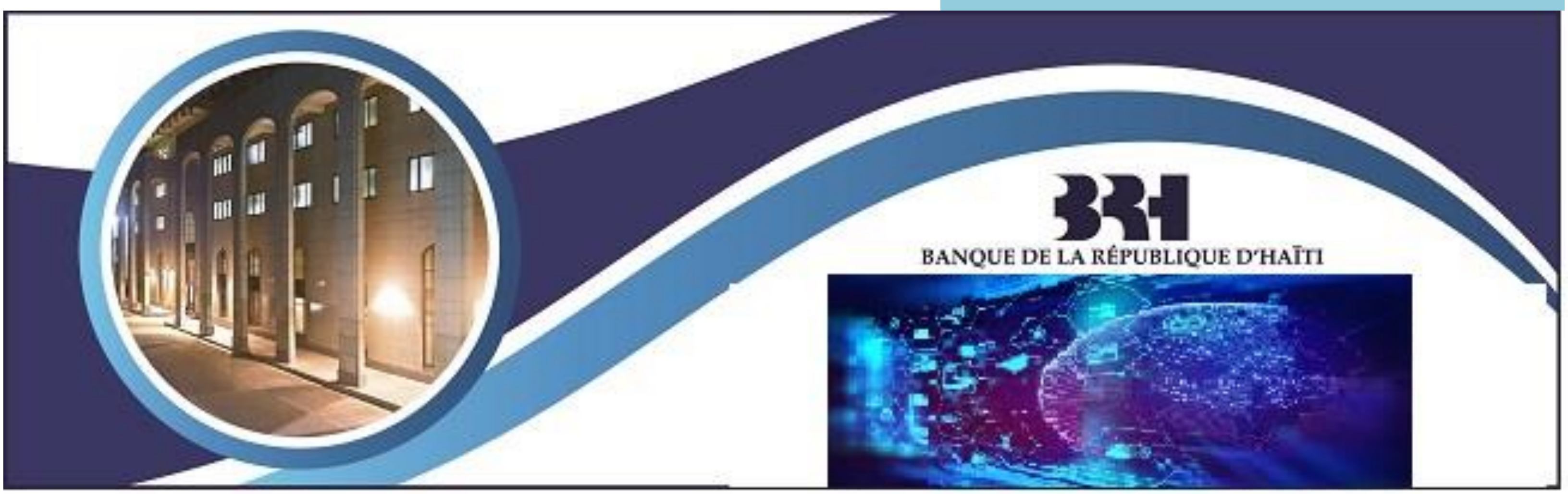
FINANCIAL MARKET DEVELOPMENT & FINTECH DEVELOPMENT IN THE CARIBBEAN REGION



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ABSTRACT

Along the years, the financial system in the Caribbean has been described as a largely bank-based system. However, the recognition from the authorities that the banking sector is insufficient to the needs of development finance has unleashed a major era dedicated to the development and expansion of the financial market.

Inspired by the IMF's assessment of the financial development and inclusion in the Caribbean Region, this paper will explore how financial technology tools (FINTECH) can provide solutions to the gaps identified in the region. IMF's financial development index via valuation of the depth, accessibility and efficiency of the financial framework pinpoints the core strengths and weaknesses in countries financial markets and institutions. This index allows a focus on the available solutions to target the feebleness of the market. After identifying common issues encountered in Caribbean nations among which: *financial market accessibility*, the paper will examine Fintech developments such as crowdfunding, P2P lending and mobile finance that can be key instruments for meeting shortcomings in the region's financial market. Considering efforts already showcased in countries in the region (Jamaica, Barbados and Trinidad & Tobago) we will discuss the possibility for Fintech to be a gateway for countries to leapfrog entire stages in financial market development. Haiti is at the primary phase of the Fintech revolution and has been using this movement to promote inclusion in its market. Even though research reveals the Caribbean region as a fertile area for Fintech advances, conservative results seen in countries like Haiti unveils that without proper regulatory framework, this movement will be unable to mature.

The views expressed in this Working Paper are those of the author and do not necessarily represent the views of the Central Bank of Haiti "BRH".

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Introduction

Financial Markets have the potential to allocate and reallocate resources within an economy in order to provide sustainable growth. Its direct impact on the economic landscape of a country makes it one of the key components to the development of the Caribbean Region. However, in order for it to reach its purpose, proper infrastructure, sound and most importantly diversified financial system must be in place.

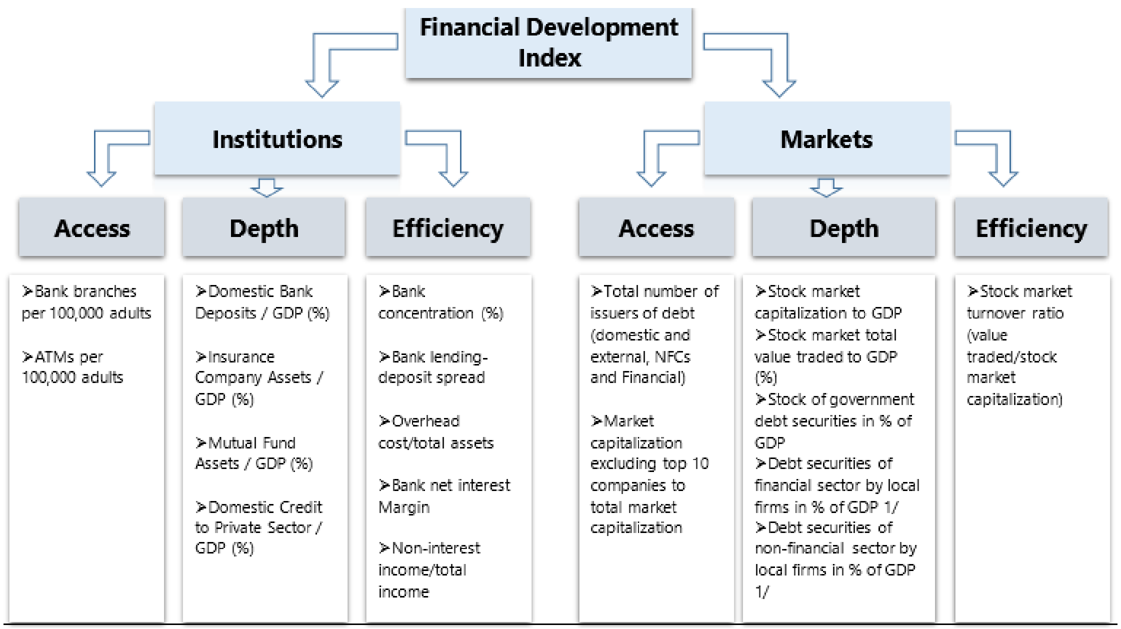
The Caribbean financial sector is primarily comprised of banks which accounts for more than half of the total asset of the financial system. For instance, as per stated in Jamaica's financial stability reports of 2017, commercial bank assets as a percentage of overall financial system assets increased to 34.8 % by-September 2017 and their market share in terms of asset base has increased for more than 90%. In Barbados, Commercial banks represent 53 % of the country's total financial asset and in Trinidad and Tobago 43%. Haiti, does not defer from any of these leading regional countries, commercial banks are set to hold around 90% of total assets in the system. In the region, it is argued that this domination of banks in the financial system is due to the small size and scale of the countries in the region in addition to high debt history, vulnerability to external shocks, low growth and recent losses of correspondent banks. These factors pose main constraints to the development of financial markets in the region. [1]

Using the financial development index developed in Heng and al (2016) and affirming the results found by Li & Wong regarding the current state of financial markets and institutions in the Caribbean, this paper will show that through the development of FINTECH and efforts showcased in leading FINTECH markets in the area: Jamaica, Barbados and Trinidad & Tobago, FINTECH could be a gateway for less developed financial markets like Haiti to leapfrog entire stages in financial market development.

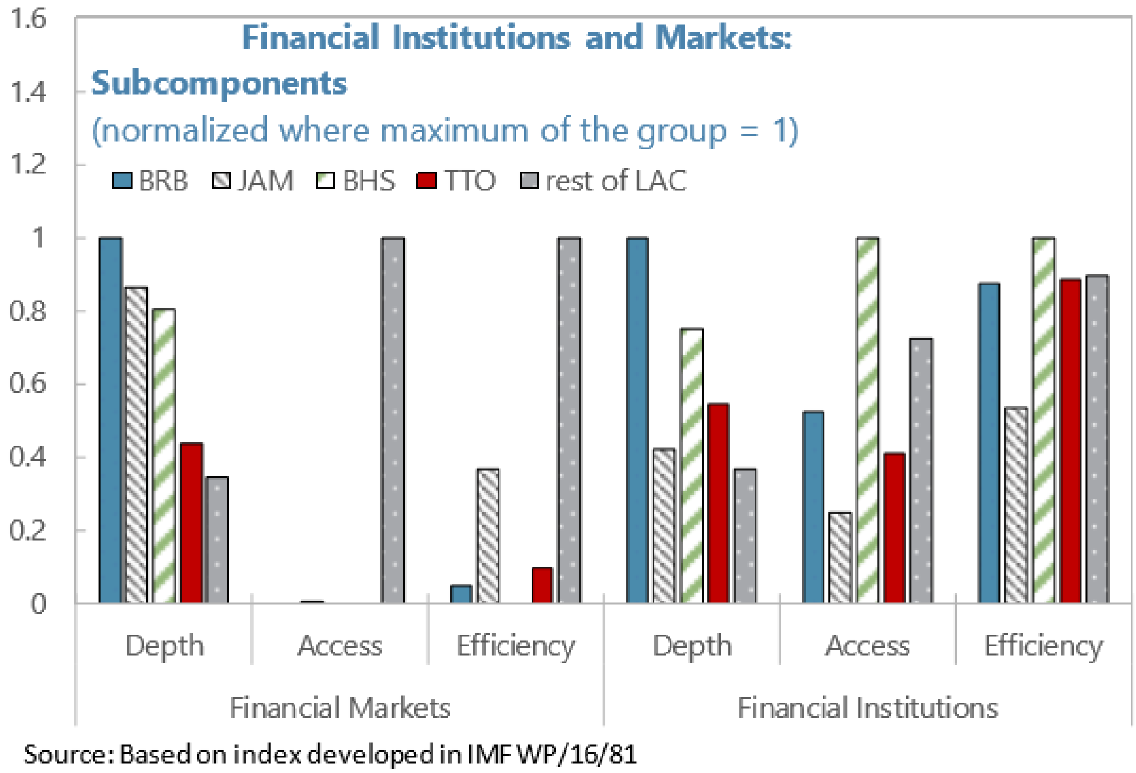
[1] . (Financial Development and Inclusion in the Caribbean, WP/18/53, 03/ 18) In this case (incomplete or misleading)

Overview of the financial system in the Caribbean

The Financial Development Index developed in Heng and al in 2016 assesses two major components of a country's financial system; its institutions and its market. These components are broken down in 3 main categories: depth, accessibility, efficiency in order to evaluate the strength and the weakness in the system. Given data restriction in the region, a matter that can be resolved with FINTECH since one of its biggest asset is transparency; the research is limited to the markets that show greater sign of activity and developments. Through this assessment of the financial system in the region, key areas are pinpointed for discussion and solutions.



Source: *(Financial Development and Inclusion in the Caribbean, WP/18/53, 03/ 18)*



Source: *(Financial Development and Inclusion in the Caribbean, WP/18/53, 03/ 18)*

Barbados

Barbadian financial market has experienced a deepening phenomenon which according to researchers is in part, due to high level of transactions between financial institutions themselves. Concentration, interconnectedness and cross-border linkages are key structural characteristics of the Barbadian financial system. Dominated by commercial banks` (53% of the total financial assets in 2017), all 5 of them foreign, there is an emerging non-bank financial sector : Mutual Assurance Company has become a global financial corporation along with international and regional Insurance companies (holding in 2017, 15% of the system's total assets); credit Unions have grown to be key players in the market; mutual fund industry is thriving; and, the National Insurance Scheme has become the largest domestic financial institution. Moreover, similarly to Jamaica, a major aspect of the financial market depth is due to the country's internal debt amount; according to the IMF projections by the end of 2018 fiscal year, Barbados domestic debt is set to reach 68.9 % of GDP compared to external liabilities accounting for 25% of GDP.[2] However, even when depth is recurrent in the Barbadian market, market accessibility remains a problem as it is noticed in graph above.

Jamaica

Jamaica has had a stable financial development after 30 years of low economic growth and high fiscal deficit. The index showcase that the Jamaican market strength is its depth; indeed in terms of debt issuance for the public sector, Jamaica holds the third spot in the Latin America and the Caribbean Region. As of June of 2018, Jamaica's internal debt amounts to more than 650 million Jamaican dollar with Notes, treasury bills and bonds accounting for 90% of that debt.[3] However, stagnation in the development of financial institution is apparent; it is an aftermath of the 1990's financial shock that left the financial landscape scattered and a high public debt which encumbered the private sector's balance sheet and crowded private credit. It is also steered by low ratios of deposits and credit to GDP, high interest rate spreads, high operating costs, and a concentrated banking market. Moreover, lack of access to credit and equity has constrained the operations and growth of Small and Medium Sized Enterprise (SME) ultimately hindering their contribution to the economy.

Trinidad & Tobago

According to Trinidad and Tobago (T&T) latest Financial Stability report, 80 % of the financial system total asset is concentrated predominantly within the banking sector, followed by insurance and pension. The financial Market's activity is dominated by the public sector which gives it some depth. In fact, even when stock and bond markets reflect thin and low liquidity levels which have inevitably adverse implications for market efficiency[4], the Central Government bond index exhibited positive total return growth over the five-year period. [5] However, despite advances in some performance indicators in 2017, as illustrated in the graph above, compared to both Jamaica and Barbados, evidence of sustained financial market

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[2] *2017 ARTICLE IV CONSULTATION—PRESS RELEASE; STAFF REPORT; AND STATEMENT BY THE EXECUTIVE DIRECTOR FOR BARBADOS*

[3] Jamaica Financial Stability report 2018

[4] Equity market turnover ratios averaged 1.21% during 2013-2017 with only two new stock listings posted during the period.). With regards to stock market performance, the Composite Price Index market capitalization grew by 4.7 per cent in the twelve months to December 2017 (Figure 2). However, this growth appears to be primarily driven by regional equity market performance since the All TT Index declined by 5.7 per cent.

[5] (FIS, 2017)

deepening tends to be somewhat elusive. Market inaccessibility is another tendency that Trinidad & Tobago shares with the majority of the Caribbean region. Most of the country's capital is concentrated in the banking sector; their loan portfolio is highly restricted to a recurrent group of consumers. In T&T latest financial report, household debt is estimated to be at 35.5 % of GDP, of which just over 60% was attributed to consumer loans granted by the banking system. Indeed, loan repartition has remained relatively consistent with previous periods, 41 % of those loans are allocated in real estate mortgages , followed by motor vehicles and other durables (16%) and refinancing and consolidation (13 %); SME financing seems to be shallow.

The Bahamas

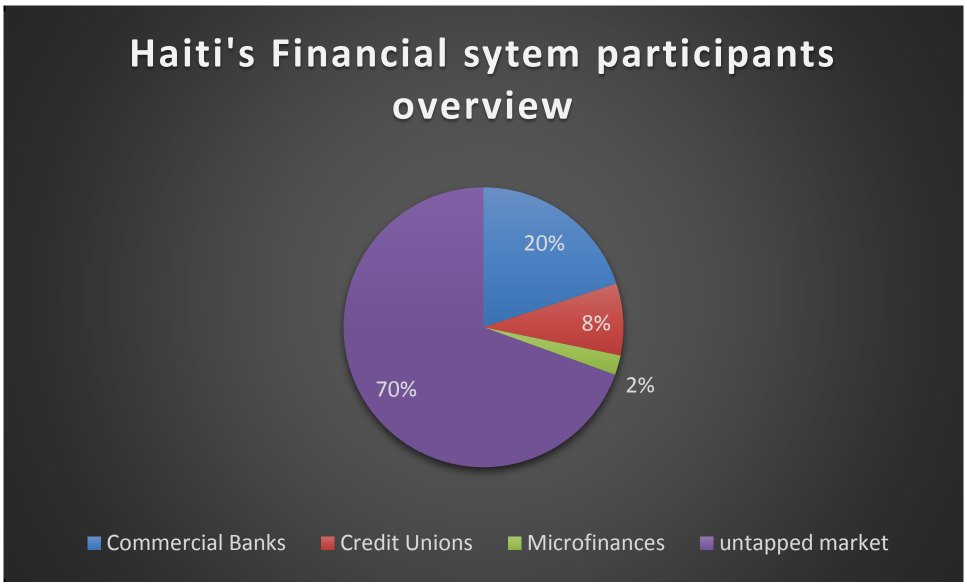
Following the trend of market depth domination in the LAC region, the Bahamas seconds Jamaica in Market depth feature. This depth is mostly driven by international debt issuances from the public sector, debt issuances by the financial sector and the corporate non-financial sector. Furthermore, among the Caribbean Countries assessed in the index, the Bahamas surpassed both Latin American & the Caribbean in both market accessibility and efficiency. This is due to their strong performance in the amount of automated teller machines (ATMs) available throughout the region and the number of banks branches per capita[6]. However, the IMF study does acknowledge that this positive note in market access is mainly linked to the proliferation of banking access points mainly in tourism areas. This factor provides an illusion of high accessibility while it does not necessarily reach everyone in the population. Dominated by banks, there are around 245 Banks and Trust companies licensed to operate in the Region amongst which 8 commercial banks. Commonly to the rest of the region, credit access is shallow; this is also due to high collateral demands.[7]

Haiti

[6] *(Financial Development and Inclusion in the Caribbean, WP/18/53, March 2018)*

[7] "*The Bahamas has higher collateral requirements and very few firms with access to credit. Credit market entry costs are high—but leverage is kept at low rates, so funding is relatively cheap for those that can access it"(Financial Development and Inclusion in the Caribbean, WP/18/53, 03/ 18)*
Credit to the private sector has narrowed by $8.3 million, vis-à-vis a $5.9 million increase; and commercial lending is very limited as it has been reported a very small increase of $1.7 million, slightly higher than 2017's $1.4 million expansion; Commercial credit in foreign currency declined by $4.2 million, vis-à-vis a $1.9 million gain last year (CB, MEFD, August 2018)

Commonly to the other countries, the Haitian financial system is essentially a bank based system dominated by seven (7) commercial banks and 1 investment bank. Commercial banks in Haiti hold 90 % of the total assets of the system and they tend to serve only the formal sector, automatically making them a less viable option to the many informal merchants and the underserved rural communities. The Haitian financial system is also comprised of 132 microcredits and 52 credit unions and Microfinance's; they hold 10 Percent of the systems total assets.

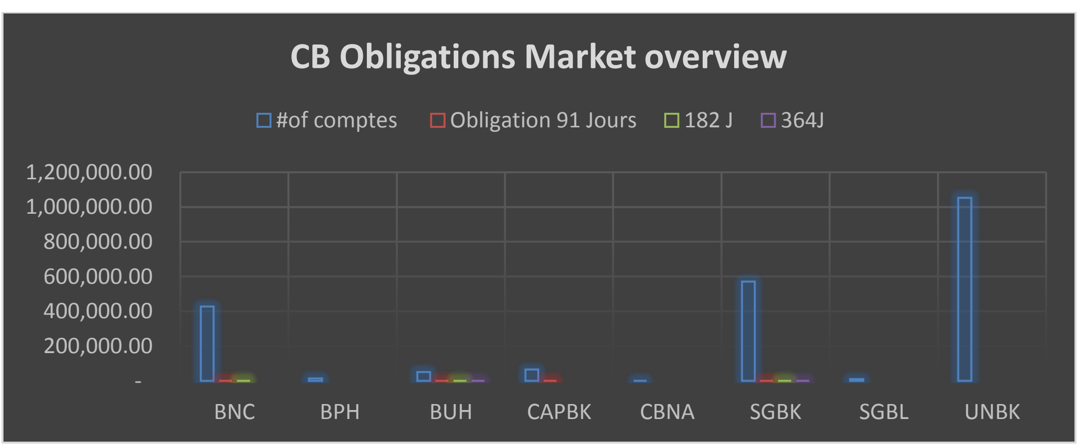


Source: Financial Inclusion Unit, BRH

Unlike the other countries in the region, Haiti Financial Market is at the nascent stage. Depth, Accessibility and Efficiency are factors to be developed: Indeed, Haiti, a small market with 10,911,819 inhabitants and a deposits statistics, as of September of 2017, amounting to 3.3 billion US dollars (about $303/person) concentrated within licensed institutions in the country. This amount is insignificant given the fact that more than half of the population is unbanked. Therefore, due to the lack of financial inclusion also driven by the lack of transparency (inability to access information) financial markets accessibility and efficiency are the main weaknesses in the country. The diversity of the instruments is also lacking; among the few instruments exiting in the primary market are: treasury bills that were created after the January 12, 2010 earthquake of maturities going from 90 days to 364 days; Central Bank Bonds of short-term maturities and Central Bank Obligations of maturities going from 90 days to 364 days. Only financial institutions have access to those financial instruments, except for the Central Banks Obligations

(CBO) that are accessible to the public via commercial banks and cooperatives. The central government is not issuing) long-term instruments given the uncertainty that lies within the market and the culture of risk aversion. Activity is very shallow; out of 7 commercial banks in the country, from September 2015 to June 2018, only one commercial bank which has direct ties to the government “the national bank of credit” participated in the T-Bills auctions. The last T-bills auction in September of 2018 had 3 participants because of the new added characteristic “the Central Bank Guarantee”. However, the Central Bank of Haiti’s (BRH) instruments seems to be dominating the market. Indeed, all 7 commercial banks including non-bank financial institutions (cooperatives) participate actively in BRH bond auctions as these instruments are deemed more trustworthy. CB Obligations are open to the general public, however, not accessible to everyone. As previously stated, only the portion of the population that have access to financial services are able to take advantage of such instruments. Many cases are reported that bank clients are unable to access the obligations due to the fact that this instrument competes with certain products offered by certain commercial banks.

The amount of participants in CB obligations program and the amount of existing bank accounts (even though it is not a viable reflection of the banked portion of the population as clients can hold multiple accounts at multiple institutions) showcase that the instrument does not reach a big portion of the population banked and unbanked. For instance, on a population of around 11 million inhabitants, less than 20% hold a bank account (mobile account included) and around 0.6 % of the banked population hold Obligations certificates. Giving this recurrent bank led model, without financial inclusion which can be attained via the development of the FINTECH industry, market depth, accessibility and efficiency are difficult to achieve.



Sources: DAI & Supervision, BRH

Region's index Result Summary

The Development index shows that overall depth is the main driver of the financial market in these Caribbean countries. Jamaica, Barbados, Trinidad & Tobago and The Bahamas are set to be among the top four in the index's financial markets depth category for the whole LAC region, surpassing bigger markets and more developed countries such as Brazil[8]. This depth is concentrated within those few key actors while Small and Medium Enterprises, that represent the backbones of true development for the region, have little access to the market. Driven by a bank led model to which the majority of the population does not have access to , the capital circulating in these financial markets is predominantly from deposits and is limited to the few in the region that have access to financial products. As a consequence, banks are extremely risk averse when channeling this capital.

Furthermore, a cultural issue seems to be a driver of those identified weaknesses:

1) For instance, cash transaction is the norm and very common; indeed the Jamaican Financial inclusion council affirms that the reliance on cash is very high in the country while the usage of accounts and electronic transactions instruments is low. For example: 65% of wage earners in Jamaica receive their wages in cash , 23% of account holders do not make any deposits or withdrawals into their accounts and most importantly only 30% of Jamaicans save through a regulated financial institution[9].
2) It is reported that Caribbean countries severely lag the rest of LAC in financial market access and efficiency because of shallow equity markets with only a few issuers; indeed, in countries such as Haiti, there is a need to develop an equity culture for the development of the market. Businesses tend to be solely family owned with freight of outside intervention, hence the reason why there is a deep debt market and little equity on the market. Also, a lack of trust in the regulation and financial institutions is another factor explaining the inefficiency of the market; for instance, protection for minority shareholders is non-existent in certain countries in the Caribbean or inadequate.

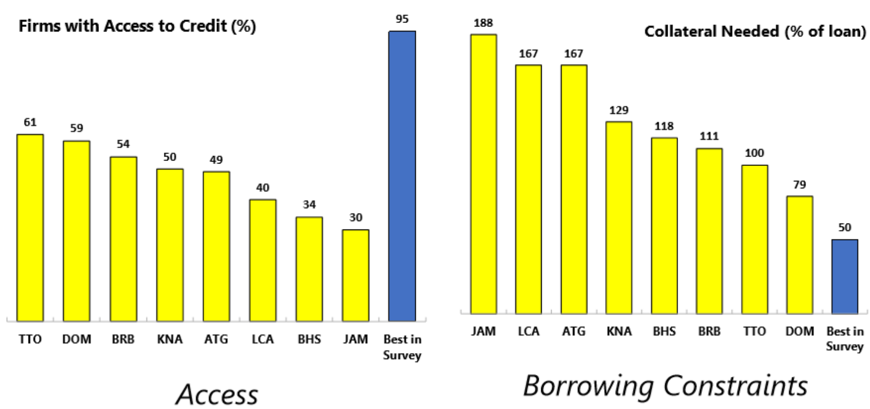
[8] *(Financial Development and Inclusion in the Caribbean, WP/18/53, March 2018)*
[9] *Bank Of Jamaica*

FINTECH a solution to improve market accessibility and efficiency in the Caribbean region

A certitude that is found in most studies of the region's financial market is that the distribution cost for the traditional financial service models are too high. This brick-and mortar bank branch model that dominates the region's financial system is unable to reach many low-income people in the market, especially those leaving in rural, sparsely populated areas, far from any traditional financial branch. By definition, the financially excluded have little to no access to formal credit; hence, have no traditional credit history.

A solution to this dilemma is technology, most precisely financial technology. In fact, FINTECH has the power to overcome physical barriers impeding market access by opening new markets that include people located at the base of the pyramid. However, in order for this to happen, regulations must be aligned to incite inclusion and the right products and services must be developed in order to meet the specific needs of the underserved and the particularities of the environment in which they operate.

Moreover, access to capital is an ongoing obstacle for many entrepreneurs especially in the Caribbean. SMEs are undoubtedly the backbones of Caribbean economy; however, they are deemed too risky which impedes them to access traditional financing in order to develop. The financial system in the Caribbean is primarily a bank based system and commercial banking loans are difficult to secure because of the cash flow and collateral requirements of those banks.



Source: *(Financial Development and Inclusion in the Caribbean, WP/18/53, 03/ 18)*

Additionally, the informal nature of many Caribbean companies makes it challenging for the traditional market players (banks in the case of the region) to connect capital supply and demand. However, with the rise of financial technology innovations, bridges are being set in order to link opportunities with needs. Indeed, Alternative form of financing via technology enabled finance permits and eases access of capital to consumers and companies with low transactional cost; this immediately improves market accessibility and efficiency. Alternative Financial innovative models such as crowdfunding, peer to peer (P2P) lending and mobile banking are imminent solutions to the problems of accessibility, transparency and risk aversion faced in these markets.

Crowdfunding

In the case of the Caribbean, crowdfunding is one of the biggest innovations with the ability to facilitate the growth of key sectors of the region's economy. It is a method of raising capital via the collective efforts of a large pool of individuals through an electronic platform. It highly differs from the traditional sources by which one would raise capital on the financial market (banks, angel investors etc.) limiting your main options to a few key players by broadening the spectrum in order to tap into a wider investor pool and enjoy more flexible fundraising options. There are a variety of crowdfunding types similarly to the different capital round raising activities practiced in all stages of growth of a company. Based on your goals, the type of product or service that your enterprise offers, one can opt for one of the primary crowdfunding methods available:

1) The donation based crowdfunding in which there is no financial return for the investor; these are typically used for social projects;

2) The reward-based crowdfunding in which the investor provides capital in exchange of a reward typically a form of the product or service your company offers;

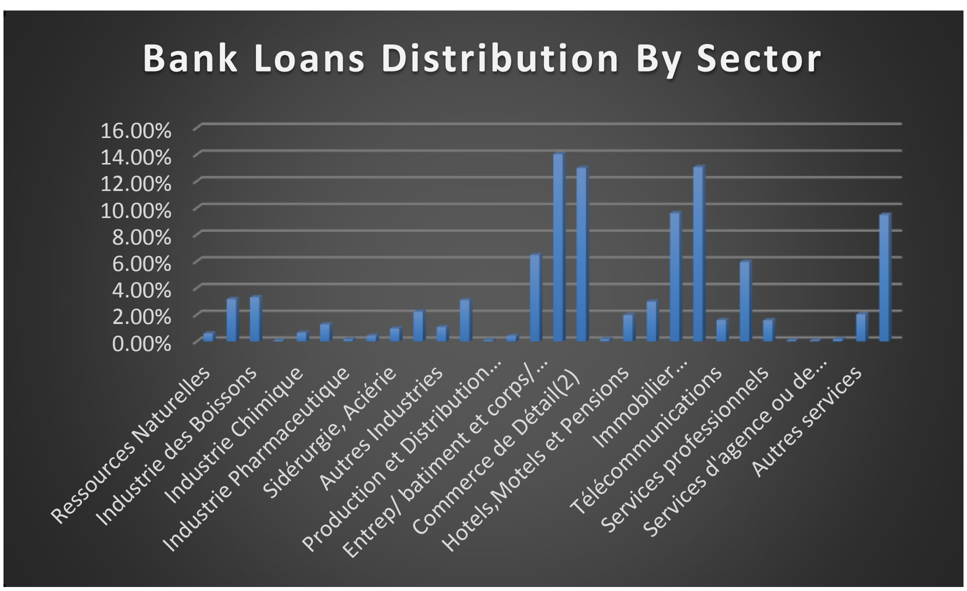
3) Equity based crowdfunding in which the investors become part-owners of the company by trading capital for equity shares. As equity owners, they receive a financial return on their investment and ultimately receive a share of the profits in the form of a dividend;

4) Debt based crowdfunding in which capital raising is through the form of a debt instrument etc. (reference)

The Caribbean region represents a potential environment for the development of FINTECH in order to jumpstart and even to surpass early capital market stages. In fact, the use of internet and social media is competitive in the Caribbean. As of January of 2018, Internet world statistic reports an internet penetration of 48 % compared to 27% in Eastern Africa, 39% in Western Africa, 36% in South Asian, 68% South America; a social media penetration of 40% compared to 31% in Southern Africa, and a mobile connectivity of 74% compared to 61% in Eastern Africa. (Digital in 2018, part 1) However, FINTECH alternatives such as crowdfunding activities in the Caribbean are relatively low but present.

For instance, Barbados is home to a pioneer of rewards based crowdfunding in the eastern Caribbean "VisionFunder". This platform was launched in August of 2014; as stated in its mission statement, while its initial goal is to raise funds for Barbadian business and when imperative provide links to build partnerships with international partners; its long term goal is to become a Caribbean Wide platform. (VisionFunder). Therefore, Vision funder is one aspect of how the Barbadian financial market could be more accessible to the unconventional borrower matched with the unconventional investor.

In addition crowdfunding may serve as an important tool for Haiti; in fact, more than 60% of banks portfolio's in Haiti is allocated towards 10-20 % of its clientele.



Source: Supervision, BRH

Small and medium enterprises are vital to Haiti's economy. They account for 80 % of total employment but they are facing numerous hurdles in their quest for growth, job and value creation. These constraints are due to the lack of access to and high cost of financing. From the allocation of bank loans in the sector, it is imminent that local financial institutions are finding it difficult to extend credit to this market segment given credit risk , market capacity and lack of information; hence, the necessity to encourage the development of alternative financing. Haiti possesses two active crowdfunding platforms:

1) Zafèn which is a loan crowdfunding platform backed by the Fonkoze Foundation.[10] It provides access to the financial market to businesses who normally would not qualify for a bank loan. Its new partnership with international crowdfunding organization KIVA is set to open many doors for their clients. Kiva is a nonprofit, based in California; they operate in more than 80 countries and count in their roster: 3 Million borrowers and 1, 8 Million lenders with a portfolio of 1.21 Billion US dollars of loans. This new partnership will help Haitian SMEs tap in the international financial market.

2) Simen Ayiti: is another crowdfunding platform in Haiti that is led by S.A enterprise called FINPEP. The platform currently has 3 projects in which you can invest in; most of them are halfway to reaching the investment goal. This platform allows you to conduct either reward based crowdfunding, debt based crowdfunding or equity based crowdfunding, while this platform limits the amount that you are able to invest in each project, there is no concrete information as to who is running the project etc. These crowdfunding platforms are giving opportunities to Haitian SME's by tapping into to both local and international market; however, these informal market players as well as their clients are unprotected, therefore limited.

P2P Lending

Peer to Peer lending and crowdfunding share one common aspect; it is that they both raise finance through an online platform by a group of people and investors that are pooled together. However, they differ in the repayment procedure; in P2P lending, there is no option to become an equity holder or any donation platform. Unlike the diverse repayment options that crowdfunding allows to choose from, Peer to Peer lending is solely a loan based financing mechanism. While Crowdfunding can be considered more appropriate for early business stages and startups, Peer to Peer lending is a faster and more accessible way to inject cash into your business. Whether you need a loan to purchase a piece of equipment or property to expand, to

[10] (NGO backed by USAID)

acquire stocks or general working capital, P2P lending for businesses provides the most accessible and flexible way of finance for established enterprises.

This credit mechanism has gained great momentum in Latin America during the last few years; however, this methodology still suffers from headwinds stemming due to an uninformed population and a vague regulatory system. Statistics published by Ziegler et.al. (2017) state that the Latin American and Caribbean P2P market closed 2016 with a total value of USD 342.1 million compared to USD 110.6 million in 2015 and that it represents more than 30% of the region's market value. While this is mainly due to countries like Mexico and Brazil, this trend is slowly but surely catching up in the Caribbean.

Barbados and Jamaica have both been leading by pioneering and encouraging this FINTECH innovation in the region. In Barbados, the lending market has undergone a transformation with the rise of Carilend the first peer to peer lending service of its kind in the Caribbean. This innovative online platform brings lenders and borrowers; and, one of the best features of this company is that when a borrower repays the loans the funds are split and passed onto the lenders who can choose to either reinvest or withdraw their funds. This methodology insures the 3 key components to a successful and fruitful ***e-financial market***:

- **depth** : by deciding to reinvest based of its first successful loan, capital is always moving;
- **Accessibility**: this open platform is accessible to everyone and anyone, with no heavy cash flow and or collateral requirements.
- **Efficiency:** As it displays all the potential risks that may be associated with peer-to-peer lending and the procedures used by the company to manage risk through diversification.

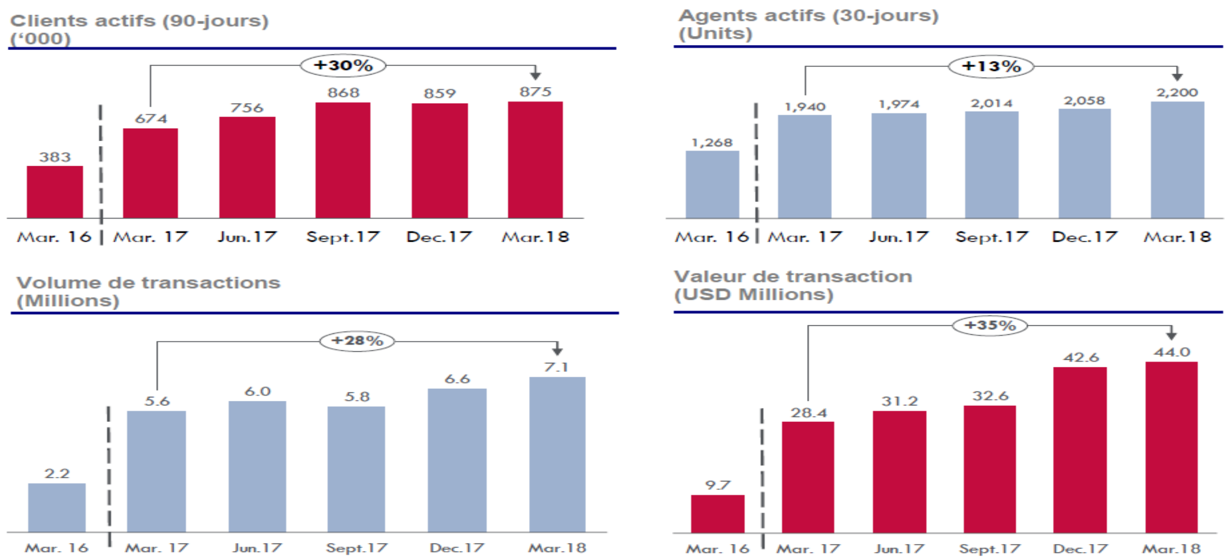
One of the best e-marketplace lending in Jamaica is found in Biztech. With the motto to provide loans were banks are not able to, this platform assess loan request 24/7, 365 days a year. It assures to the lenders high returns up to 40%; sophisticated risk assessment as they employ semi-automated risk assessment and non-traditional data points to screen and verify their borrowers.

Mobile Banking

Traditional Banking methods have failed to provide to all the population of the Caribbean region reliable and efficient financial services. With its rigid policies and high costs, the traditional banking system is unable to meet the needs of the region. Mobile technology serves as an alternative to potentially fill the banking void with its flexibility and mobility. As reported by GSMA (definition), The Caribbean has experienced in the last 3 years the fastest growth in mobile financial services. Mobile money services serve as a powerful tool to expand financial access in developing market and play a critical role in building bridges to integrate the world's financial ecosystem. For countries like Haiti, it is a gateway to financial market inclusion.

The use of Digital Technology in Haiti dates of 1996 with the introduction of credit cards from Visa and Mastercard, and expanded in 2008 with the introduction of debit cards. After the earthquake in 2010, FINTECH activities started to make their mark in the country with the introduction of the Haiti Mobile Money Initiative (HMMI). Inspired by the success of M-Pesa in Kenya, " HMMI" co-founded by the Bill & Melinda Gates Foundation and the United States Agency for International Development (USAID), which started in June of 2010, was designed to spur the launch of mobile money services and aimed to facilitate access to financial services via this newly design service " mobile cash". This initiative laid out the ground for the evolution of FINTECH in the country. 7 months after the start of HMMI, "tcho-tcho mobile" the first electronic wallet and T-cash in the country was launched by two mobile service providers, Digicel and Voilà. In January 2011, after a subsequent scaling assessment, Digicel, the first to meet HMMI requirements with its tcho tcho Mobile 2 services, was able to win the US$2.5 million "First to Market Award". The first 2 years of implementation of this program registered more than 800,000 mobile money users. Even Though the program fell short in transforming those registered customers into active customers, restricting the potential impact of mobile money in the economy, it was able to change the landscape for dialogue on mobile money and e-payment, as well as, showcase the potential for FINTECH evolution in the country.

In April 2012, Digicel eliminated competition when it acquired Voilà, leaving a single product on the market. However, HMMI had laid down the groundwork allowing new mobile providers to enter the market and spark up the evolution of FINTECH products. Digicel made a strategic move when investing in BOOM Financial (a startup first focusing in financial inclusion) but in July of 2015, Boom ceased all activity in Haiti. In 2013 a joint venture between the national bank of credit and mobile payment provider "Haiti Pay" gave birth to "lajan Cash" a bank-led product, focused on establishing a strong national merchant network and mobile transactions. One of the most successful mobile financial products in the country "Mon Cash" led by leading communication company Digicel currently has more than 900,000 customers. As of march of 2018, it has 2,200 active agents and had processed more than 7, 1 million transactions totaling around 44 million US dollars[11]. 44 million USD that was not circulating on the market and that could be channeled in the financial market. Mobile Financial services truly serve as an escape for financial market integration,



Source: Financial Inclusion Unit, BRH

It can serve as module for FINTECH activity of peer to peer lending. This potential was acknowledge by international non-profit platform Zidisha that has launched, in 2015, its cross-border P2P lending platform in Haiti, its first Latin American & Caribbean market. Zidisha leverages the Internet revolution to create a new type of platform that gets rid of intermediaries. But, one of the most interesting features of the Zidisha P2P lending platform is its reliance on mobile payment options. Indeed, with the evolution of mobile financial services in Haiti, this serves as the perfect example suited to serve the underserved portion of the population and stimulate economic growth in the country. To illustrate, in Zambia and Ghana, Zidisha funds are transferred via a mobile phone payment service called MTN Mobile Money. In other countries Zidisha loans are disbursed via electronic payment order. In Haiti, it ended up partnering with cash-to-mobile Boom; however, since Boom is no longer active, it is stated that till this day

[11] Source: Financial Inclusion Unit, BRH

negotiations are still in process for an eventual partnering with tcho-tcho mobile now labeled " Mon Cash" owned by leading communication company Digicel; hence, the non-activity of this platform in the country.

Just like HMMI was unable to transform its registered customers into active customers, despite significant advances in digital banking in Jamaica many Jamaicans are reluctant to use electronic payment instruments.[12]) One of the main reasons for these setbacks is skepticism, the fear of making transactions on these unconventional platforms; hence, the necessity to setup regulations that will stimulate confidence in these innovative financial platforms.

Regulation for FINTECH development

FINTECH has been a leader in innovation on every angle of the financial industry: lending methods, asset management and acquisition, payment and settlement etc. This trend seeks to provide low-cost financial services to anyone regardless of wealth and location. These financial technology firms are bringing to market innovative solutions to promote efficiency and inclusiveness in banking and financial services with the potential of having a great impact in emerging markets. As a result, financial regulation is facing a myriad of pressure as regulators are being forced to reform their tools and infrastructures. Regulators tend to be fearful of the fast growth of FINTECH in the world; indeed, this alternative finance market poses a substantial set of challenges in terms of regulatory risk and oversight. While FINTECH companies can fall within existing legislative perimeter if they conduct activities specified in legislation, they do not easily fit within already established regulatory frameworks. It does not necessarily mean that the regulatory environment should not adapt and adjust to the particularities of the FINTECH sector.

Before elaborating what methodologies need to be used when regulating FINTECH, two important questions to be asked are: Why should FINTECH be regulated? And who should regulate them?

Why FINTECH should be regulated:

For traditional regulators, the most important reason why FINTECH should be regulated is because of the imminent systemic risk that it might have on the whole financial system. The

[12] As reported by the Jamaican National Financial Inclusion Strategy, the use of electronic banking services, mobile and internet based (including debit and credit cards) are very low among Jamaicans. Statistics show that while 65% of Jamaicans own a debit card, only 25 % used in the past year; the report also states that only 3% of adults use mobile banking (March 2017)

rise of FINTECH undermines the traditional thinking that the primary source of systemic risk lays through the domination of large banks and other financial institutions. With the development of this sector in the financial system, this conventional wisdom underestimates the extent to which these numerous scattered platforms can impact the system. Decentralized and atomized market actors tend to carry more risk than singular and concentrated ones. In fact, as exposed by Law Expert William Magnuson: “FINTECH presents a particularly acute problem from the perspective of systemic risk for three reasons: First, FINTECH firms, because of their size and business model, are more vulnerable to adverse economic shocks than large financial institutions, and those shocks are more likely to spread to other firms in the industry. Second, FINTECH firms are more difficult to monitor and constrain than typical financial institutions because regulators lack reliable information about the structure and operations of FINTECH markets. Third, FINTECH markets suffer from collective action problems that inhibit cooperation among market actors.”[13]

Therefore, even though some regulations can be applied to FINTECH Firms, the particularities that this trend carries require some reconceptualization of how regulation approaches this reigning E-Market. However, when trying to enable a favorable regulatory framework, it is essential to promote a legislative environment able to promote innovation while limiting the risks associated to it.

Who should regulate the FINTECH Industry in the Caribbean?

Depending on the level of authority of each institution on the financial Market, in a region dominated by banks, Central Banks should be at the forefront of any regulatory updates as it will inevitably impact the banking system. However, in the Bahamas and Trinidad & Tobago, the Securities and Exchange Commission of these countries have been active in regulating activities in this industry as they represent the Authorities of financial market operations in their respective countries (identical to the USSEC - US market regulator & FINTECH regulators).

In Barbados, the Financial Services Commission, an integrated regulatory body in the system is the one in charge of regulating non-bank financial institutions; therefore could be more suited to intervene in that aspect in terms of harmonization .In Jamaica, the Financial Services Commission represents one side of the coin of the supervisory perimeter, completed by the Bank

[13] (How should we regulate FINTECH, Harvard 2017)

of Jamaica; However, given the specificity of the attribution of this regulatory body, it might be more interesting for Bank of Jamaica to regulate this particular Market.

Haiti's financial market is at the embryo stage, therefore does not carry an independent capital Market authority as it is primarily a bank based system; therefore, the Central Bank of Haiti is more suited to conduct these supervisory duties.

Suggested regulatory approaches to encourage FINTECH developments in the region:

One of the approaches regulators could use when trying to understand FINTECH is to create "innovation hubs". An innovation hub is a platform that can provide to those market participants the necessary knowledge in order to function in complete legality. Provided by the market's regulatory body, it facilitates the innovation of the financial sector by supporting, informing, advising and guiding those regulated or unregulated innovative companies. As stated by the Basel Committee, it is an information exchange platform. (BSC, 2017)[14] The dialogues held in the innovation hub can also help regulator understand how these FINTECH companies operate in order to monitor them and identify the regulatory challenges and opportunities this sector carries.

This approach could be used by the Central Bank of Haiti in regards to some existing FINTECH companies that are undertaking activities non-conform to the law in vigor. As an example "Ibous" is a Haitian FINTECH platform that allows you to make payments, receive payments, make transfers etc. It also allows you to create an account in which you can deposit and withdraw money, but most importantly, they have a secret box in which you can save money for a certain amount of time. According to the law in Haiti, all institution providing banking services (deposit, saving accounts etc.) must be licensed by the Central Bank of Haiti. By setting up an informal innovation hub, the central bank can communicate with Ibous owners, inform and guide them in order to ensure the legality of their operations by helping them in the licensing process; in return, the Central Bank will be able to monitor Ibous activities (make sure that they comply to AML, CFT & KYC laws), have access to their data (promoting transparency) and better protect this platform's customers. Furthermore, with better understanding of Ibous framework and with insurance of the legality of their operations, the Central Bank could even

[14] *Even though there is no set regulatory perimeter for FINTECH, depending on their activities they might be subject to current regulations*

push the platform innovation and development by signing a convention similar to the one signed with banks and financial institutions to sell CB Obligations. Ibous is an accessible and open platform that can open the door to an untapped portion of the market; with a license from the Central Bank, these Central Bank products could be accessible through this platform; it will help expand the Haitian financial market borders automatically improving its accessibility and depth.

A second approach for supervisors when addressing the FINTECH regulatory framework is the "sandbox approach". Regulatory sandbox differs from innovation hubs in the fact that it is more than just a dialogue or an unofficial exchange between regulators and participants. It is a testing platform where FINTECH companies experiment their products in a controlled environment, under the scrutiny of regulators. Therefore, these innovative firms must meet a set of criteria elaborated by the supervisors in order to participate. This unconventional methodology is set to be one of the most successful to date, especially in the world of FINTECH. It permits the regulators to lower the barriers by having a monitored perimeter within which innovative financial products and services can be tested in an opportune and cost-effective process. The sandbox approach evaluates and mitigates the potential risks associated with these innovative ideas in order to ensure the appropriate safeguards before launching them on a larger - scale.

Many countries are adopting the sandbox approach as a response to the FINTECH revolution, even though in some markets impact appears limited, it remain highly viable; especially in the United Kingdom.[15]

When contemplating the establishment of a regulatory sandbox it seems that many countries have opted to follow FCA's blueprint. Setup: Objectives- eligibility- criteria- safeguards- timing.

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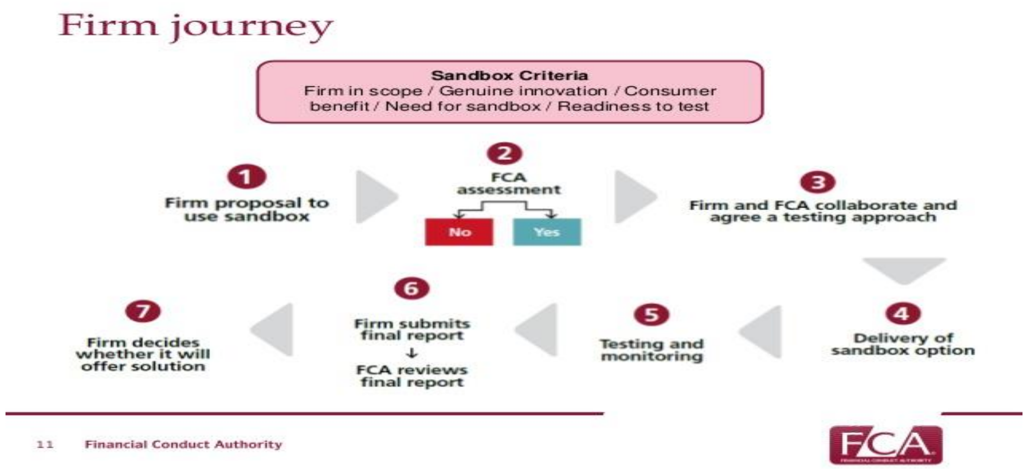
[15] Pioneer of this methodology in regards to Financial Technology innovations, the UK regulating body "the Financial Conduct Authority (FCA)" during their first launch of the sandbox activity received 146 applications from FINTECH Companies. Only 34 % of the candidates met the criteria for participation; however, 75 % of these accepted candidates were able to successfully "graduate" from the sandbox. And, following a fruitful trial, 90% of these firms are setting the ground to launch their products and services on a larger market. It is important to mention that the success of this methodology in the UK is partly due to the advantageous regulatory environment for innovative development such as: tax policies that incentivize business creation, training and assistance to start-ups, conducive business regulation, and strong protection of property rights. (Boodoo & Ramsoobhag, 2018)



By implementing a sandbox approach, instead of pushing away the crowdfunding trend which can be deemed a necessity for SME development given the current financial politics adopted by commercial banks, the Central Bank of Haiti could help platforms such as SIMEN AYITI create a viable market by setting up a testing platform to monitor their activities within the current legislation. This method will help BRH gather data on activities on the market (a current problem that we face as it is difficult to acquire information - greater transparency,) identify which laws to alleviate, enforce and create for the safety and viability of this innovative sector in the country. Nevertheless, in emerging markets like Haiti, regulatory sandboxes alone will not generate the desired innovative current to leapfrog early stages of capital markets in order to keep up with the rest of the region. FINTECH firms and investor will consider beyond these initiatives when deciding to take a business venue or investing. In order to develop the FINTECH industry, Caribbean markets need to take a holistic approach in order to create a business environment that enables true innovation. To accomplish this particular objective, governments must promote FINTECH innovations as part of their agenda by creating incentivizing mechanisms to stimulate the industry. Such as:

1) Providing Tax incentives
2) Setting up Incubators. For ex: in June 2018, the Haitian government launched its first numerical incubator “ALPHA HAITI” to promote the creation of new enterprises.
3) Providing technical and legal advice

4) Promoting policies incentivizing FINTECH practices. For instance: The Securities & Commission of The Bahamas drafted a set of rules in order to: “allow entrepreneurs to use crowdfunding to raise capital and to ease access to capital market funding by small and medium enterprises (SME). The main objective of the Rules is to lighten the regulatory burden and open access to funding for SMEs via the public markets while maintaining appropriate mechanisms to protect investors. The proposed Rules would allow the general public to participate in crowdfund distributions within limitations and would require that all equity crowdfund distributions are conducted on a platform that is registered with the Commission. To help protect small and/or sophisticated investors, the Rules would limit the amount such persons could invest in such distributions in any given year.” (SEC Bahamas, Business rules draft 2017) A similar approach could be used by the Central Bank of Haiti “BRH” in regards to crowdfunding activities in the country.
5) Encouraging partnerships as well as strategic agreements etc. for instance this could be very helpful to Haitian FINTECH firm IBOUS as it cannot reach an agreement with local banks to carry the financial activities. Most if not all of their financial activities are carried via US bank: Bank of America. Etc….

Haiti does not have any regulation that directly impedes the rise of FINTECH activities. The lack of regulations in this matter can turn out to be a double edged sword, as too many regulations can be risky as it impedes innovation and too little regulation can provoke a crash of the FINTECH market that could even lead to damaging the financial system. Haiti has a bank led regulatory approach for any new technological financial innovations. Active regulations that cover FINTECH activities are scattered through different laws: Guidelines relating to Online Banking; additional note to the guidelines concerning online banking; Law on banks and other financial institutions; Electronic Exchange Act; Law on electronic signatures; circular letter 101-3 and circular letter 109. While this set of regulations has helped foster primarily bank led FINTECH activities, it does not respond entirely responds to the pressing needs for the quick development of Haiti’s financial market.

It is important to understand that the proposed methodologies are meant to help foster an encouraging regulatory framework for FINTECH development and to help emerging markets leap over stages in capital market development. But, as stated by both Herrera and Vadillo, (2018) they are not a solutions!!! “They should be considered as a part of a set of policies and measures that enable prudential development of FINTECH. Such packages must be tailored to the sector’s business model and risks, which tend to be different from those of traditional financial institutions” (Boodoo & Ramsoobhag, T&T SEC 2018, *FINTECH Policy Development Determining Appropriate Policy Mechanism for Trinidad and Tobago*)

Conclusion

In the Caribbean region and certainly in Haiti, FINTECH is making an entry in the financial system. Dominated by the banking system, for reasons developed in the paper, the region’s financial market lacks accessibility and efficiency. Financial innovations such as Crowdfunding, P2P lending and especially mobile banking are able to provide these features to the market as they are less rigid than financial institutions and provide access to a significant untapped portion of capital. Thus, allowing less developed countries, such as Haiti, to skip development steps in order to catch up with the rest of the region.

Acknowledging the importance of this innovation for the Caribbean market, countries like Barbados, Jamaica, The Bahamas, and Eastern Caribbean Union have led the way to an integrated FINTECH acceptance as it is a vector for inclusion and economic growth. With the acceptance of innovations such as cryptographic technology via initiatives like digital currencies pilot programs initiated by both the Eastern Caribbean Union and Jamaica, FINTECH is being recognized as a module to build a unified financial market and a solution to a more equal distribution of the world’s financial resources. Indeed enabling innovative financial technology firms to grow cross borders by lowering barriers and providing a more integrated market, FINTECH can help build a stronger regional market; but, it comes with major risks. All markets in the region are not at the same level of financial market development or economic growth, the use of financial technology can help supplying to these differences by channeling untapped portions of the region’s capital and redirecting them towards productive sectors of the economy and increasing financial inclusion. However, it also open doors to contagion, extreme cyber security risk, systemic risks, fair lending discrimination etc. therefore, caution must be taken when opening borders. In order for FINTECH development trend succeed in the region, there needs to be an harmonization of the regulatory framework of the region's countries in which they are evolving in order to provide a clear venue of the development path for this industry and of protection of the regions consumers. In order to ensure an integrated regional FINTECH development, opting for a regional sandbox approach could be a viable option. This regional sandbox would act as a network of regulators from countries in the Caribbean to share experience from sandboxes in their respective jurisdictions; it would also be a center to work on joint policies and incite discussions on the industry; and it could also serve as an environment for FINTECH firms to test cross-border activities in order to push development and innovation. Integration is the gateway towards globalization and FINTECH could be the avenue.

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