RESEARCH AND POLICY UNIT

DEPARTMENT OF FINANCE

ECONOMIC PAPER:

A Financial Inclusive Approach to Enhancing Credit in Saint Lucia

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ABSTRACT

The performance of the financial sector in Saint Lucia has been impacted by weak credit growth despite elevated deposit levels over the past decade. The paper seeks to evaluate credit dynamics in Saint Lucia by empirically investigating the main determinants of credit (..)and the relationship of credit with economic through the use of an ordinary least square regression model (1979 to 2019). The empirical findings suggest that GDP, ROA, two (2) year lag of NPL and deposits influences credit in Saint Lucia while credit impacts GDP and GDP impacts credit in the short run. Our findings also suggest that the types of loans (personal-residential) granted in Saint Lucia, despite low risk to financial institutions, has not had a significant impact on GDP. The paper uses country case examples to demonstrate strategies used to enhance credit to make economies more financially inclusive. The development of digital financial services, the establishment of a credit bureau, and the development of the microfinance industry is therefore proposed for financial development. A financial inclusive approach would allow for the services to reach the unbanked and significantly impact on economic growth in Saint Lucia.

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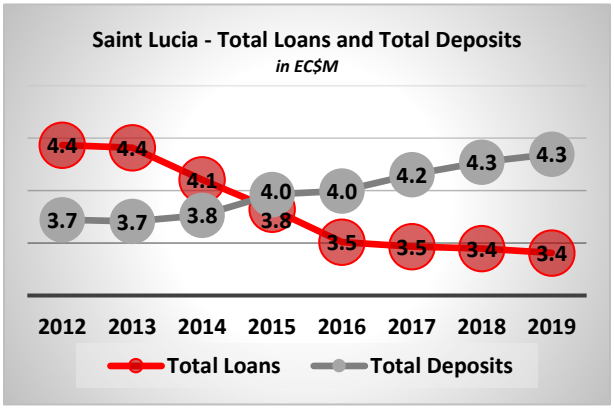
PART A: BACKGROUND

1.0 INTRODUCTION

Emerging markets and developing countries have many characteristics which potentially pose barriers to financial inclusion and financial development. Factors as lack of collateral, poor credit information, prolonged low growth, high debt, the loss of correspondent banking relationships and the vulnerability to natural disasters all hinder financial development and inclusion (Holden and Howell, 2009). Li and Wang (2018) states that financial development is a measure of the size or depth of the financial sector while financial inclusion refers to the breadth of the financial sector and relates to the spread of financial services to households and firms. Financial inclusion is an important feature of financial development as financial development is not simply a result of economic growth but a driver of economic growth (Abiola and Folasade, 2015). According to Calderon and Liu (2003), financial development leads to economic growth and economic growth leads to financial development; financial development and economic growth coexist. The increased spread and depth of the financial sector increases access to finance and enables the poor to save and borrow; to build assets; and invest in education. It also permits small and medium sized enterprises to take advantage of promising growth opportunities. Hence, the ability to access financial services particularly credit, is critical in promoting growth and welfare in a country (Demirguc-Kunt, et al. 2014; Adeola and Evans, 2017).



Understanding Saint Lucia's financial sector is therefore pertinent to formulate appropriate policies to assist in financial development. Saint Lucia's financial sector has twenty-seven (27) insurance companies, sixteen (16) credit unions, seven (7) offshore banks, six (6) microfinance institutions, five (5) commercial banks, and one (1) development bank. The financial sector has experienced a myriad of challenges including the weak credit growth. Credit in Saint Lucia has declined despite the continuous increase in loanable funds or deposits in recent years. Over the last seven years credit growth in Saint Lucia weakened from EC$4.43 million in 2012 to EC$3.41 million in 2019 while deposit growth raised from EC$3.72 million in 2012 to EC$4.35 million in 2019. Does the weak growth in credit then hinder financial inclusion and development in Saint Lucia?

According to the literature, some of the main determinants for credit growth are Gross Domestic Product (GDP), inflation, deposit levels, interest rates, money supply, Non-Performing Loans (NPLs), remittances, Return on Assets (ROA), and interest rate spread (Stepanyan & Guo, 2011; Tan, 2012; Imran and Nishat, 2013; Ivanovic, 2016). In Saint Lucia, annual growth rate for the period 2012 to 2019 averaged to 3.79% while the weighted lending rate averaged 8.18%. In that same period the country experienced increase price levels averaging 1.04 % while NPLs averaged

14.45%. The credit granted in the aforementioned period was mainly for the purpose of residential buildings and private business investment.

A primary factor impacting the credit granting process which then leads to default rates is asymmetry information resulting in increased risk of moral hazard and adverse selection. Credit bureaus markets play an instrumental role in mitigating these risks in the financial markets of many developed economies. (Holden and Howell, 2009). In Saint Lucia credit bureaus are currently non-existent[1] making it difficult for credit granting firms to access independent, unbiased information to aid and increase the credit granting process. Access to credit is severely hampered in countries where credit bureaus are non-existent or have incomplete information (Holden and Howell, 2009). Credit bureaus can potentially increase credit granted by reducing asymmetric information and lowering the interest rates.

The rigidity of the financial sector in Saint Lucia also play a part in low levels of credit granted. This rigidity prevents a large portion of Saint Lucia's population from being active participants in the formal financial sector including their ability to access credit. These players that are absent from the sector are referred to as financially excluded or unbanked and underserved. Globally 1.7 billion adults remain unbanked for numerous reasons[2] (the Global Findex Database, 2017). However, technological advancement in the financial market has altered the financial landscape, making it more inclusive. One such technology is the mobile wallet. This technological change has been proven to increase access to credit as mobile phones and the internet addresses some of the barriers that prevent or restrict the unbanked adults from accessing financial services (the Global Findex Database). A casing example is Kenya's M-Pesa and M-Shwari mobile platform which has helped reach 15.2 million users in 2013 (Ntara, 2015) with total disbursement of 20.6 million in loans to 2.8 million borrowers (FSD Africa, 2016). Similarly, in 2013, the Conec mobile wallet in Jamaica reached 3,000 users just a few months after its launch and was expected to reach 50,000 users before the end of 2014. Other examples of mobile wallets are Mobile Money Guyana (MMG) in Guyana, Vodacom in Tanzania, First National Bank (FNB) in South Africa, and GCash and SmartMoney in Philippines (Gupta, 2013).

Another noteworthy approach to promote financial inclusion or decrease the financially excluded population is Micro Finance Institutions (MFIs). Microfinance outreach has a significant relationship with financial inclusion (Dacanay 2010). MFIs are used to financially include the poor in the financial system as poor households in developing countries need access to different financial service than formal bank credits as banks often exclude them as unattractive clients due to high risk an insufficient asset for collateral (Beck et al 2008). MFIs have helped countries as the Philippines to increase credit growth (Daley and Sautet, 2005) however MFIs are currently small in the

[1] A possible factor for the rise in St. Lucia's NPLs.

[2] (i)Having too little money to use an account (ii) cost and distance associated with having the account (iii) Because a family member already has one (iv) lack of documentation (v) distrust in the financial system (vi) religious concerns (the Global Findex database, 2017).

Caribbean and considered less profitable (Holden and Howell, 2009). Nevertheless, MFIs are an important tool for financial inclusion and eradication of poverty as it gives the poor access to not only credit but also other financial services therefore enabling them to climb up the financial ladder (Dacanay 2010).

This paper seeks to evaluate credit in Saint Lucia and propose an approach for enhancing credit through financial inclusion. Understanding the factors which affects credit in Saint Lucia and the relationship between credit and economic growth is of essence for making appropriate policy recommendations for development of the sector. This is of particular importance for rebuilding of the economy in the COVID-19 pandemic times. The paper also uses case examples to highlight the application of technology and its impact on financial inclusion.

The paper is organised further as follows: part A continues with a summary of the literature on the credit channel: monetary transmission mechanism, factors influencing credit, credit and economic growth and enhancing credit through financial inclusion. Part B assesses the credit and banking climate in Saint Lucia, the determinants of credit in Saint Lucia and estimates the relationship between credit and economic growth. Part C presents the proposed approach for enhancing growth and part D evaluates the impact of the proposed approach and concludes.

2.0 LITERATURE REVIEW

Butler (2009) claims that, "*credit is like lighter fluid on charcoal; it can get things started… or it can burn them up*". Credit is defined as money lent to a consumer which is paid back with interest. Banu (2013), affirms that no matter how advanced an economy, it cannot develop in the absence of credit.

The Credit Channel: Monetary Transmission Mechanism

The monetary transmission mechanism, the process by which the implementation of monetary policy impacts the general economy, identifies the impact of credit with a change in monetary policy. The European Central Bank explains that the monetary transmission mechanisms are the channels through which changes in the policy rate influence the behaviour of general economic variables like prices and output. Theoretical literature posits that monetary policy does not only influence aggregate demand through the interest rates channel but highlights the importance of credit through the bank lending and the balance sheet channel (Hernando, 2014)[3]. Ireland 2005 further adds that monetary policy affects the economy through five channels; namely consumption and investment; exchange rate; asset prices; credit; and expectations. The catalyst in the credit channel is the central bank interest rate as it is positively related to banks' lending rates Hernando (2006). Changes in this rate alters credit flows and lending capabilities; that is, an expansion or contraction in the supply of credit and consequently deter or motivate consumption and investment. However, Hernando (2006) notes that when interest rates continue to increase, the banks' cost of supplying loans and the borrower's inability to repay loans increases. As a result, a variety of other factors begin to impact a banks cost of supplying credit.

Other Factors Influencing Credit

Other factors that determines credit have been extensively discussed in the literature and categorized between internal and external variables. Internal variables comprise of bank specific variables or management capabilities, profitability, quality of loans; while external variables encompass macroeconomic components including interest rates, GDP and competition. Some theorists have assessed credit determinants based on market forces and posit that demand and supply of credit is determined by interest rates since consumers are both buyers and suppliers. As interest rates increase suppliers (lenders) are encouraged to save; when interest rates are low, buyers (borrowers) are more inclined to take loans, Muris (1982). While economic theory assumes that buyers make the best use of their market situation (consumers are assumed to be rational), perspectives such as Keynesians look to monetary policy to regulate financial markets.

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3 https://pdfs.semanticscholar.org/f127/0c1baaa6b3c2f67d870087b7c592165a7cb5.pdf?_ga=2.136531891.2007188570.1596806586-1842627641.1569292410

The performance of the financial institutions, an internal variable, is important for making funding available to borrowers. According to Sam (2003), the net interest margin (which is the difference between the interest income generated and the interest paid out, relative to the amount of interest earned on their assets) is a good measure of a financial institutions' profitability, performance and its ability to grant credit. When net interest margins are high, credit becomes more readily available. Costea (2009) also adds that liquidity ratio measures a firm's ability to transform assets to honour its short term obligations. That is, the firm's or bank's ability to pay its current debt without having to raise additional capital. Tehulu and Olana (2014) found, that as liquidity ratio increased, lower amounts of credit are granted since additional capital through the provision of loans is not a necessity. Thus, they conclude that the credit risk may be inversely related to liquidity ratios. Chiaramonte and Casu (2018) further add that while increasing liquidity is generally considered 'good', deleveraging has potentially negative consequences for the real economy. In their study on the relationship between regulatory liquidity and bank lending in the Euro Area, they found liquidity provided no incentives for banks to provide credit to the economy.

Inadequate management practices also affects credit granted. Mwaurah (2013) highlighted it as the basis for commercial bank crises stresses on its important contribution to the level of risk banks expose themselves to. He posits that poor credit management practices lead to bad lending and consequently unpaid loans. In their piece entitled "What caused the Global Financial Crisis-Evidence on the drivers of financial imbalances 1999-2007" Merrouche and Nier (2010) stress that improper supervision and regulation were prime candidates. They further stated that prudent supervision and regulation can limit risk taking and control moral hazard within financial institutions.

Other literature suggests asymmetric information as a major determinant of credit due to the heightened difficulty in distinguishing bad from good borrowers Auronen, (2003). Richard (2011) adds that since borrowers possess more accurate information about a transaction than the lenders, the borrowers tend to have more negotiating strength. As a result, lending institutions provide loans within the bounds of adverse selection and moral hazard; which according to (Bofondi and Gobbi, 2003), lead to accumulation of non-performing loans (NPLs). Supporting literature speaks to a positive relationship between credit information sharing and lower credit risk. In data generated from a cross country survey, Jappelli and Pagano (2000) states that credit information sharing reduced the incidence of opportunistic borrower behavior for banks in Europe. Petersen and Raghuram, (1994) were also of the view that credit information sharing remedies the informational disadvantage experienced by banks which often leads to poor allocation of credit and credit risk in the form of NPLs. In the presence of asymmetrical information, banks seem to be forced to tighten credit standards which consequently implies a decrease in the supply of credit. However, Turner, Robin et al. (2009) support the credit bureau regulation as a cure for asymmetric information. The findings suggest that half of all customers were of the view that they would be more likely to pay their bills on time if those payments were fully reported to credit bureaus and could affect their credit score.

Credit and Economic Growth

Despite the said limitations in the credit granting process, credit remains vital to enhancing economic growth and development in an economy. Beck, T., R. Levine, and N. Loayza (2000) agrees on the strong positive relationship between financial development through inclusion and economic growth. Therefore, access to credit from the formal financial market within any economy becomes equally pertinent to its level of growth and development. Beck, T., A. Demirgüç-Kunt, and M. S. Martinez Peria. (2008) later solidify this position with their assertion that building financially inclusive systems destroys barriers to economic development. In their study "Financial Inclusion and Economic Growth in Nigeria," Abiola & Folasade (2015) note that "*financial development is not simply a result of economic growth; it is also the driver of economic growth*." They further explained that financial inclusion is an important feature of financial development. Abiola & Folasade argued that "financial inclusion is a process that marks improvement in quantity, quality, and efficiency of financial intermediary services. It generates local savings, which increase productive investments in local businesses." They concluded that alternative means of revitalization and diversification must be employed within the Nigerian economy. Nwafor and Yomi (2018) also conducted a study of the relationship between financial inclusion and economic growth in Nigeria and contend that "banks should develop financial products to reach the financially excluded regions of the country as this will increase GDP per capita and consequently economic growth.

Enhancing credit through financial inclusion

This paper, therefore focuses on macroeconomic growth and development in Saint Lucia through the promotion of financial inclusion to increase credit to all citizens. Similar to many countries, Saint Lucians continues with limited access to basic financial services. Many households and small businesses continue to operate solely via cash keeping them in the category of "un-credited"/ "un-banked"/ "underbanked"/ "underserved". Casky (2002), contends that the unbanked "have no financial savings, so there is no hardship from not having access to a financial institution to safeguard such savings. The unbanked have no immediate need for credit or do not find that their unbanked status excludes them from the credit that they do need." Nevertheless, Casky (2002) emphasises that the unbanked remains cut off from mainstream credit and rendered excluded from the financial market. Brodsky (2018), argues that when access to credit increases, the economies become more financially developed.

Furthermore, many theorists have highlighted the importance of financial inclusion and its positive impact on the credit market as well as its ability to drive economic growth and stability. The following literature examines innovative methods of improving financial inclusion through digital platforms, microcredit and credit bureaus. More so, the global use of mobile phones and the now increasing use of mobile wallets, have been used as an engine for improving financial inclusion and credit. Gundaniya 2020, highlights the role of technology in boosting financial inclusion specifically through mobile money or mobile wallets. A mobile wallet is a virtual wallet that facilitates financial transactions with the convenience of not having to physically visit a bank (Financial Sector

Deepening Africa -FSD A). Gundaniya 2020 further argues the mobile wallet is the "perfect solution for those people who want to access bank-like services without actually having a bank account in the first place." Coulibaly (2020) adds that mobile wallets are more economical for financial institutions targeting the underserved or uncredited populace who are generally in rural areas and further contends that the mobile phone became more widely used as a support for spreading financial services beyond the limits of bank branches. Demirguc-Kunt et al. (2015), also make reference to the large decline in percentage of unbanked citizens in Sub-Saharan Africa and affirms that innovations in the technology sector, particularly in mobile money, is responsible for the rapid expansion of access to formal banking services in this region.

Mobile financial services were initially launched in Kenya in 2007 through the M-PESA platform as a method to deposit and withdraw money from an e-wallet. However, Gundaniya 2020 notes that the e wallet did not simply include them but provided them with a financial convenience they had not been exposed to before. Similarly, Huxley (2014) studied the M-Shwari platform which was launched in January 2013 in Kenya as well. Its success led to his prediction that the proportion of poorer users will continue to increase and provided millions of unbanked Kenyans with access to savings and credit services that ultimately and continually assist them in full participation in the financial sector to improve their livelihood.

An alternative approach to reaching the unbanked is through microcredit. Murad and Idewele (2017) define microcredit as the creation of a financial tool that serves the needs of the poor in an effective and efficient manner. The literature on microcredit or microfinance all speak to its ability to increase financial inclusion and reduce poverty. Robinson (2002), posits that microfinance enables low income individuals or groups to safeguard, differentiate and increase their incomes as well as to own assets and reduce their vulnerability to income and consumption shocks. Seibel (2001) views microfinance in a broader manner where it comprises "banking and non-banking, formal and informal financial institutions with financial services of a small scale mostly to low income people and that the term micro banking is used for regulated microfinance institution belonging to the banking sector." In a series of surveys carried out in Bangladesh, Khandker (2003) found that microfinance raised per capita consumption and increased the likelihood that participants would climb out of poverty. He further discovered that microcredit had spill-over effects to the local economies as the welfare impact provided help beyond income redistribution.

Caribbean Literature

In their report on "*Enhancing Access to Finance in the Caribbean; Private Sector Development*", Holden and Howell (2009) express the importance of financial inclusion and its power to develop and strengthen financial markets within the region. In addition to the unbanked, they found that it is particularly small- and medium-sized (SME) enterprises that struggle to obtain credit in the Caribbean and highlight this as the reason for the underdeveloped financial systems in the region. They posit that making financing more readily available to the private sector will cushion the adverse impacts from external shocks that affect the regions' undiversified portfolios. In their study of Problem Loans in the Caribbean Beaton et al (2017) also agree that low credit to the private sector

reduces economic activity increases unemployment, dampens the demand for credit, limits consumption and investment and ultimately hinders economic growth in the region. Holden and Howell (2009) further add that long run sustainable growth will be maximised through the promotion of financial inclusion. They also found that the following are essential to promote financial development within the region; strengthening of property rights and prudential regulations; enhancing the range of financial instruments; making credit information available; introducing e-banking facilities; and reducing transaction costs of financial intermediation.

The purpose of this report is to examine the central issues of the financial market development in Saint Lucia. This report identifies factors that are required for the financial market, with a focus on credit, to function effectively and ascertains policy options. This report therefore adds to the existing literature by examining the credit dynamics specific to Saint Lucia and making policy prescriptions for improving credit in Saint Lucia through financial inclusion. The paper is also applicable to other Small Island Developing States (SIDS) that have increasing deposits or loanable fund with limited credit.

PART B: UNDERSTANDING CREDIT DYNAMICS IN SAINT LUCIA

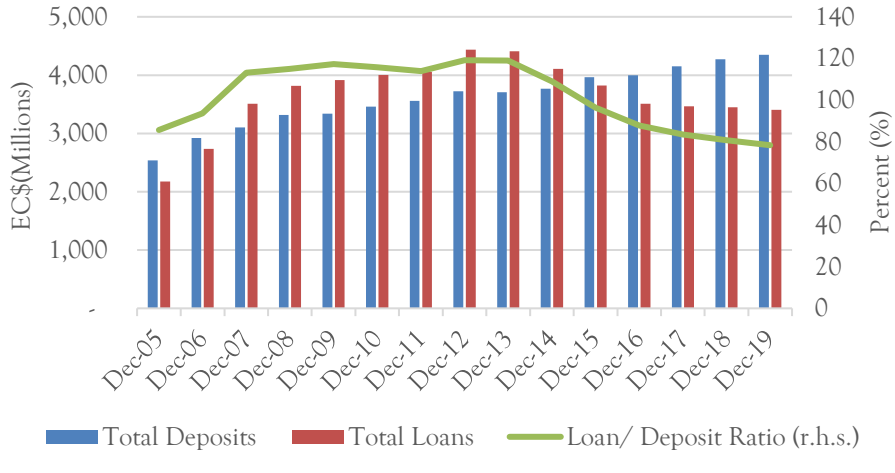
3.0 CREDIT AND BANKING CLIMATE IN SAINT LUCIA

A well-developed and effective financial system is vital to a country's economic performance as it is the driver of investment growth. The financial sector in Saint Lucia is regulated and governed by the Eastern Caribbean Central Bank (ECCB) and the Financial Services Regulatory Authority (FSRA). The ECCB is the governing body of all commercial banks in the Eastern Caribbean Currency Union including five commercial banks[4] in Saint Lucia and three financial services institutions[5]. The FSRA is the single regulatory body which licenses, supervises, and regulates the operations of; twenty-five(25) domestic insurance and pensions, twelve(12) international banks, thirteen(13) money services businesses, nineteen(19) registered agents and trustees, sixteen (16) credit unions and the Saint Lucia Development Bank (SLDB).

Credit profile in Saint Lucia

Figure (xx) highlights the growth in deposits alongside falling interest rates with the declining credit stock (Social & Economic Review, 2019). This highlights the capacity of the financial sector in Saint Lucia in terms of loanable funds available. The growth of credit has weakened since 2012 while deposit increased. The total stock of commercial bank credit fell by 1.2 percent at the end of 2019 to $3.4 million. All amidst improvements in the performance of commercial banks within the sector seeing the percentage of nonperforming loans to total loans improving from a region of 12.0 percent in 2010 to 8.0 percent in 2019. The majority of commercial bank credit being granted for the purpose of; private individuals' personal loans (56.37%), home construction and renovation (18.96%), and house and land purchase (11.71%) segments of the market. Empirical literature posits that a long term relationship exists between mortgage loans and economic growth.

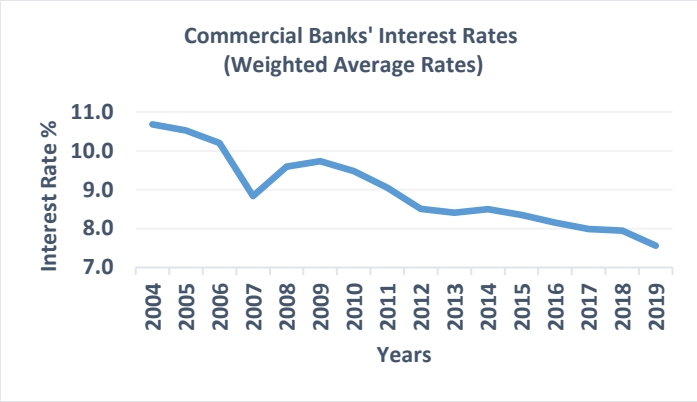
Figure xx: Total Loans to Deposits as at December
Source: Eastern Caribbean Central Bank (ECCB)



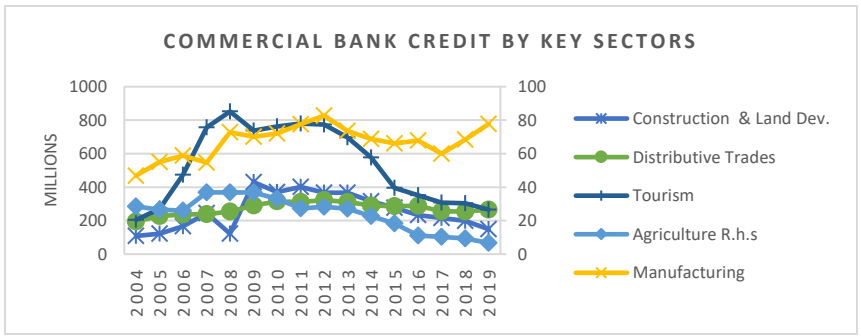
[4] The five commercial banks are; 1st National Bank St Lucia Limited, Republic Bank (EC) Limited, Bank of Saint Lucia, CIBC FirstCaribbean International Bank, and Royal Bank of Canada.

[5] The three financial services institutions are; Capita Financial Services, Sagicor Finance Corporation, and Financial Investment & Consultancy Services Ltd.

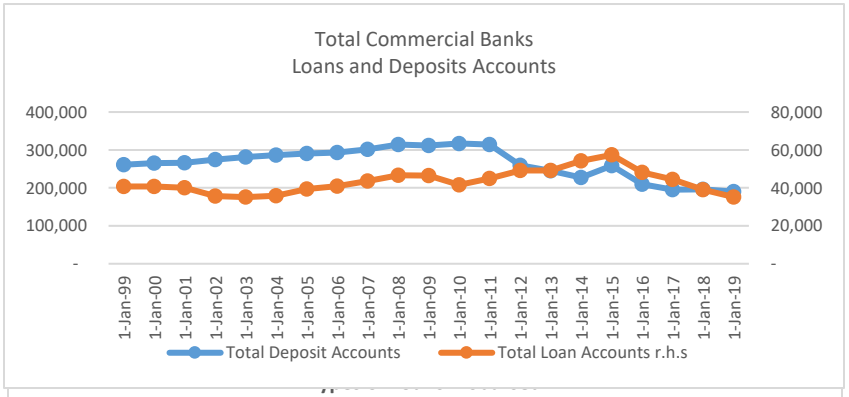
Commercial banks interest rates in Saint Lucia have been on the decline over the years as depicted in figure XXX. According to economic theory an inverse relationship should exist between interest rates and loans. However, credit remains weak despite this decline in interest rates.



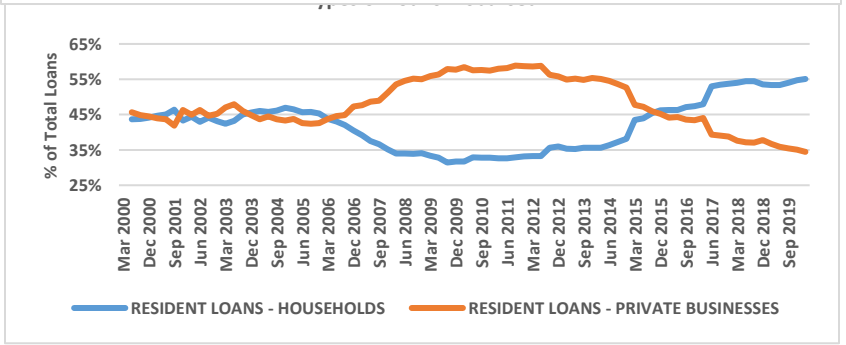
It is also critical to note that credit in key sectors of the economy[6] have all been on the decline over the past years as highlighted in figure XX. It is evident that this decline in credit growth in key sectors started around the year 2009 from the tourism sector. Between the years 2009 and 2019 credit in construction and tourism have declined by approximately 65.0 and 64.0 percent, respectively. This decline in credit is also evident in the fall of the total commercial bank loan accounts as show in figure (xx).



There has also been a steady decline from the year 2010 of the total commercial banks deposit accounts. This shows the possibility of individuals who are already included in the financial sector becoming unbanked.



Between 2000 to 2018 households and private business loans have dominated the share of total loans from commercial banks in Saint Lucia. As can be seen in figure (xx) there as credit to households increase, credit to private businesses falls. Also noteworthy is recent decline in loans to private business while loans to households increases. Loans to private business may be considered high risk when compared to credit to households due to the both internal and external factors which impact the success of a private business venture.



[6] Agriculture, Fisheries, Mining and Quarrying, Manufacturing, Construction & Land Development, Distributive Trades, Tourism, Entertainment & Catering, Transport.

Financial Friction in Saint Lucia

Credit is considered a vital element of an economy, which leads to increased spending, and increased income levels in the economy by (Sharma & Gounder, 2012). In countries like Saint Lucia there are many characteristics which can potentially present barriers to financial inclusion such as; prolonged low growth, vulnerability to external factors, including natural disasters and loss of correspondence banking relationships, amongst others (Li & Cheng-Wong, 2018).

According to the IMF article IV consultation 2019 ***limited access to credit*** is a structural obstacle to economic growth in the Saint Lucian economy. Factors influencing credit are usually that of the broad money supply, lending institution assets, real lending rate, inflation, and bank deposits. Individuals and businesses are said to experience 'financial frictions' which influences the amount of credit which can be borrowed, which arguably plays the most significant role in influencing credit in Saint Lucia (Li & Cheng-Wong, 2018).

Financial friction is considered a channel through which uncertainty affect the real economy (Grimme, 2015). The first financial friction experienced in the financial sector within the Caribbean and Saint Lucia is that of ***imperfect enforceability of contracts*** according to (Li & Cheng-Wong, 2018). Lending institutions, as a result, require individuals to post personal wealth as collateral to receive credit. By doing so these lending institutions run the risk of individuals deceiving them hence, making these institutions less willing to provide credit. These requirements also segment the credit market to only persons who are able to post personal wealth as collateral. As a result, a large demographic of the country is segmented out of the credit market leaving them "uncredited". Another financial friction affecting credit in Saint Lucia is asymmetric information between lending institutions and individuals. According to (Li & Cheng-Wong, 2018), asymmetric information exists when entrepreneurs claim business failure for not being able to pay the credit given. As a result of this financial institutions are tasked with acquiring additional audit services, which cost is transferred to the cost of borrowing. This increases the cost of borrowing reduces the demand for credit.

High collateral amidst other requirements were cited as major influences of credit in the OECS and Saint Lucia (World Bank, 2007). The other requirements which determine the supply of credit to individuals and businesses are; i) feasibility assessments of project proposals, and financials, ii) operational, and managerial capacities of the business, iii) the level of risk which is involved with the use of the credit, iv) existing credit history with other financial institutions due to the absence of a credit bureau, and v) macroeconomic factors which can affect the business. These requirements were cited by banks across the OECS and Saint Lucia, as the main requirements which would regulate their supply of credit to individuals and businesses (World Bank, 2007).

4.0 DETERMINANTS OF CREDIT IN SAINT LUCIA

Having understood the dynamics of credit in Saint Lucia we now empirically assess what factors which influence credit growth in Saint Lucia. We do this by evaluating a linear regression equation by means of the method of least squares (OLS).

4.1 Methodology

According to the literature there are many variables which influence credit in both developed and developing economies. Variables such as GDP, inflation, deposits, interest rates, money supply, non-performing loans, remittances, interest rate spread, interest margin and return on assets all play a critical role in determining credit in both developed and advanced economies.

The paper uses annual time series data covering the period 2000 to 2019 and considers ten independent variables to estimate the determinants of bank credit in Saint Lucia. Data was extracted from the Eastern Caribbean Central Bank Monetary and Financial Statistics data. Following from Ganchev et al (2014), the following functional model is specified as follows:

$$BC_{it} = \alpha + \beta_1 RGDP_{it} + \beta_2 CPI_{it} + \beta_3 SPR_{it} + \beta_4 REM_{it} + \beta_5 IR_{it} + \beta_6 DEP_{it} + \beta_7 MS_{it} + \beta_8 NPL_{it} + \beta_9 ROA_{it} + \mu_{it}$$

Where BC = bank credit; RGDP = real gross domestic product; CPI = consumer price index; SPR = interest rate spread; REM = remittances; IR = interest rate; DEP = deposits; MS = Money Supply; NPL = Non-Performing Loans; ROA = return on assets.

4.2 Data and Results

To determine which variables, influence credit in Saint Lucia the first step is to evaluate the stationary properties of the variables to ascertain the orders of integration. This is done using the Augmented Dickey-Fuller (1979) test (ADF) and the Phillips-Perron (1988) test (PP). The results are presented in table 1 below.

TABLE 1 - ADF and PP Unit Root Test

Level				First Difference			
Variables	**ADF Test Statistic**	**PP Adj. test Statistic**	**Conclusion**	**Variables**	**ADF Test Statistic**	**PP Adj. test Statistic**	**Conclusion**
	Intercept	**Intercept**			**Intercept**	**Intercept**	
	-2.05	-1.68			-4.31	-3.11	
BC	(-0.26)	(-0.42)	Not Stationary	BC	(0.00)***	(0.04)**	Stationary
	-4.84	-4.88			-6.94	-14.41	
RGDP	(0.00)***	(0.00)***	Stationary	RGDP	(0.00)***	(0.00)***	Stationary
	-3.81	-3.81			-6.80	-13.33	
CPI	(-0.01)***	(-0.01)**	Stationary	CPI	(0.00)***	(0.00)***	Stationary
	-4.72	-5.72			-7.05	-12.52	
SPR	(0.00)***	(0.00)***	Stationary	SPR	(0.00)***	(0.00)***	Stationary
	-3.96	-3.94			-5.31	-11.56	
REM	(0.00)***	(0.00)***	Stationary	REM	(0.00)***	(0.00)***	Stationary
	-4.44	-14.23			-7.08	-18.84	
IR	(0.00)***	(0.00)***	Stationary	IR	(0.00)***	(0.00)***	Stationary
	-2.04	-2.08			-5.68	-5.57	
DEP	(-0.27)	(-0.25)	Not Stationary	DEP	(0.00)***	(0.00)***	Stationary
	-2.69	-2.69			-4.51	-4.90	
MS	(-0.09)	(-0.09)*	Stationary	MS	(0.00)***	(0.00)***	Stationary
	-3.15	-3.14			-6.69	-6.69	
NPL	(-0.04)	(-0.04)**	Stationary	NPL	(0.00)***	(0.00)***	Stationary
	-2.72	-3.57			-2.75	-8.65	
ROA	(-0.07)	(-0.02)**	Stationary	ROA	(0.09)*	(0.00)***	Stationary

Notes: *** and ** indicate significance at the 1% and 5% levels respectively.
Source: Authors' estimation.

The results indicate that RGDP, CPI, SPR, REM, IR, MS, NPL and ROA, are all stationary at levels which suggest that they are integrated of order I(0). Alternatively, BC and DEP are non-stationary in levels but become stationary after first-differencing which suggest that they are integrated of order I(1).

The second step is to determine whether there is cointegration among the aforementioned variables and credit in Saint Lucia. This can be done using the using the Auto Regressive Distributed Lag (ARDL) bounds test approach or the Least Squares method using Johansen (1996) cointegration test. Initially we calculated the regression equation using all ten variables with both the ARDL approach and the Johansen (1996) cointegration test. We first started with the ARDL approach however due to the existence of high collinearity among the variables the Eviews software produced the "singular matrix" error message suggesting that we check whether our regressors are perfectly

collinear. Similarly, we calculated the regression equation using the second approach of Johansen (1996) cointegration test however due to the unavailability of data which resulted in our short data set, after attempting to estimate the Johansen (1996) cointegration test the Eviews software produced the error message "insufficient number of observations". To deal with this perfect collinearity in the estimation model we first assessed the effects of GDP, ROE, two-year lag of NPL and Deposits on Credit in Saint Lucia. The results of this regression evaluation are presented in Table 2 and 3 below.

TABLE 2 – Cointegration

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.
None ***	0.94	86.80	69.82	0.00
At most 1	0.73	39.78	47.86	0.23
At most 2	0.52	17.71	29.80	0.59
At most 3	0.18	5.07	15.49	0.80
At most 4	0.10	1.79	3.84	0.18

Notes: *** indicate significance at the 1%.
Source: Authors' estimation.

According to the results, the trace test indicates one cointegrating equation at the 5% level. This indicates that there is cointegration among GDP, ROE, two-year lag of NPL and Deposits on Credit in Saint Lucia. Thirdly we assessed whether the aforementioned variables are significant in explaining the trend in credit in Saint Lucia. The results are presented in table 4 below.

TABLE 3 – Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IR_GDP	-1.36	0.66	-2.05	0.06***
IROA	0.02	0.01	1.83	0.09***
INPL(-2)	-0.14	0.07	-2.06	0.06***
IDEP	2.23	0.47	4.73	0.00***

Notes: *** indicate significance at the 1%.
Source: Authors' estimation.

The results indicate strong correlation between the dynamics of GDP, ROA, two-year lag of NPL and deposits on credit in Saint Lucia, that is, the aforementioned variables play a critical role in determining the demand for credit in Saint Lucia. To confirm this, we first consider the value of the R-Squared indicator which states how much of the variability of the credit is explained by the regression equation. According to the R-Squared, the explanatory variables of GDP, ROA, two-year lag of NPL and Deposits are able to explain 71.92% of the variations of credit indicating that the

variables are significant factors in determining credit. The adjusted R-squared of 62.56% which is a modified version of the R-Squared adjusted for the number of predictors in the model also supports this conclusion. Thereafter, all other variables were tested alternatively however, they were all insignificant.

Overall, the results indicate that inflation, interest rates, money supply, remittances and the interest rate spread do not significantly influence credit in Saint Lucia however, GDP, ROA, two-year lag of NPL and deposits are significant determinants of credit in Saint Lucia.

5.0 ESTIMATING THE RELATIONSHIP BETWEEN CREDIT AND ECONOMIC GROWTH

This section of the paper examines the relationship between Credit and Gross Domestic Product (GDP) in Saint. Lucia. A simple linear regression model is applied and the data is time series in nature. The data on Credit was derived from the Eastern Caribbean Central Banks's (ECCB) monetary and financial statistics while the data series on GDP was retrieved from the website of the Central Statistics Office of Saint. Lucia and refers to the current annual GDP values. Macroeconomic data was used for analysis of each variable within the series 1979 to 2019.

Dependent variable: CGDP

Independent Variable: CRD

(Ho) Null Hypothesis: CGDP does not Granger Cause CRD

(H1) Alternative Hypothesis: CRD does not Granger Cause CGDP

$$CRD_{it} = \alpha + \beta_1 RGDP_{it}$$

Where CRD = bank credit; RGDP = real gross domestic product.

5.2 Data and Results

The analysis attempts to determine whether credit impacts economic growth; whether growth impacts credit and to what extent. Thus, GDP is defined as the dependent variable and Credit is the independent variable. The result of the regression estimation is based on credit (CRD) and the GDP (CGDP) at a 1-year lag and is displayed in Table 1.

The data generated from the regression indicates a strong correlation between CRD and CGDP in Saint Lucia. While the F- statistic revealed 0.0251 and is significant, the R- squared reveals that credit only explains 13.17 percent of GDP and confirms the low weight of lending as explanatory viz GDP in St. Lucia. The findings indicate that credit today impacts GDP only in the short run.

The data also showed that the types of loans disbursed plays an important role on the level of impact credit has on GDP (See Fig. 1.). When the percentage of credit given for private business is greater than that of those given for household purposes, credit has a long run impact on GDP. Conversely, when disbursements are made for household consumption, credit impacts GDP only in the near term (short run).

If the banking sector is to increase its importance, contribution and explanation of GDP, their services must be expanded to the unbanked. Microfinancing with business- purpose loans and guidance for the underserved provides opportunity for Saint Lucia.

The Granger Causality test was implemented to further analyse any interdependencies between the two variables with a lag of 1, 2, 5, 7 and 10 years (See Table 2.). The only significant lag was 1 year. A significant increase in credit (Business loans) in Saint Lucia can generate a more reliable R- squared for credit in the regression equation and consequently increase the spread of growth for more than one year.

Table 1. Regression Results

Dependent Variable: CGDP
Method: Least Squares
Date: 10/09/20 Time: 10:07
Sample (adjusted): 1982 2019
Included observations: 38 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CRD(-1)	0.011210	0.004796	2.337051	0.0251
C	0.061956	0.010121	6.121611	0.0000

R-squared	0.131731	Mean dependent var	0.066789
Adjusted R-squared	0.107612	S.D. dependent var	0.064651
S.E. of regression	0.061073	Akaike info criterion	-2.702288
Sum squared resid	0.134278	Schwarz criterion	-2.616100
Log likelihood	53.34348	Hannan-Quinn criter.	-2.671623
F-statistic	5.461806	Durbin-Watson stat	1.273372
Prob(F-statistic)	0.025117		

The results confirmed the hypotheses that GDP does not Granger Cause CRD and CRD does not Granger Cause CGDP, thus we accept the nulls. In analysing the econometric results, we can conclude that the Granger Causality test corroborates our recommendations to increase credit to influence growth. A 1.00 percent change in credit will cause an 11.75 percent change in GDP.

Although credit impacts GDP only in the short run, it is possible to influence credit in Saint Lucia to have a more substantial longer lasting impact on GDP.

Conclusion credit dynamics in Saint Lucia

The empirical findings above suggest that GDP, ROA, two (2) year lag of NPL and deposits influences credit in Saint Lucia however, interest rate, CPI, interest rate spread, remittances and money supply does not have a significant relationship with credit. Furthermore, the findings indicate that credit impacts GDP and GDP impacts credit. This relationship is nonetheless not significant in the long run but significant in the short run. The investigation also pointed to the need for the financial sector to expand their services for inclusivity especially offering products to the poor.

We therefore recommend financial inclusion through digital platforms, microcredit and the establishment of a credit bureau for financial development in Saint Lucia.

PART C: PROPOSED APPORACH FOR ENHACING CREDIT

Understanding the need for strengthening credit and financial development, use case examples are highlighted in this section to demonstrate how mobile money, microfinance and the establishment of a credit bureaus have assisted in financial development around the globe.

6.0 USE CASE COUNTRY EXAMPLE: CREDIT ACCESS, FINANCIAL INCLUSION AND GREATER ECONOMIC OUTCOME

6.1 Mobile Wallet/Mobile Money Use Case

The formal financial sector is characterised by complex loan application procedures and innumerable requirements making it difficult for the unbanked to access finance. Several methods have been utilized by Governments and the private sector for increased financial inclusion. In particular, policies and strategies have been implemented across the world to reach the unbanked to allow for greater access to financial services and credit. One of those methods used across the world is digital payment platforms Mobile money/mobile wallets[7], first introduced as mobile web payment in 1997 (Rampton 2016). Mobile money's use has however spread throughout the world due to its speed, convenience, security and affordability.

[7] Other examples of mobile wallets are Vodacom in Tanzania, FNB in South Africa, and GCash and SmartMoney in Philippines

Use Case Example: M-Pesa and M-Shwari Mobile Wallet in Kenya

The poster child of mobile money/mobile wallets is M-Pesa of Kenya, launched in March 2007. M-Pesa is a phone-based alternative to physical bank branches stored on the mobile phone itself. M-Pesa was launched by Kenya's leading mobile network operator and telecommunications giant Vodafone and Safaricom to support global efforts of financial inclusion (Hughes and Lonie, 2007). M-Pesa is a virtual bank teller in its user's pockets which initially enabled Kenyans to deposit and withdraw money from an electronic wallet (Mbiti and Weil, 2011). However, overtime M-Pesa moved on to offer a wider array of financial services including virtual savings accounts, loans, and international remittances (Njuguna, 2017).

To be able to extend credit through the M-Pesa platform, the Commercial Bank of Africa (CBA) and Safaricom, in January 2013 launched M-Shwari. M-Shwari is a combined savings and loans product aimed at diversifying the consumption and income benefits of M-Pesa clients with a facility to save and offer credit. M-Shwari allows its customers to open an account without visiting a bank, save money and get interest on their savings as well as obtain loans (Gupta 2013). The M-Shwari account is issued by CBA but must be linked to an M-Pesa mobile money account provider by Safaricom. Deposits and withdrawals from M-Shwari can only be facilitated through the M-Pesa wallet (Africa FSD, 2016).

In the first year of service M-Pesa attracted 1.2 million users and in FY2019 Vodacom reported 400,000 M-Pesa agents in seven countries (Kenya, the Democratic Republic of Congo, Egypt, Ghana, Lesotho, Mozambique, and Tanzania) and 37 million active M-Pesa users. This equated to over 11 billion transactions in 2019 averaging more than 500 transactions a second in the month of December alone (Africa FSD, 2016).

In 2014, M-Shwari recorded a total of 9.2 million savings accounts (representing 7.2 million individual customers) and total disbursement of 20.6 million in loans to 2.8 million borrowers. The introduction of M-Shwari paved the way for millions of poor Kenyans, most of which were unbanked, to use savings and credit services to help manage risks, mitigate the impact of shocks and invest in improving their livelihoods (Africa FSD 2016). It is estimated that access to Kenyan mobile money system M-Pesa increased per capita consumption levels and lifted 194,000 households or 2% of Kenyan households out of extreme poverty. M-Pesa has also helped 185,000 women out of subsistence farming and into business or sales occupations (Suri and Jack 2016).

Use Case Example: Mobile Money Guyana (MMG) Mobile Wallet in Guyana

The mobile wallet platform has also been introduced in other Caribbean parts, in March 2013 the Guyana Telephone and Telegraph Company (GT&T) launched its mobile wallet, Mobile Money Guyana (MMG). MMG, the first application of its kind in Guyana, allows users to add funds to a PIN-Protected account to conduct transactions such as buy, shop, top up, send and receive money and pay bills. MMG works with any GT&T phone or any android phone from another network. Access to the internet or GPRS is not needed and there is no special handset required for this service.

Use Case Example: Conec Mobile Wallet in Jamaica

Mobile wallet is also prominent in the Caribbean Region. In September 2014, the Jamaica Co-Operative Credit Union League (JCCUL) launched a Mobile Wallet called Conec Mobile Wallet in partnership with Paymaster Jamaica Limited, Mozido Jamaica and Centralized Solution Limited. The Conec Service serves as a bank account without the need of a bank. The Conec Mobile Wallet is available to all citizens of Jamaica regardless of whether they are bank or credit union customers. The Conec service allows persons to access the same services on their phones as they would at the branch location. This mobile wallet development enhanced access to basic financial capabilities previously unavailable to a majority of the population, in particular the unbanked population. Conec Mobile Wallet presented an opportunity to capture the unbanked in Jamaica.

The Conec Mobile Wallet offers financial services to more than 2 million underbanked Jamaicans, many of whom gained first time access to financial services. Just a few months after the launch of the Conec Mobile Wallet there were nearly 3,000 users who frequently complete transactions using the Conec Mobile Wallet. The JCCUL expected that by 2014 the Conec Mobile Wallet daily usage to increase to 50,000 users. The Conec Mobile Wallet empowers users of any SMS enabled mobile phone. Much like Kenya's M-PESA system, Jamaicans can use the mobile wallet to see balances, pay for goods and services, complete bill and loan payments, remittances, deposits and withdrawals therefore bringing new levels of financial power to all Jamaicans especially the unbanked and underbanked.

Digital technology has presented a unique opportunity to reach the unbanked and underbanked of the world. For the unbanked, digital payments presents the first entry point into the formal financial system which can lead to substantial increases in savings and greater access to credit. This in turn leads to higher standards of living and improved economic outcomes in both domestic and international economies.

6.2 Microfinance/ Microcredit/ Microloan

Microfinance[8] has been a significant tool for poverty alleviation and economic growth due to its spread in many different countries around the world (Wikes, 2005). Microfinance has existed for many centuries (Armendariz and Morduch, 2010). In Asia, informal lending and borrowing stretches back for several thousand years (Chen, Chang and Bruton, 2017). However, in its modern form, microfinance started in the 1970's in rural Bangladesh when Dr. Muhammad Yunus, professor of economics at the University of Chittagong, visited the local village of Jorba and found a group of 42 women who made bamboo stools for sale. The group of women were tied in a cycle of debt with local traders which lent them the money for the materials on the agreement that stools would be sold at a price barely above the price of the raw materials. In an attempt to break the cycle of debt, Dr. Yunus lent the women the equivalent of US$27 at zero interest for the purchase of the raw materials. This enabled the women to sell their stools for a reasonable price and subsequently

[8] Microfinance is the provision of a broad range of financial services such as deposit accounts, loans, payment services, money transfers, and insurance to the poor and low income households and their micro enterprises through banks and cooperatives, NGOs and private lenders (Daley and Sautet 2005).

break out of the cycle of debt. Inspired by this success Dr. Yunus began the Grameen Bank (Yang, Maia and Stanley 2012), aimed at providing microfinance to low income individuals which were excluded from the traditional banking system. Today, microfinance is employed by governments, banks, and nongovernmental organisations (NGOs) to address the challenges of poverty facing more than two billion people living on incomes of less than US$2.00 per day (Bruton et al., 2013; Chen and Ravallion, 2013). Since its birth in the 1970s, microfinance has been growing rapidly with the aim to lift persons out of poverty and promote economic growth (Alimukhamedova, 2013).

Use Case Example: MicroFinance in the Phillipines

As one of the oldest and most active microfinance environments in the world, the Philippines has proven that microfinance has the potential to alleviate poverty and to serve as a stepping stone to prosperity (Daley and Sautet 2005). In the Philippines, microfinance started in the 1980s with simple business loans however as MFIs became more driven by client demand and competition in terms of product design and offerings, the MFIs began to offer other financial products and other types of loans such as agriculture, housing and education loans. In 2005, in an attempt to give citizens easier access to credit and raise the incomes of the poor, the Philippines government developed a Microfinance Development Programme (MDP) which was expected to increase household incomes and address the poverty and vulnerability of many of its people. In 2007, when the MDP came to an end, outreach had increased from 1.3 million active borrowers in 2004 to 2.1 million by 2008 although many of the poor were refused credit due to their inability to repay a loan. Nonetheless, the increase in loans to micro-enterprises and the new jobs created resulted in increases in household incomes and microfinance institutions (MFIs) showed positive rates of return on assets and equity. The MFIs also demonstrated sustainable operations with increases in financial education and consumer protection (Centre for Public Impact, 2016).

6.3 Credit Bureau

Credit bureaus are information intermediaries in the credit granting process. Credit bureaus credit reporting agency is a firm which collects and subsequently provides information to credit granting firms about the behaviours of consumers when they participate in various financial transactions (Cooper and Getter, 2020). Credit bureaus are a permanent feature of all developed country financial markets as bureaus provide reliable information on all current and potential borrowers at low cost to banks and lenders (Holden and Howell 2009). The credit scoring from the credit bureau could enable expanded lending while maintaining or even reducing loss rates (McCorkell, 2002). Nonetheless, credit bureaus currently exist in only two countries in the Caribbean –Trinidad and Tobago and Barbados. Established since 1964, the credit bureau in Trinidad and Tobago has a large and growing database which is actively used however in Barbados (established in 1994) the credit bureau's information is incomplete as records are collected from hire-purchase, automobile dealerships and finance companies but not from banks (Holden and Howell 2009).

7.0 THE PATH TO CREDIT GROWTH IN SAINT LUCIA

7.1 General Approach

According to (Andrade, 2019), the main driving force of the fourth industrial revolution is the exponential growth in digitization and internet connectivity. New internet-based banking, and investment business models with lower cost of operation have significantly widened the reach of the financial services sector. Digitization of financial services, presents an alternative that can bring banking to the underserved fractions in society (Brodsky, 2018).

7.2 Creating an Enabling Environment for Credit Growth in Saint Lucia

Using the examples from use case examples from section six, would be vital for improving the growth of credit in Saint Lucia. However, for these approaches to be successful there are certain pre-requisites which are to be established; proper regulatory frameworks; appropriate infrastructure; governance as it relates to regulatory authority for monitoring and consumer protection; and partnership and collaboration.

7.2.1 Mobile Wallet

Clear legal and regulatory framework, licensing regime and proper infrastructure are required for the introduction and support of electronic money providers. Most importantly it is essential for digitization of financial services to be trusted and secure. For mobile wallet to be successful in Saint Lucia the following should be considered;

1. ***Digital Identification:*** A digital ID is the electronic equivalent of an individual's identity card. A digital ID can be presented electronically to prove an individual's identity and their right to access information or services online. The establishment of electronic IDs for citizens will help reduce identity theft and enable individuals to use online applications more securely in a variety of industries such as banking (Castro, 2011). These IDs are essential to authenticate to online services, securely communicate online, purchase goods and services, and create legally binding electronic signatures[9].

2. ***Legal and Regulatory Framework:***

    a. ***Cyber Security Legislation (Risk-Based Customer Due Diligence):*** Safeguards are especially important for the vulnerable groups as women and low-income people to protect them against fraud and abuse. This also highlights the need for targeted financial literacy and capacity training, which assist in mitigating these risks. The establishment of a proportionate anti-money laundering framework, allowing simplified CDD for lower-risk accounts and transactions is required.
    b. ***Electronic Signatures Act:*** The introduction of this act will encourage the use of electronic transactions, by ensuring that they are secure, and by establishing a standardized conduct of electronic signatures.

[9] Electronic signature assists in the signing of electronic contract

c. ***Consumer Protection Laws (Low Cost Account):*** Regulations to facilitate financial inclusion such as tiered documentation requirements, and requiring banks to offer basic or low-fee accounts would ensure the expansion of financial services across a wide range of individuals (World Bank, 2017).
d. ***Nonbank E-Money Issuance:*** A specialized licensing avenue for nonbank digital financial services (DFS) providers to allow them to issue e-money accounts. This prevents entities from being subjected to the full range of prudential rules applicable to commercial banks, and not being permitted to intermediate funds.
e. ***Use of Agents:*** Both bank and nonbank DFS providers should be permitted to use third-party agents such as retail shops to provide customers access to their services.
f. ***Amendment to the Telecommunications Act:*** This existing legislation would need to be amended to include telecommunication services geared towards DFS. This would ensure the proper regulation is introduced within the new market.
g. ***"Quality of Service", and "Confidentiality in Network and Services"***: An establishment for quality of service monitoring is crucial to ensure that services remain up to standard to facilitate this approach in Saint Lucia. Confidentiality in network services regulations which are already existent in Saint Lucia would need to be amended to include digital financial services to further facilitate this approach.
h. ***Telecommunications Competition Laws***: Support for telecommunications sector competition, affordability and service quality is greatly needed for the success in the digitization of financial services in Saint Lucia.

3. ***Infrastructure***
    a. ***Basic elements*** required such as smoothly functioning ICT network with broad coverage throughout the country and a reliable power supply.
    b. Mobile Telephone/Data Services: Access to basic mobile telephone services (voice, SMS text, and special system messaging) are essential. Access to data services (3G and above) improves the user experience through app-based delivery of DFS services.
4. ***Government Intervention:***
    a. ***Government Data Platforms:*** This would allow DFS providers to conduct verification of customers, conduct ongoing customer due diligence and validate information on their customer and their assets.
    b. ***Digital ID:*** Digital ID's enables regulators to also simplify the Customer Due Diligence requirements and lower the cost for DFS providers, without compromising safety and integrity.
5. ***Regulatory Authority***: Such services being provided should follow the existing regulatory setup for being supervised by the FSRA and the ECCB. However, there should be collaborations with ECTEL to supervise the telecommunications aspect of this approach.
    a. ***Monitoring and Evaluation:*** Regulatory institutions need to increase supervision as financial services expands. The use of supervisory technology "Suptech" which digitizes reporting and regulatory processes assist in improving operational efficiencies and effectiveness. The efficiencies of such technology can also be used in

the support of compliance with financial regulation (Regtech). Regtech is the use of innovative technologies that support compliance with regulatory and reporting requirements by regulated financial institutions.

7.2.2 Credit Bureaus

Establishing a credit bureau in Saint Lucia is also an important consideration. The issues of asymmetric information, adverse selection, and moral hazards requires well developed information frameworks such as a credit bureau to be mitigated (Holden & Howell, 2009). As a result of insufficient information about client creditworthiness, credit-granting institutions within the region and Saint Lucia have been constrained in their lending to individuals and businesses. The measures needed in Saint Lucia for institution of a credit bureau are as follows;

1. ***Infrastructure (Information Support):*** In order for credit bureaus to serve their proposed purpose it should be able to not only obtain information of bank loan repayment histories but an entire system also taking into consideration, hire purchase, tax, and bill payment histories without prior consent from the individual involved.
2. ***Regulatory and Legislative Framework:*** The International Finance Corporation (IFC) and the ECCB collaborated to establish a regulatory and supervisory framework to support an advanced credit reporting system in the ECCU region. The harmonized "Credit Reporting Bill" and Regulations is need to be ratified in all the ECCU countries. The "Credit Reporting" bill is eminent and ready to be passed in Saint Lucia signalling a step in the right direction for credit bureaus to have the desired effect on credit growth within the country.
    a. ***Data Protection Law:*** This law controls how individuals' personal information is used by the credit bureau and other entities. It also gives rights to individuals to find out what information is being stored about them.
    b. ***Fair Credit Granting and Consumer Credit Regulations***

7.2.3 Microfinance

The granting of credit and financial services to the vulnerable within society at little to no cost in an effort to fight poverty is the concept know as micro-financing. Microfinance institutions are present in the Caribbean region and their operations have been analysed over the years.

Microfinance institutions already exist within Saint Lucia however, there are steps which can be taken for them to be successful.

1. ***Infrastructure:***
    a. In order for microfinance to have the desired impact in Saint Lucia a more privately run approach is recommended.
    b. Despite not falling within the realms of the origin of microfinance, MFI's in Saint Lucia should implement best lending methodologies tailored to fit the targeted demographic, and funding sustainable projects.
2. ***Regulatory and Legislative Framework***:
    a. The "Money Services Act" governs the operations of the microfinance institutions within Saint Lucia and they are regulated by the FSRA.

b. Removing legal provisions (e.g., interest ceilings) or adapting regulatory provisions (e.g., banking regulations) inconsistent with financially sustainable rural and micro finance.
c. Establishing registration and titling systems and foreclosure laws to allow the use of assets (lands, crops, cattle, small equipment) owned by rural and poor urban households as loan collateral.

PART D: CREDIT PATHWAYS

8.0 CONCLUSION

The research carried out in this report relates to the dynamics of credit in the Saint Lucian economy and how it can be influenced to promote economic growth. Credit has not been able to substantially contribute to GDP neither has GDP influenced the financial market, namely credit, as it should. The resultant high deposits and low credit reflects the ineffective and inefficient intermediation between savers and investors in Saint Lucia. The analysis therefore highlights various methods of financial inclusion to stimulate credit, mobilize business investment and reduce poverty and unemployment to ultimately grow the Saint Lucian economy in a sustainable manner.

The financial climate in Saint Lucia was assessed considering key players like banks, credit unions, microfinance institutions, savers, borrowers and the "unbanked". The data revealed that credit has been on a downward trajectory from 2012 while deposits have been on the rise. Econometric analysis also shed light on the determinants of credit in Saint Lucia and the relationship between credit and GDP in Saint Lucia. The existing literature was examined and considered in analysing the case for Saint Lucia. While economic theory suggests a number of factors that influence credit, it was discovered that only a few (namely GDP, ROA, NPL and deposits) influences credit in Saint Lucia. The results of the regression analysis for the relationship between credit and GDP revealed a, positive and bi-directional causal relationship between the two variables. While the Granger Causality test confirmed that increased credit can increase GDP; likewise increased economic activity can fuel credit growth in Saint Lucia in the short run, in the medium term only GDP impacts credit up to a five year period. No causal relationship exists in the long run. The regression revealed that only 13 percent of GDP is explained by credit. So this limits the impact credit has on GDP. Thus, if access to credit is increased and channelled in light of business ventures, credits explanatory capacity of GDP will increase and expand in the medium and long run.

Use case scenarios were then applied to demonstrate the transformative power of financial inclusion in economies. The success of digital platforms such as M- Pesa and M-Shwari in Kenya and mobile wallets in other Caribbean countries like Jamaica and Guyana demonstrate the relevance of financial inclusion and how simply increasing access to credit can make an economy more financially developed. The use cases provided guidance on planning, implementation and monitoring of financially inclusive reform which captured the unbanked and boosted economic growth through credit.

The path to grow credit in Saint Lucia was then considered critically and specific recommendations were made for improving credit in Saint Lucia. The establishment of a credit bureau will combat asymmetric information and is expected to enable increased lending, reduce loan loss rates, promote economic growth. Additionally, the implementation of guided microfinancing initiatives to stimulate business inclusion amongst the poor are recommended as effective mechanisms to assist policy decisions to increase credit in Saint Lucia.

Having analysed the current financial climate in Saint Lucia and identifying a proposed approach, it became clear that an enabling environment must be created in order to facilitate credit growth. The introduction of digital IDs, the necessary regulatory and legislative frameworks, infrastructure, government intervention and an established regulatory authority are all pertinent to the establishment and successful implementation of the credit growth mechanism. A noteworthy finding is the types of loans granted by financial institutions are merely low risk but does not promote growth in the medium to long run. Encouraging more investment type credit relative would assist in improving the impact of credit on growth.

In their study of the relationship between financial inclusion and economic growth, Nwafor and Yomi (2018) contend that "banks should develop financial products to reach the financially excluded regions of the country as this will increase GDP per capita and consequently economic growth." Using theoretical and empirical literature and the experience from economies we recommend financial inclusion through digital platforms, microcredit and the establishment of a credit bureau as necessary and attainable policies/ actions that will increase credit in Saint Lucia. These recommendations will provide the "unbanked" Saint Lucians with access to savings and credit services that ultimately and continually assist in participation in the financial sector to improve livelihoods. The long run goal aims to improve investment and capital accumulation, on every level, to enhance economic growth and development in Saint Lucia.

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