.045. Suitability of the Yamane technique is due to its power to generate a large sample on which reliable analysis can be conducted. Based on the 95percent confidence level, the study considered the precision level of Yamane (1967) because of its greater confidence because it does not deviate much from 5percent precision level. The Yamane formula is denoted as:

$$n = N / [1 + N(e)^2]$$

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Where, n is the sample size, N is the population, and e is the level of precision. Based on the small firms population of 1807 (Montserrado) and 175 (Nimba), the resulting sample, drawn with a stratified sampling scheme, consists of 328 (1st strata) and 121(2nd Strata) small enterprises from Montserrado and Nimba Counties, satisfying the criteria of the small businesses. Controlling for both item and survey non-responses during the fieldwork, a total of 78 firms (Montserrado) and 30 firms (Nimba) were regarded as non-responses and therefore excluded. There were 21 non-existing firms which were later replaced because the sample was drawn based on replacement. Informal sector borrowing, while not uncommon, remains low in the two counties considered. Credits from informal financial institutions combined constitute less than 20.8percent, which is also inclusive in sample. Thus, the study is based on working sample size of 250 (Montserrado) and 91 (Nimba) after controlling for non-responses. Considering the

¹⁰ This sampling technique was recently used by Muriithi (2010) in estimating demand for health in Kenya.

fifteen 15 EAs, the small enterprises were selected based on 10 sub-locations in Montserrado and 5 sub-locations in Nimba. Since the number of small enterprises were few, the total small enterprises were divided by 15 EAs to get the sampling interval, but due to limited number of small enterprises, the interval was narrowed down to twenty due to huge replacement of many non-existing firms in the sample. A random number from existing sample was selected and multiplied by sampling interval to get the random start in each stratum, respectively. This process was repeated until the 20th firm was selected. An unweighted sampling is considered because of the simple random sampling from the strata.

Since the regulatory and administrative criteria of conducting businesses in both regions are highly similar, the data from the two regions were combined for analysis. Additionally, decision to combine the data is based on the fact that businesses in both locations do not represent significant dual characteristics reflective of the existence of financial institutions (especially formal) in the study areas.

3.4 Definition and construction of variables

The following represents definition of firms' attribute that are of interest in this analysis. Most of the below variables may appear latent, but they embody institutional attributes that drive the ability of enterprises to anchor on financial opportunity from other credit institutions.

Dependent variables

The dependent variables are captured using credit demand (application and access), credit constraint and loan default. Credit demand is captured using application for credit (APPLY) in the last three years and amount approved (ACCESS) following application, including those firms that got less than applied amount and those who get full amount.

Manager's/owner's Characteristics (M)

The characteristics of managers considered gender, age, years of schooling, ethnicity and experience. Competence of the firm's manager is captured by years of schooling and years of experience.

Firm's characteristics (X)

In order to assess every component of the size of the firm, firm characteristics is captured as number of employees, value of assets, operating capital of the firms and those that are growth oriented in terms of workforce. Moreover, the level of firm's reputation or competence is also captured by the age. Formality¹¹ of firms is based on whether a firm is registered relative to sole proprietorship, partnership or corporation.

Credit market characteristics (N)

Credit market characteristics include interest rate which is captured based on firms' perception on the level of interest rate- whether interest rate is high or not. Extra payment, aside from actual loan application fees, is captured to determine the level of corruption in the financial system. Knowledgeable about credit application procedure is captured to determine the level of asymmetric information in credit market using perception of firms. Ownership of saving account is intended to determine the relationship of financial institution and also availability of internal funds. Perception on collateral is captured using firm's possession of assets and is used to proxy for risk mitigation factors in credit market.

Performance of firms

Financial soundness of small enterprises is reflection of its performance. Performance is captured relative to the profitability or growth in sales.

Market environment

Market environment is captured by the nature of investment climate including legality, stability of the environment, and whether competition exists. The environment of the market is also based on whether firms are operating in the form of a network, and the economic activities firms are engaged with.

¹¹ A non-registered firm could also take the form of sole proprietorship or partnership, but our study categorized all non-registered firm as informal.

4.0 Non Parametric Analysis

4.1 Credit application, access and constraint

Table 5 shows that though about 47 percent of firms did not apply for loans because they apparently have adequate funds, firms' decision to participate in credit market is limited and access to credit remains low among firms in Liberia. According to the World Bank enterprise survey, 22.67 percent reported participation in the credit market and 20.67 percent out of 117 firms have line of credit. Out of firms with line of credit, 45.16 percent and 29 percent constitute firms established during and after the war periods, respectively. Credit constraint is prevalent among firms in Liberia. While firms using banks to finance investment represent 10.1 percent, firms identifying access to finance as a major constraint represent 34.99 percent. Lack of collateral is considered as potential factor limiting participation in credit market, and by extension access to credit, evidenced by 86.9 percent of loans requiring collateral. Complex credit application (16.7 percent) and unfavorable interest (16.7 percent) were also cited as other factors limiting participation in credit market in Liberia (World Bank Enterprise Survey, 2009).

Table 4: Credit participation and access by small enterprises

Category	Sector			
	Manufacturing	Service	Commerce	Total
Total responses	65 (19.1 %)	129 (37.8 %)	147 (43.1 %)	341
Applied & obtained full credit	11 (16.9 %)	26 (20.2 %)	22 (14.9 %)	59 (17.3 %)
Applied but got less credit	20 (30.8 %)	32 (24.8 %)	36 (24.5 %)	88 (25.8 %)
Applied and got nothing	9 (13.9 %)	11 (8.5 %)	16 (10.9 %)	36 (10.5 %)
Did not apply	25 (38.6 %)	60 (46.5 %)	73 (49.7 %)	158 (46.3 %)

Source: Author's computation from survey dataset

Table 6 reflects the different categories of loan applicants, in terms of rationed, rejection and success of loan approval. It is shown that only 17.3 percent got full credit amount, while 25.8 percent of applicants got less than the full loan amount applied. Based on the survey data, 183 credit applications were made for external fund, among which 43 percent (147 firms) reflected the success rate of accessing full or partial credit for business venture. Based on the specific classification of credit sources, in terms of formal or informal, the study specifically identified four sources of credit predominantly existing in the financial domain of Liberia. These credit sources include banks, susu club, credit union and money lender. When credit application is

considered in combination, the study found that formal institutions, dominantly banks, are the most predominant conduit for investment expansion by small enterprises in Liberia. Similarly, Petersen and Rajan (1994) found that commercial banks were the major providers of credit and other financial services to small businesses.

Table 5: Credit application & approval by financial institutions

Credit Institutions	Credit application	Credit approval	Non-approval
Banks	145	112	32
Susu Club	23	22	1
Money lender	10	8	2
Credit Union	5	5	1
Total	183	147	36

Source: Author's computation from survey dataset

The role of formal credit institutions in the urban credit market is also shown by small enterprises' borrowing desire to expand investment. This propensity is suggested by the evidence that 46 percent of the small enterprises in Liberia indicated a need for external funds from banks in order to expand. This indicates the relatively high success rate borrowers (firms) perceive to have with banks than with other lending institutions such as Susu club, moneylender or credit union. As indicated in Table 6, 183 firms applied for credit approval and only 36 firms received no credit while 90 (about 49 percent) of the firms got less than the actual amount they applied for and 62 (about 34 percent) got the full amount applied for. Interestingly, only 66.8 percent of the total loan amount applied for was received, implying that small enterprises are still faced with financial constraint. While reduction in the size of the loan may be seen as important screening device for loan recovery, the major reasons cited for refusal of loan were lack of collateral and other riskily observatory attributes of the firm's project. The analysis of firm's credit history shows that the majority of firms in urban Liberia had accessed formal credit. Table 6 shows that 29 percent of the total firms in Liberia had received credit from banks, whereas less than 19 percent of the firms in received credit from other credit sources. From the total firms surveyed in Liberia, non-credit approval accounts for less than 8 percent.

Table 6: Credit application and access across credit markets

Credit	Credit Application by sector				Credit Approval by sector			
	Com.	Man.	service	Total	Com.	Man.	Service	Total

Sources								
	61	35	49	145	47	26	39	112
formal	(41.5 %)	(53.9 %)	(37.9 %)	(42.5 %)	(63.5 %)	(65 %)	(56.5 %)	(61.2 %)
	13	5	20	38	11	5	19	35
informal	(8.8 %)	(7.7 %)	(15.5 %)	(11.1 %)	(14.9 %)	(12.5 %)	(27.5 %)	(19.1 %)
	73	25	60	158	16	9	11	36
none	(49.7 %)	(38.5 %)	(46.5 %)	(46.3 %)	(21.6 %)	(22.5 %)	(15.9 %)	(19.7 %)
Total	147	65	129	341	74	40	69	183

Source: Author's computation from survey dataset. Com=Commerce, Man=Manufacturing

Table 7 reveals that credit application and access is high relative to formal credit as compared to informal. The finding indicates that formal credit application represents 42.5 percent compared with 11.1 percent for the informal. Across the three sectors, the service sector seems to borrow more from the informal credit market compared with the trade sector, which borrow highly from the formal credit market. This only suggests that urban sector of Liberia has more penetration of formal credit. Relative to access, the approval rates represent 61 percent for formal credit, out which less than 50 percent actually got some credit amount.

4.2 Business environment

The study revealed existence of negative shocks in the form of arson, robbery (theft) and poor sales as potential perturbation hampering the operation of businesses in Liberia. Out of the 183 firms that did indicate credit application, about 79 percent revealed that they experienced perturbation over the last three years. However, most of the firms pointed at poor sales as the major shock. About 44 percent of businesses in Liberia reveal experiencing incurrence of losses in investment as a result of negative shock in the form of theft, robbery or arson. While poor sale (55.1 percent) was found as drawback to business, robbery (12.3 percent) and arson (14.1 percent) were also major hindrance experienced across the three sectors. Indeed, these shocks may not only affect the recoverability of loan advanced to businesses, but may also hinder the growth potential of businesses, thereby aggravating financial impediments.

Table 7: Descriptive statistics (SURVEY)

Variable	Mean	std. Dev.	Min	Max
Dependent Variables				

<i>APPLY</i>	0.537	0.499	0	1
<i>ACCESS</i>	0.803	0.399	0	1
Credit Market variables				
<i>HIGH INTEREST</i>	0.519	0.501	0	1
<i>Procedure</i>	0.589	0.493	0	1
<i>Require</i>	0.633	0.483	0	1
<i>Collateral</i>	0.831	0.376	0	1
<i>Saving</i>	0.733	0.443	0	1
<i>Bribe</i>	0.284	0.452	0	1
<i>Officer</i>	0.279	0.449	0	1
 Skills/experience in business operations				
<i>Years (School)</i>	11.953	3.830	0	16
<i>Experience (years)</i>	9.309	5.959	0.58	26
 Size of the firm variable				
<i>Size (in log)</i>	2.090	0.272	1.609	2.944
<i>Asset (in log)</i>	8.083	0.971	5.704	10.127
 Firm performance indicators				
<i>Profit</i>	0.998	1.519	-1	12.820
<i>Sale</i>	0.637	1.913	-0.979	19
Market environment that defines firm's operations				
<i>Effect</i>	0.369	0.483	0	1
<i>Network</i>	0.135	0.342	0	1
<i>Register</i>	0.935	0.246	0	1
<i>Shock</i>	0.443	0.497	0	1
<i>Link</i>	0.305	0.461	0	1
<i>Ethnicity</i>	0.226	0.419	0	1
<i>Sector (SECMA=Manufacturing)</i>	0.191	0.393	0	1
<i>Sector (SECSE=Service)</i>	0.378	0.485	0	1

4.3 Parametric Analysis

4.3.1 Elasticities and simulations

Small enterprises have huge potential of creating employment and enhancing economic growth in post-war Liberia, but they are trapped in external financing difficulties. In order to establish how policy could affect the demand for credit, vis-à-vis credit application, access and constraint, we have chosen to estimate the elasticity as a simulation to understand the effect of a change on credit demand. Evidence from the Logit model shows that the variables used in the simulation were significant and that small scale enterprises are heterogeneous. Thus, the significant variables are considered, because they affect the classification of credit application and access. Estimates not different from zero indicate that the explanatory variables concerned do not affect the utility derive by financial institutions in making credit demand decision. Table 9 reports the elasticities calculated at the overall sample means.

Table 8: Estimates of elasticities for policy

Variables	Application	Access	Constraint
Credit market Variables			
<i>REQUIRE</i>	0.450*** [5.03]		
<i>PROCEDURE</i>	0.243*** [3.2]		
<i>HIGH INTEREST</i>	-0.566*** [-5.74]		-0.293*** [-3.71]
<i>SAVING</i>		-0.105** [-2.26]	0.303 [1.59]
<i>BRIBE</i>		1.065*** [3.23]	
<i>OFFICER</i>	0.175*** [4.02]	0.074**** [2.95]	
Skills/experience in business operation			
<i>YEARS (SCHOOL)</i>		-0.206**	

			[-2.08]
<i>EXPERIENCE</i>		0.067	
			[1.57]
Size of the firm variables			
<i>SIZE</i>	-1.215**		
			[-2.49]
<i>ASSET</i>			-0.995**
			[-2.09]
Firm's performance indicators			
<i>SALE</i>		-0.020**	
			[-2.48]
<i>PROFIT</i>			-1.065**
			[-2.46]
Market environment that defines firm's operations			
<i>SECSE</i>			-0.025
			[-0.90]
<i>SHOCK</i>			
<i>SECMA</i>			0.110**
			[2.38]
<i>NETWORK</i>	0.051***	0.035**	
	[1.82]	[2.11]	
<i>EFFECT</i>	0.098**		0.075*
	[2.09]		[1.78]
<i>REGISTER</i>			

NB: *, **, *** denote significant level at 10 percent; 5percent; and 1percent, respectively. The figures in parenthesis [] are z values. **Variables are defined as follows:** *REQUIRE* takes the value of 1 when firms report that collateral is used as requirement for accessing credit and 0 otherwise; *PROCEDURE* takes the value of 1 when firms are aware of loan application procedure and 0 otherwise; *HIGH INTEREST* takes the value of 1 when firms perceive interest rates as high and 0 otherwise.; *OFFICER* takes the value of 1 if the firm manager has a relationship with credit officer and 0 otherwise; *BRIBE* takes the value of 1 when firms report that there is corruption in credit market and 0 otherwise, *SAVING* takes the value of 1 when a firm owns savings account and 0 otherwise; ; *YEARS (SCHOOL)* is measured as the number of years of formal education by the firm owner/manager; *EXPERIENCE* is measured as the total years of manager's experience in business; *AGE* is measured as log of total duration of the firm's existence; *SIZE* is measured as the log of total number of employed workers at the time of survey; *ASSET* is measured as log of value of business assets; *SALE* is measured as the growth of sales is measured between end of sales (2010) and end of previous year sales (2009), and then divided by end of sales (2010); *PROFIT* is measured as the ratio of profit to asset. Firm's profit is net return after costs; *SECTOR* is measured by the type of business operation activities: *SECCO* (Commerce) takes value of 1 for businesses operating in commerce; *SECMA* (Manufacturing) takes value of 1 for businesses operating in manufacturing sector; *SECSE*(Service) takes value of 1 for businesses operating in service sector;

NETWORK takes the value of 1 when a firm has membership with business group and 0 otherwise; and *EFFECT* takes the value of 1 when firm's operation was affected by war and 0 otherwise.

Analysis of the results in Table 9 shows that all of the variables influencing credit application are inelastic, except for the coefficient of firm size (*SIZE*) which is elastic. The credit market variables are inelastic, suggesting that a small change does not have more than proportionate effect on credit application. In other words, a firm will apply for credit irrespective of using collateral as requirement, understanding credit application procedure, having relationship with credit officer and perceiving interest rate 'high'. This is also the same when a firm is affected by war or has membership in business network. However, the coefficient of firm size is elastic, implying that larger firms are not likely to apply for credit. This also means that a 10 percent change in firm's size from an average of 8 to 16 employees leads to more than 12.2 percent change in credit market participation. The finding supports the trade-off theory which indicates that larger firms have less demand for debt, since they have adequate internal funds to tap on. Notwithstanding, the coefficients of other components influencing credit access reveal that they are all inelastic, implying probability of the change in credit access is not greatly affected by marginal change, as a 10 percent change in the variables leads to less than proportionate change in the probability of accessing credit.

Looking at the credit access components, the coefficient of extra payment (*BRIBE*) outside of credit application requirement is elastic (1.065). Implication is that, 10 percent increase in bribe payment from an average of 5 to 10 percent of approved loan has a huge percentage change (10.7 percent) on credit access, because finance officers are notable for creating stiff bureaucracy to influence bribe. Such tendency could not only reflect the underdevelopment of the credit market, but also have serious negative implication for small enterprises to default in loan repayment. The result shows that payment of bribe to access credit more than proportionate increase level of loan default. Therefore, prudential regulation could reduce extra cost in small business operation by 5-10 percent, thereby potentially reducing default rate by 34.7%.

To gain further insight into the factors affecting credit constraint, it is shown that credit constraint is highly reduced by increase in profitability of small enterprises from an average of 0.99 to 12 USD per month, evidenced by its elastic nature. A 10 percent change in profit leads to 10.7 percent decrease in the likelihood of being credit constrained. This finding aligns with

earlier finding from Probit and Multinomial Probit and also supports the hierarchy of finance hypothesis. Clearly, the finding indicates that a small change in profit has a huge effect on reducing credit constraint, because financial institutions are able to discern the quality of the firms to grant credit.

It is observed that policy for credit application are driven by the behavior of financial institutions, as evidenced by the credit market variables which are inelastic, though the size variable is inelastic as large firm has less incentive for credit. Rent-seeking (corruption) is common (elastic) in post-war Liberia's credit market to cushion credit access by small enterprises and firms engaged in payment of bribe are most likely to default. Interestingly, it is also observed that network is vital policy instrument to reduce moral hazard and adverse selection problem to ease access to credit. While asset is almost elastic and vital for hedging risk by financial institutions, firm's performance variable (*PROFIT*) is elastic as it relates to mitigating credit constraint.

5.0 Conclusion

It is observed that credit market participation decision by small firms is influenced by diversity of factors. Belonging to a business network increases the probability of credit market participation and access as banks recognize such networks in evaluating the collateral requirements. Interaction with loan officers is critical as it serves as a source of information on the credit market operations to the potential borrower. Similarly, knowledge on the credit application procedures including the collateral requirements is critical in building confidence among the small enterprises to participate in credit market. Finally, it is not just the level of interest rate that matters, but the perception of the existing levels given the implications on cost of capital especially for a growing firm.

Weak prudential guidelines and regulatory framework is vulnerability in the waiting especially since it gives way to poor governance in the credit market as it threatens the quality of assets for the banking sector. Rent-seeking (corruption) is common (elastic) in post-war Liberia's credit market to cushion credit access by small enterprises and firms engaged in payment of bribe are most likely to default, but further research is required to ascertain the productivity of those firms.

Further, small firms affected by war are desperate for external credit to grow while mature businesses have options to use internal funding to finance their operations. However, firms affected by war or shocks are highly entrapped in financing difficulty for investment operation, since financial institutions are wary of their ability to repay the loans.

5.1 Policy emergence

The findings of the study are of policy relevance to promote and develop small enterprises in Liberia. Policy for credit application is driven by the behavior of financial institutions, as evidenced by the inelastic nature of credit market indicators. Rent-seeking (corruption) is common (elastic) in post-war Liberia's credit market to cushion credit access by small enterprises because firms engaged in payment of bribe are most likely to default. Interestingly, network is vital policy instrument to reduce moral hazard and adverse selection problem to ease access to credit. Based on the foregoing implications, policy intervention must take several dimensions.

In order to foster and enhance credit market participation by small enterprises, rigid bureaucratic procedures (i.e, assets, business plan, and financial statement) should be removed. Financial institutions should consider mobilization and sensitization of small scale firms about credit application procedures and requirements. Asymmetric information should be mitigated by financial institutions by creating awareness on procedures and requirement about credit application and accessing loans among small enterprises in order to build confidence. On average it takes 1.5 months to access loan approval.

To expand credit market participation to small firms, the credit market should be revolutionized order to allow small firms to acquire available and affordable credit through microfinance initiatives (i.e, subsidizing credit at an interest rate ceiling to small enterprises). In addition, credit line policy with multilateral institutions such as International Finance Corporation (IFC) through specific banks as well as government coming up with programs for financing MSEs and setting up development financial institutions to nurture and finance MSEs could alleviate credit constraint. Such policy is workable by guaranteeing formal credit institutions in case of bankruptcy, and this could diminish the risk associated to small business credit (Tschach, 2003).

Streamlining the legal system and prudential regulations on credit market is essential to ensure credit rights¹² and prevent corruption with credit officers or curtail delinquency in loan settlement. Existing laws such as the Financial Institutions Act, the Microfinance Act, the Money lender Act, the CBL Act, among others are inadequate or less effective to regulate or enforce access to credit in Liberia. Strengthening credit reference bureau to disseminate information and harmonization or amendments of laws incorporating provisions to ease legal constraints to access to credit is imperative. Furthermore, employing local information based on social network could be a good policy to minimize loan repayment delinquency. However, there should be greater regulations to protect small firms from high loan costs, which could potentially endanger financial soundness of credit markets.

Policy should prioritize entrepreneurial training to firm management for business growth. Instituting periodic training for managers of small enterprises about strategy of managing their enterprises could lead to impressive performance. Thus, financial institutions should not only focus on advancing loan, without providing training on how business could manage and repay the loan.

The adverse selection problem about small enterprises could be dealt with by promoting and emphasizing networking of enterprises or considering link with large business as mechanism to enhance confidence and reduce the probability of default, since many firms lack collateral. Promoting networking among small enterprises and between the small and large firms through sub-contracting could enable small firms to get support in credit application.

Finally, a deliberate effort by government to enhance business environment is imperative for attracting businesses and to minimize potential losses. A stable business environment is essential to enable businesses operate smoothly in order to realize their growth aspiration.

¹² A set of laws and institutions that protect lenders from nonpayment of interest and principal. These are most vital underpinning of financial system, which makes it underdeveloped

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