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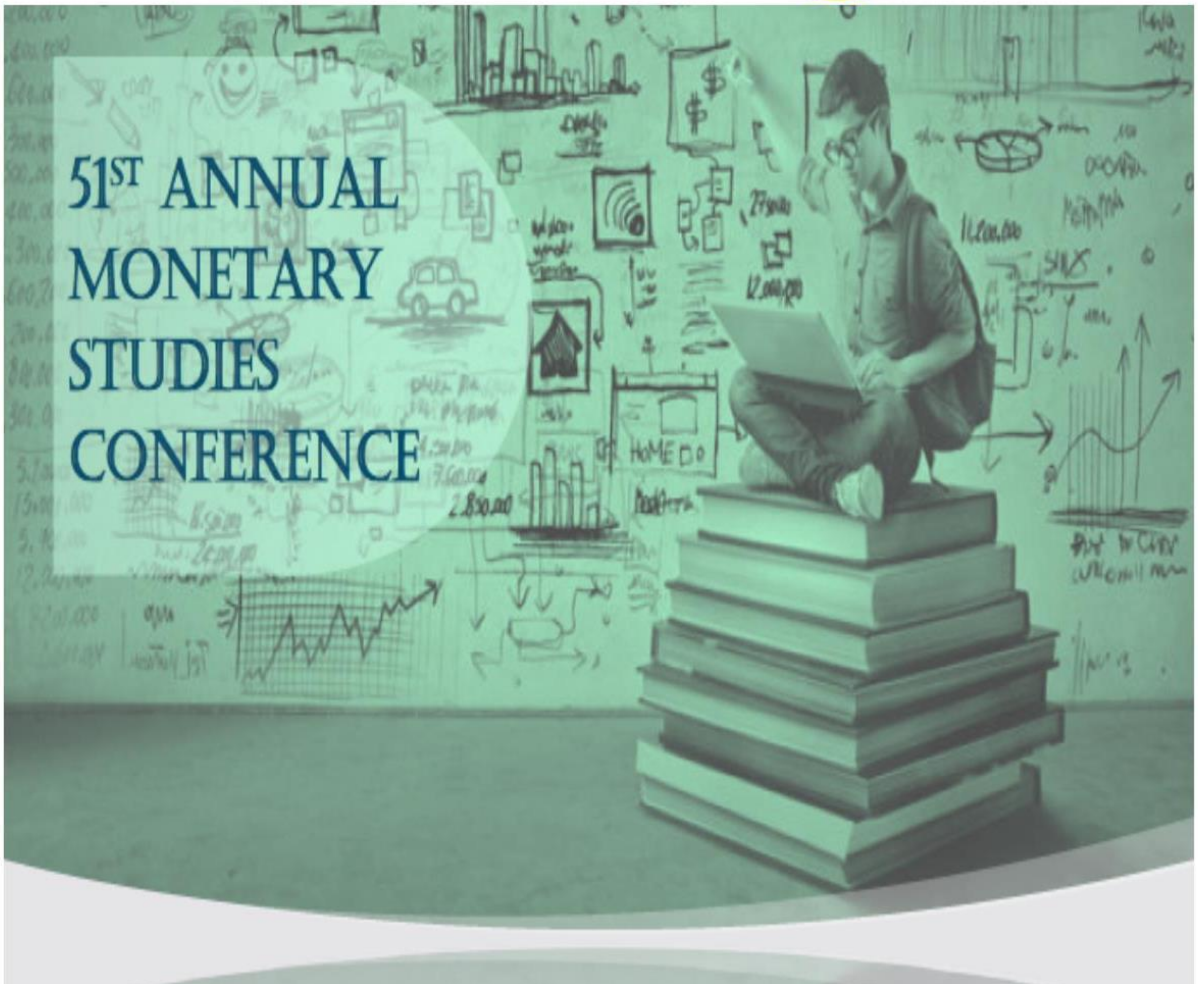

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REORIENTING THE REGION:
Building on Blockchain for Caribbean Integration & Development

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ABSTRACT

In the absence of monetary union in CARICOM and its CSME, fragmentation and complexity are persistent features of regional trade in goods and services as well as other forms of intra-regional engagement. However, the advent of digital currencies and related fintech developments may present novel solutions to these challenges.

This paper asserts that fintech can be used to connect and advance CARICOM member states in innovative new ways, including the introduction of central bank-issued digital currencies within CARICOM and the establishment of the Caribbean Settlement Network to facilitate digital currency convertibility. It, therefore, has the potential to enable accelerated Caribbean integration and development through efforts which are not strictly dependent on CARICOM's intergovernmental, institutional structure for success. Moreover, the proposed fintech-driven regional integration and development may also serve to reposition the Caribbean in the global political economy to the collective benefit of the region's people.

Key Words: CARICOM, CSME, currency, digital, fintech.

INTRODUCTION

To reorient is to "change the focus or direction of" or to "find one's position again in relation to one's surroundings" (Oxford University Press 2018). In the context of this paper, therefore, it connotes not only change within the region but beyond it. That is, a repositioning of the region vis-à-vis the rest of the world. Accordingly, it may be said that financial technology (fintech) presents regions such as the Caribbean, that actively seek to manage natural vulnerabilities and man-made threats, with the opportunity to reorient themselves.

In this connection, fintech may be best understood as a new financial industry that applies technology to improve financial activities (Schueffel 2016). Distributed ledger technology falls within this category and refers to a decentralised type of database which, by virtue of being spread across multiple locations or participants, relies on consensus to process, validate or authenticate transactions or other types of data exchanges. Blockchain is one form of distributed ledger technology that synthesises data in a particular way. That is, into 'blocks' of records linked together sequentially to form an immutable 'chain' using a cryptographic signature called a hash.

While many people simply associate the terms 'distributed ledger technology' and 'blockchain' with cryptocurrencies, to do so is to overlook a significant part of their value proposition. There are countless use cases beyond this. As far as innovation goes, this technology can be compared to the internet itself in terms of its disruptive capacity and potential impact on civilisation (Tapscott and Tapscott 2017). In the simplest of terms, therefore, the main value proposition of blockchain is that the primacy of consensus and the decentralised storage of information it provides makes it extraordinarily difficult to compromise because there is no single point of failure.

For financial systems, this translates into the introduction of unprecedented resilience and the ability to change economic organisation such that transaction costs and the need for trusted intermediaries are significantly reduced (Tapscott and Tapscott 2017). Therefore, fintech initiatives leveraging such innovation, including the Caribbean Settlement Network, could constitute both a sword and a shield for the region in the global political economy, provided that an enabling or at least permissive legal and regulatory environment is fostered.

Background

The member states of the Caribbean Community (CARICOM) share similar history, challenges and aspirations. Many of them are also internationally recognised as Small Island Developing States (SIDS), meaning that they are members of a distinct group of developing countries with specific social, economic and environmental vulnerabilities, including limited resources, high volatility of economic growth, vulnerability to external shock and disproportionately expensive public administration and infrastructure due to their small size (United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States 2018).

In this context, the imperative to integrate is especially high given the opportunity it presents for the pooling of limited financial, technical, human and natural resources. However, persistent fragmentation, including the complex dynamics of sub-regionalism continue to characterise CARICOM (Grenade 2011). Therefore, the history of integration within the Caribbean space has been indelibly marked by periods of creation, conflict, stagnation, ritual, widening and deepening (Payne and Sutton 2001). Moreover, this "push-pull model" has further been criticised as having given rise to a "prime-ministerial, paper-based, piece-meal and people-less" type of integration, which has not served the region well (Grenade 2011, 10-12).

Illustratively, despite being conceptualised as early as the 1980s, the framework for the CARICOM Single Market and Economy (CSME) was not established until 2006 and has yet to be fully implemented (CARICOM Secretariat 2017). Among other things, this has meant that, in the absence of monetary union or direct currency convertibility among member states, the movement of capital has been fraught with difficulty making it both cumbersome and expensive to engage in intra-regional business, trade and tourism (Williams 1985).

Against the backdrop of this factual matrix, financial technology has advanced to such an extent that it arguably presents possible solutions to some of the integration and development challenges faced by CARICOM. As such, the ability of blockchain to facilitate interconnected financial ecosystems and a global (or regional) system of value transfer is particularly compelling. It can facilitate reduced settlement times, costs and dependence on correspondent banking relationships. It also enables the pursuit of deeper economic integration.

The feasibility of this has been established through private sector research, design and innovation enabled by foreign direct investment and leveraging primarily regional talent. Bitt Inc., a financial technology company incorporated under the laws of Barbados (Bitt), has developed the means by which to create digital representations of legal tender. In other words, central bank-issued digital currencies (CBDC) are now technologically possible. Therefore, insofar as interoperability between two or more CBDCs can be achieved, through systems such as the Caribbean Settlement Network, digital currency convertibility is attainable as a deeper form of economic integration.

However, while the potential of fintech as an integration tool within CARICOM may be fascinating, the region has never treated integration as an end in and of itself. Rather, in the context of Caribbean regionalism, integration has always been a means to an end; that end being development. As such, it is important to note that early adoption of CBDCs could mean an opportunity for the region to 'leapfrog' in terms of key development indicators and global competitiveness.

In the present global moment, the dynamics of the global political economy demand that the member states of CARICOM continually seek innovative ways to face their developmental challenges. For example, the natural vulnerabilities associated with being SIDS coupled with the effects of climate change, the threat of financial exclusion due to de-risking and similar concerns increase the need to reinforce the region against such pressures. In this regard, deeper regional integration may be both a shield and a sword in the global political economy. Indeed, this new era of digital currencies constitutes an opportunity to not only revisit intra-regional engagement but also to reorient the region vis-à-vis the rest of the world.

Structural Approach

To establish the foregoing, Chapter I attempts to contextualise Caribbean regionalism by first examining the nature of the Caribbean space before engaging in a historical account of its integration in order to explain the current state of CARICOM, particularly the CSME.

Chapter II then presents specific financial technology innovations as a possible solution to some of the challenges of integration and development raised in Chapter I. It specifically examines blockchain, its value proposition and the prospect of digital currency convertibility through the proposed Caribbean Settlement Network.

Finally, Chapter III explores the notion that through integration greater development can be achieved. In doing so, it presents the argument that should fintech be used as an integration tool in the ways suggested by Chapter II, the Caribbean could reorient itself internally as well as in the global political economy to the collective benefit of the region's people. On this basis, several recommendations are ultimately made and for completeness, possible developments and wider implications of the said recommendations are also briefly considered.

LITERATURE REVIEW

Given the novelty of this area of enquiry, existing literature pertinent to the study was available on integration, fintech or development but not necessarily treating with all of these topics together. Nonetheless, credible sources of enough information existed to establish the relevant conceptual frameworks and to draw the correlations between them expressed herein, including the assertion that fintech can serve as an integration tool to chart new developmental paths.

Conceptual Framework of Regional Integration

According to Sodaro and Collingwood (2004), the global political economy is a complex matrix of relationships between economies and the political power of states and other international actors, which provides a useful framework for examining opportunities and constraints in relation to improving socio-economic welfare at a macro level. Similarly, regions can have their own political economy with different actors but similar complexities. For example, one could speak of the dynamics of the Caribbean political economy of which regional integration would be a dimension.

For the purposes of this paper, Schulz, Söderbaum and Öjendal's book Regionalization in A Globalizing World is particularly instructive for unpacking core concepts, including the disctinction between regionalism and regionalisation. Therein, regionalism is described as "the body of ideas, values and concrete objectives that are aimed at creating, maintaining or modifying the provisions of security and wealth, peace and development within a region" (Schulz, Söderbaum and Öjendal 2001, 10). Regionalisation, on the other hand, is the empirical "process of change from relative heterogeneity and lack of cooperation towards increased cooperation, integration, convergence, complementarity and identity in a variety of fields, such as culture, security, economic development and politics, within a given geographical space" (Schulz, Söderbaum and Öjendal 2001, 10). Though inextricably linked, regionalism is the distinct ideology adopted in a region with respect to integration; while regionalisation may be understood as the process employed by that region to pursue its ideology through to manifestation.

As noted by Dr. Wendy Grenade (2016, 2), "regionalisms differ based on history, political economy, institutional capacity, resource endowment and socio-cultural dynamics". In fact, regionalism now means "different things to different people", presenting both an ontological and epistemological problem (Hettne 2005, 543). Nonetheless, Hettne and Söderbaum (2000) suggest in their journal article - Theorising the Rise of Regionness - that in this contemporary era, globalisation has impacted the notion of regionalism so significantly that the New Regionalism Approach has emerged as a preferable framework of analysis within which old and new theories of regionalism converge.

The New Regionalism Approach refers to "a complex process of change simultaneously involving state as well as non-state actors and occurring as a result of global, regional, national and local level forces" Hettne and Söderbaum (2000, 457). It also acknowledges that generally integration in the Global North is directed towards enabling developed countries to compete better among themselves for market dominance and global pre-eminence; whereas in the Global South, developing countries establish regional projects primarily to strengthen their bargaining power in an arguably unequal and unfair global political economy to mitigate marginalisation (Grenade 2016).

In this context, regional integration or the process of regionalisation may be political, economic, sociological or a combination of these. Illustratively, in the seminal work The Theory of Economic Integration, Bela Balassa (1974) acknowledged that the most advanced stage of economic integration is political union. Building on similar scholarly contributions, Grenade (2016) noted that economic integration is problematic for every regional integration project because it requires sacrifice in order to allocate resources towards meeting its immediate or short-term costs in anticipation of benefits that may only manifest in the longer term. In the interim, uneven development within the region often creates a dynamic of winners and losers among members states that draws sharply into focus the fact that an economy cannot be separated from its society's politics, culture, identity etc (Grenade 2016).

Within CARICOM, economic integration is pursued, at least in theory, through the CSME (CARICOM Secretariat 2010). Therefore, Caribbean regionalism and its relationship with economic integration, must be examined in its full context, including the dynamics of sub-regionalism, given that the Organisation of Eastern Caribbean States (OECS) is a regional project existing within the regional project of CARICOM. There are also overlapping memberships with other regional groupings and arrangements that further contribute to the complexity. In this regard, the paper Regionalism and Sub-regionalism in the Caribbean: Challenges and Prospects - Any Insights from Europe? by Dr. Wendy Grenade (2011) is referenced extensively as an authoritative articulation of the complex relationships at the core of this study. This was supplemented by papers describing and evaluating the CSME, particularly the movement of capital regime (CARICOM Secretariat 2010; and 2017).

It should be noted that regional integration within CARICOM is decidedly intergovernmental, which means that by nature it is more state-centric, focussed on the primacy of sovereign power and tends to prioritise national interests over the regional good when in conflict (Hoffman, 1966, 157-159). This may be contrasted with the supranationalism practised by the European Union (EU) and the OECS. Supranationalism, as an approach to integration, differs from intergovernmentalism insofar as it is grounded in functionalism or neo-functionalism, whereby one or more regional institutions are vested with some of the sovereign decision-making powers of their member states, such that certain formerly domestic matters are determined beyond the state authority for the common 'good' of the region (Haas 1958, 16).

Arguably, both the cause and effect of CARICOM's intergovernmentalism has been the complex dynamic explored by Payne and Sutton (2001) in their joint work Charting Caribbean Development. Therein, they refer to the fact that by design CARICOM sought to avoid any political union or hints of supranationalism and deliberately prioritised the sovereignty of the independent nation-state (Payne and Sutton 2001). In this way, it is suggested, Caribbean regionalism has ideologically resisted integration in the sense that Haas (1958) understood it. CARICOM has from inception been little more than "a structure created by national governments to make nationalist policies more effective by pursuing them within a regional framework" (Payne and Sutton 2001, 174).

Despite the passage of time, the deployment of resources and a few institutional changes CARICOM has large remained true to this form. This has prompted sustained criticism from several quarters (Grenade 2011). One of the most recent being the assessment known as the Golding Report, which enclosed a recommendation that Jamaica essentially issue an ultimatum to CARICOM for, among other things, full implementation of the CSME within five years or they would withdraw from the arrangement (CARICOM/CARIFORUM Review Commission Secretariat 2017).

Conceptual Framework of Financial Technology

Although fintech is a wide concept, capable of encompassing traditional as well as new, disruptive technologies with any applicability to financial activity, this paper is primarily concerned with innovations made within the past decade. The significance of which, is that the world was introduced to blockchain technology through the ground-breaking white paper - Bitcoin: A Peer-to-Peer Electronic Cash System (Nakamoto 2008). As a distributed ledger technology, blockchains introduced the capacity to facilitate decentralised data exchanges and storage in a safe, secure manner, leveraging consensus for enhanced systemic credibility and resilience. Often compared to the internet itself in terms of its disruptive capacity and potential impact on civilisation, the source code of blockchain has since given rise to the development of other new technologies (Tapscott and Tapscott 2017). Credited with having introduced a “new era of openness, decentralisation and global inclusion”, the blockchain has also been described as “the foundational platform of the Fourth Industrial Revolution” (Tapscott and Tapscott 2017, 4).

Leveraging such technological advances, digital currencies continue to be developed to address the inefficiencies of physical notes and the incumbent financial system. However, there are several key concepts which are critical to understanding this space and the United Nations’ Economic and Social Commission for Asia and the Pacific (UNESCAP 2017) offers useful encapsulations of these concepts in its working paper entitled: Digital and Virtual Currencies for Sustainable Development. Therein, the following definitions were set out, which have been adopted for the purposes of this paper:

> Digital currency is an umbrella term for currency that digitally represents value. It encompasses both “e-money” and “virtual currency”.
>
> E-money is a digital representation of fiat currency (the coin and paper money of a country established as legal tender) and is used to transfer value denominated in fiat currency electronically.
>
> Virtual currency is a “digital representation of value that can be digitally traded and functions as (1) a medium of exchange, and/or (2) a unit of account, and/or (3) a store of value, but it does not have legal tender status”. That is, virtual currency is a subset of digital currency that is distinct from e-money. Virtual currency can take many forms. It can be either convertible or non-convertible (that is, exchangeable or non-exchangeable for real currency), and follow a centralised, decentralised or hybrid model (have a single administrating authority, none at all, or some combination thereof). Virtual currencies also include algorithm-based, open-source, peer-to-peer, decentralised, convertible cryptocurrencies, such as Bitcoin, whose operations are protected by cryptography… (UNESCAP 2017, 1).

The UNESCAP Working Paper also offers some particularly useful perspective on the relationship between fintech and development. In doing so, its authors echo many of the sentiments expressed in Bitt's Central Bank Brochure (Bitt Inc. 2017) insofar as it is suggested that effective use of fintech could stimulate economic growth, while reducing systemic costs and inefficiencies.

Similarly, the Bank of England Staff Working Paper No. 724 explored the potential impact of CBDCs on monetary transmission under the heading: Broadening Narrow Money: Monetary Policy with a Central Bank Digital Currency. Having considered various stages of transmission – from markets for central bank money to the real economy – the authors broadly concluded that monetary policy would be able to operate much as it does now, and that transmission may even strengthen for a given change in policy instruments (Meaning, et al. 2018). In arriving at their conclusions, they defined CBDCs in accessible terms as "any electronic, fiat liability of a central bank that can be used to settle payments, or as a store of value" and acknowledged that CBDCs could take various forms (Meaning, et al. 2018, 2).

Having also noted that "…literature remains in its relative infancy with consensus around some fundamental issues only slowly beginning to form", reference was also made to several pieces of work which sought to further unpack the nuanced nature and implications of this innovation (Meaning, et al. 2018, 2). This included identification of at least five possible characteristics, which could generate over thirty combinations of CBDC design choices, depending on the purpose for which the CBDC is introduced. Meaning et al (2018, 4) also noted that the concept of CBDCs itself "sits at the nexus of a number of different areas of research and brings together many complex elements, covering topics as diverse as computer science, cryptography, payments systems, banking, monetary policy and financial stability".

As arguably the most comprehensive and instructive study done to date on the intricacies of CBDCs, Working Paper No. 724 (Meaning, et al. 2018) synthesised a number of the most critical questions facing would–be architects and adopters of this tool as well as a number of possible answers offered by academics, policy makers and industry players. For example, the debate as to whether universal accessibility is an essential characteristic of CBDCs. Fung and Halaburda (2016) and Bjerg (2017) argue that it is; whereas, Bech & Garratt (2017) suggest that CBDCs may be restricted to a subset of economic actors and still qualify as currency.

Given the myriad of design choices available and ongoing debates (technical and otherwise), Bitt Inc., as one of the first fintech companies to pursue the development of CBDCs, proposes the adoption of a global standard to ensure interoperability among CBDCs in their unpublished, Draft Digital Multilateral Clearing Facility White Paper Proposal (Bitt Inc. 2018). Interoperability underpins the Digital Currency Settlement Network also proposed therein, for which the Caribbean Settlement Network could simultaneously serve as proof of concept as well as the foundation for deeper economic integration within CARICOM.

Equally preoccupied with standardisation, the World Economic Forum White Paper – Realizing the Potential of Blockchain: A Multistakeholder Approach to the Stewardship of Blockchain and Cryptocurrencies - set out an approach to governance akin to that of the internet, where blockchain technology is treated as a global resource governed through global networks rather than nation states or corporations (Tapscott and Tapscott 2017). In doing so, the authors identified three levels of stewardship - the platform, the application and the ecosystem – as well as eight stakeholders: innovators, venture capitalists, banks and financial services, developers, academics, non-governmental organizations (NGOs), government bodies, and users or citizens (Tapscott and Tapscott 2017). Perhaps most relevant to this study, Tapscott and Tapscott (2017, 4) also placed considerable emphasis on the need for:

> …stakeholders in the space to codify their common ground through standards networks; welcome stakeholders with radically diverse views of what needs to be done through networked institutions; respect members' interests and constraints through advocacy networks; ensure that no one does any harm through watchdog networks; participate in policy debates and coordinate regulation through policy networks; get up to speed through knowledge networks; and keep incentives for mass collaboration in mind through delivery networks.

Conceptual Framework of Caribbean Development

The imperatives for and impact of regionalism in the developed world differ from those in the developing world. Girvan (2008) and many other development economists argue that regionalism is not an end in and of itself but is a means to an end; that end being development (Grenade 2016). However, Todaro (1994) emphasises that national development is more than economic growth. It encompasses the whole gamut of social, political, institutional and other change that makes the conditions of life within a society materially better (Todaro 1994). In other words, Caribbean integration is a strategy for realising the national development priorities of CARICOM member states.

In this context, the logic of economic integration advances the notion that trade creation will translate into increased development manifested in form of welfare gains such as prosperity and equality (Grenade 2016). However, from the perspective of SIDS, negotiating trade means negotiating differences, such as vulnerabilities associated with size, location, capacities and limited resources (Samuel 2015). Hence the imperative to integrate to expand market access, reduce external dependencies and generate collective self-reliance (Axline 1977). This point was established statistically in a detailed lecture heavily relied upon by this paper entitled: Some Salient Issues for Resolution in CARICOM given by The Honourable Dr. Ralph Gonsalves (2018) to an audience at the Ministry of Foreign Affairs in St. Vincent.

That said, if one accepts that currency is the basis of trade, one can certainly appreciate why multiple, unexchangeable currencies within a single market or economy is an encumbrance for intraregional trade and economic integration. Yet, this has long been the case for CARICOM – a fact that Marion Williams (1985) painstakingly established in her Analysis of Regional Trade and Payments Arrangements in CARICOM 1971-1983.

As it relates to extra-regional factors, the policy framework of neo-liberal capitalism operates on CARICOM member states in such a way that national development priorities are often subjugated to international agendas (Joseph 2012). This is because governance has come to imply the creation of structures of authority within the state and outside it, above the state and below it as a direct consequence of globalisation (Hewitt de Alcántara 1998). For this reason, regionalism can constitute both a shield and sword for sovereign states in the global political economy, but it can also be a “double-edged sword” insofar as its benefits cannot be realised without its consequences, such as compromises in relation to sovereignty, territoriality and autonomy (Grenade 2016).

In a similarly vein, Hewitt de Alcántara (1998) identified that as globalisation drives regional integration, there is a concerted and continual shift of the balance of power away from the state towards the private sector and civil society. At the same time, private sector interests seek to capitalize on the larger markets, increased competition and access to foreign technologies and investment which regional integration affords them (Schiff and Winters 2003). In this way, integration that is more market-led than policy-driven accords with neoliberal demands for the reduction of tariff and non-tariff barriers to cross-border trade, investment and other forms of capital mobility (Kesselman, Krieger and Joseph 2007). In theory, therefore, advancements in this regard would encourage national development through private sector initiative – a notable departure from the direct responsibility typically shouldered by government in CARICOM Member States.

Justification of Current Study

While the aforementioned literature can be used to advance this paper’s hypothesis, the fact that none of it treats with integration, fintech and development together in any comprehensive way has created the imperative for scholarly work to explore the relevant issues coherently. Hence, the research question: To what extent could the introduction of CBDCs and digital currency convertibility advance Caribbean integration and facilitate increased regional development?

In contrast to the existing literature, this paper acknowledges that for the SIDS of the region, development is inextricably linked to integration, in a global context where technological advancements demand a re–evaluation of approaches to regionalism. In so doing, it charts a path to development for CARICOM member states that leverages fintech as an integration tool.

CHAPTER I
Caribbean Regionalism in Context

To explore the extent to which the introduction of CBDCs and digital currency convertibility could advance Caribbean integration and facilitate increased regional development, one must first examine the nature of Caribbean regionalism. Adoption would constitute deeper economic integration and must, therefore, be considered in the relevant socio-economic and political context to be truly understood and evaluated. Similarly, it must be considered against the backdrop of the existing legal matrix of rules and regulations already operating within its proposed sphere of relevance - CARICOM and its CSME. Equally relevant to the necessary context is an examination of the Caribbean space, a historical account of its integration and an assessment of the current state of the region's main integration projects.

The Nature of the Caribbean Space

Depending on one's perspective, the Caribbean is connected or divided by the Caribbean Sea. It includes mainland territories such as Belize and Guyana as well as several islands, many of which are themselves an archipelago or micro-union of islands. It is a diverse space, reflective of several cultures and influences both indigenous and those connected to a rich history of conquest, colonisation and other migratory flows. Therefore, it can be defined in geographical, historical, political, cultural or multifaceted terms. It has been described as a "microcosm of the wider world" (Dukharan 2018); while others have more explicitly noted that it is "…a melting pot of the global trading systems from across the world. It has Dutch, Spanish, French, German, English, American… you name it from around the world, and the superpowers have a presence somewhere in the Caribbean region." (Abed 2018)

Economic theories in their narrow focus on markets, often overlook institutional arrangements, political culture, and issues of identity, citizenship and cultural norms that govern regional economic spaces (Grenade 2016). For this reason, it is important to begin by exploring the nature and nuances of what is 'Caribbean'.

As used in this paper, the terms 'Caribbean region' generally refers to the full membership of CARICOM, which primarily consists of the independent English-speaking countries that were formerly colonies of the British empire. Also known as the Commonwealth Caribbean, they include: Antigua & Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines and Trinidad & Tobago. However, CARICOM also includes other territories such as Haiti, Suriname and several other associate members and observer states, some of which are not independent or were colonised by different European powers. Likewise, the OECS encompasses its founding members as well as the British Virgin Islands, Anguilla and Martinique. This introducing language barriers, various constitutional arrangements and further cultural diversity into regional interactions.

Additionally, the dynamic of sub-regionalism at play between the OECS and CARICOM can be complicated, especially given the enduring uneven development and distribution of resources. For this reason, CARICOM's OECS members are Less Developed Countries (LDCs) within the CARICOM framework, while Barbados, Guyana, Jamaica and Trinidad and Tobago are categorised as More Developed Countries (MDCs). A distinction which sometimes leads to tensions around resource allocation, contributions and preferential treatment (Gonsalves 2018).

Another very important dynamic of the Caribbean space relates to overlapping memberships with other organisations such as the Association of Caribbean States (ACS), Caribbean Forum (CARIFORUM), Organisation of American States (OAS) and the Community of Latin American and Caribbean States (CELAC), all of which can arguably extend the definition of 'the Caribbean'. Even beyond the region (wheresoever the line is drawn), several member states have pursued or are pursuing external associations, independent of any coordination with each other (Grenade 2011). Each such arrangement may require different but certainly some level of investment and commitment, which undoubtedly must have some impact on CARICOM, however small and whether good or bad. It has been suggested by some scholars that one such impact could be a "participation deficit", which may be a contributory factor to the current state of CARICOM (Grenade 2011, 11).

Presenting an alternate view, Gonsalves (2018) asserted that the integration process in the Caribbean has always been marked by distinct but connected circles of integration:

> The most tightly-drawn integration mechanism is the OECS; more loosely is CARICOM; then there is the ACS which links the English, French, Dutch, and Spanish-speaking countries washed by the Caribbean Sea and has as its functional emphases trade, technology, tourism, transport, and the management of natural disasters; CELAC, a hemispheric political body which includes all Caribbean and Latin American countries but which excludes the USA and Canada; and the political and economic ALBA-Petro Caribe nexus which includes several Caribbean and Latin American countries in close tandem with Venezuela and Cuba. Each integration circle has its points of contact and relevance with others, all of which are designed to advance the interests of their member countries in solidarity with each other. None of these integration circles undermines the integrity and efficacy of another; indeed, they are all supplementary and complementary to each other in a dynamic integration process.
>
> At the same time CARICOM has negotiated trade agreements with several countries including Canada, Cuba, the Dominican Republic, and a trade and development agreement with the European Union. CARICOM, too, has a non-reciprocal agreement with the USA on a limited range of commodities through the Caribbean Basin Initiative.

With valid points on both sides of the debate, the question of whether sub-regionalism is a stepping stone or a stumbling block for regionalism is a very relevant consideration. Sub-regionalism in the Caribbean certainly serves to underscore many of the criticisms levelled at CARICOM, including Grenade's (2011, 12) assessment of it as "prime ministerial, paper-based, piece-meal and people-less". For example, juxtaposed to the OECS' integration project, which is more indicative of what Barrow-Giles (2002) refers to as the creation of a new national identity at the regional level, CARICOM leaves a lot to be desired in terms of return on investment and realization of objectives. Furthermore, stagnation at the regional level often incentivises deeper sub-regionalism and this has certainly proven to be true with CARICOM and the OECS (Grenade 2011)

<u>A Historical Account of Caribbean Integration</u>

Any complete examination of Caribbean integration cannot begin with the independent Caribbean state. According to Beckles and Shepherd (1996), colonialization and suppression of domestic populations in the Caribbean spans from the 16^{th} to late 20^{th} centuries, evolving from the repressive Old Representative System to the exploitive Crown Colony Government after emancipation. It had a largely Mercantilist policy framework where the Crown determined, regulated and drove economic activity in its colonies via a system of governance that monopolised trade and the factors of production. Therefore, relationships among the British colonies of the Caribbean were premised primarily on administrative convenience for the Crown to facilitate its extraction of resources from the colony to the metropole (Beckles and Shepherd 1996). This is evidenced by early attempts at federation such as the Federal Colony of the Leeward Islands, the Federal Colony of the Windward Islands and the administration of the Cayman Islands and Turks and Caicos from Jamaica.

However, with ideological shifts in the global political economy came trade liberalisation and the removal of market preferences for agricultural products like sugar. This, in addition to internal social and economic consequences of World War II, undermined the economic benefits of Caribbean colonies, giving rise to negotiations for their independence. The initial intention was for these colonies to become independent as one state through the formation of a political union called the West Indies Federation. This was tabled as a condition precedent to political independence on the premise that individually, the colonies were too small to stand alone, especially vis-à-vis other states and external actors. Therefore, as Sir Arthur Lewis is often quoted as saying, the region "…did not start on the federal road in a fit of idleness". It is notable, however, that the conceptualisation of a federal road was not an indigenous one; it was instead the price initially quoted for freedom.

Perhaps indicative of this fact, it took little more than four years for the West Indies Federation to collapse. This was due primarily to political feuds within its leadership, competing insular nationalism, unequal distribution of limited resources and the weakness of the Federal government. Coupled with no history of common administration, geographic distance and the fact that independence had yet to be achieved, discontent manifested and multiplied until Jamaica ultimately withdrew and sought independence alone. Trinidad and Tobago followed soon after with its then Premier Eric Williams asserting that "one from ten leaves nought". Although the other countries tried to salvage the project, Barbados was unable and unwilling to carry most of the financial burden and proceeded to its own independence in 1966. The remaining seven islands each proceeded to independence 8-17 years later. In 1981, they also founded the OECS, which leveraged some remnants of the West Indies Federation including, predecessors to the Eastern Caribbean Central Bank (ECCB), Eastern Caribbean Supreme Court, and Eastern Caribbean Civil Aviation Authority (Grenade 2011). Notably, the mainland territories of Guyana and Belize were mere observers as they had opted not to join the West Indies Federation.

In the wake of Federation, the region adopted a minimalist approach to integration which was indicative of an unwillingness to share state power with a regional centre (Grenade 2011). Preferring to focus instead on economic integration and functional cooperation through an intergovernmental model of integration, the Caribbean Free Trade Area (CARIFTA) was created to encourage balanced development of the region by increasing, diversifying and liberalizing trade in goods among member states while ensuring fair competition. It also sought to ensure that the resulting benefits were equitably distributed through special arrangements for the LDCs. CARIFTA was eventually superseded in 1973 by CARICOM, to which a common market was integral. By 2001, under the Revised Treaty of Chaguaramas, provisions were made for the common market to become the CSME, which was partially implemented in 2006 and remains in that state.

The deepening and widening of Caribbean integration are indicative of the reality that regionalism serves as an important buffer between individual states and the rest of the world for the purposes of trade, security and sustainable development. However, it has even been noted by the longest serving CARICOM Head of Government that typically other CARICOM Heads of Government tend to be "lukewarm" towards the idea of introducing supranationalism in order to advance the CSME when in office and far more enthusiastic once they have left (Gonsalves 2018).

Without a doubt, the failure of the West Indies Federation continues to haunt CARICOM. According to Payne and Sutton (2001, 173), it ensured that by design CARICOM sought to avoid any political union or hints of supranationalism and deliberately prioritised the sovereignty of the independent nation-state over any notion of a shared identity or destiny. In contrast, as Grenade (2011) points out, the OECS capitalised on the collapse of the West Indies Federation to build its deeper, more successful integration (Grenade 2011). It can be said, therefore, that from inception the regionalism underpinning CARICOM ideologically rejected deep integration and any form of supranationalism, which Girvan aptly describes this a CARICOM's "original sin" (Grenade 2011, 11).

Although this paper places considerable emphasis on CARICOM's deficiencies, that is not intended to diminish its successes or significant contributions to regional development. Solid progress has been made in trade facilitation, freedom of movement, the operation of the Caribbean Court of Justice (CCJ) in its original jurisdiction, functional cooperation in education, health and security as well the coordination of foreign policy but there is still much more to be done (Gonsalves 2018). This context is important because it is tempting to constantly compare CARICOM to other integration projects. While such comparative analysis has its purposes, it can also feed into the dangerous narrative that CARICOM is a waste of resources. Having said that, however, this paper must also be critical of CARICOM's current stagnation, particularly in relation to the full implementation of its CSME.

The Silent 'E' in CSME

Inconsistent with the promise made in the 1989 Grand Anse Declaration to establish the CSME in the shortest possible time, it has yet to be fully implemented almost thirty years later (CARICOM Secretariat 2017). It would be more accurate to refer to the initiative as the CARICOM Single Market (CSM) given that there is no single economy among the participating states. For the avoidance of doubt, the States participating in the CSME include: Antigua and Barbuda, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago (CARICOM Secretariat 2010). As such, the ability of eligible persons (natural or legal) from these member states to produce and trade in goods, provide services, move capital, establish business enterprises and move freely without a work permit are currently more constrained than envisioned (CARICOM Secretariat 2010). As Grenade (2011, 10) notes:

> The CSM became the defining pillar of CARICOM during the last fifteen years or so. The overall purpose of the CSM is to integrate the economies of CARICOM into a unified market in which people, goods, services and capital move freely and into a single economy that functions under the same harmonized economic policies. However, the CSM is riddled with challenges.

CARICOM's top-down approach to integration is often criticised as being disconnected from the realities of its people. Saunders (2011) insists that better leadership, financial and technical resources and properly empowered supranational machinery are required for CARICOM to effectively exploit strategic partnerships and explore developmental opportunities. In line with these sentiments the Golding Report (CARICOM/CARIFORUM Review Commission Secretariat 2017, xi) had the following to say about the CSME, before ultimately articulating a recommendation that Jamaica withdraw from it if it was not fully implemented within five years:

> …something cannot be said to have failed unless it has been tried. The Single Market and Economy that we so often declare is not working **cannot**, in reality, be expected to work because it has not yet been functionally established. The decision we made to build one, however sincere that intention was, has not up to now been carried through. So much time has elapsed and so much that should have been done has not been done that we are in danger of succumbing to "integration fatigue" without having actually integrated and we are having difficulty sustaining or renewing our commitment to the process.

As demonstrated by the EU and the OECS, a common currency is critical to the kind of economic integration envisioned for the CSME. Among other things, the absence of monetary union or direct currency convertibility within CARICOM or its CSME has ensured that despite Articles such as 38, 40, and 44 of the Revised Treaty of Chaguaramas, the movement of capital within the region is anything but free. Therefore, even for persons not inclined to agree with everything in the Golding Report, it is difficult to take issue with the position that:

> If after these many years a commitment cannot be given and delivered on to complete within the next five years the work started more than a generation ago, the inevitable conclusion that must be drawn, in our view, is that either the material conditions for creation of a single market and economy do not exist or, alternately, the will to create it is simply not there (CARICOM/CARIFORUM Review Commission Secretariat 2017, xiii)

Indeed, meaningful economic integration and implementation of the CSME, as contemplated by these excerpts, are undermined by the existence of multiple, unexchangeable currencies, some of which are pegged to the United States dollar (USD), while others float. However, bound up in the concept of national identity are small but meaningful elements such as seeing the faces of one's national heroes on the physical notes that currently serve as legal tender. Such sentimentality is a significant factor to consider in any discourse concerning monetary union – digital or otherwise.

It is also important to note that the OECS has taken the position that "…a Single Economy is a non-starter unless there is a special carve-out for the OECS Member States within CARICOM [and] thus far, at least three larger CARICOM Member States are opposed to such a carve-out" (Gonsalves 2018). Presumably, their preference is to eliminate the differentiation between the More Developed Countries (MDCs) and the Less Developed Counties (LDCs) in CARICOM but retain the provisions under Chapter 7 in the Revised Treaty of Chaguaramas that relate to the regime of special treatment for disadvantaged countries, regions, and sectors. This is a prospect that the OECS currently rejects and given the need for consensus in CARICOM's intergovernmental structure, could create an impasse (Gonsalves 2018).

There are also fundamental questions unanswered about the viability of a single economy in CARICOM. Both the Golding Report (CARICOM/CARIFORUM Review Commission Secretariat 2017) and the lecture, Some Salient Issues for Resolution in CARICOM given by The Honourable Dr. Ralph Gonsalves (2018) point to the challenges of achieving macro-economic convergence, including a fiscal responsibility framework, debt management strategy, abolition of exchange controls, and full currency convertibility. While the CBDCs and the Caribbean Settlement Network could provide a fintech solution to some of these, it cannot remedy them all. As Gonsalves (2018) recently confessed:

> It is difficult for me to envisage, in practical terms, an effective fiscal responsibility framework, an efficacious debt management strategy, and full currency convertibility in the absence of a central authoritative monetary mechanism and in a context of individual Central Banks, economies at various levels of development and possessed of varied structural features, currencies with wildly different real effective exchange rates to the US dollar, and individual monetary policies which are hugely divergent.
>
> Even within the Eastern Caribbean Currency Union (ECCU) there are immense challenges in fashioning and implementing a common fiscal responsibility framework and debt management strategy beyond the setting of targets. The problems attendant on achieving these in the wider CARICOM are mind-boggling.
>
> I am open to be educated as to how this would work practically in the context of CARICOM, but I remain not only "agnostic" but "atheistic" on it. I simply cannot see effective macroeconomic convergence between the economies of the ECCU and Barbados on one hand and those of Jamaica, Guyana, Suriname, Belize, and Haiti, on the other. I cannot see, too, such an effective macroeconomic convergence between Trinidad and Tobago, on the one hand, and the later five-named economies, on the other hand. I can envisage, though, the possibility of such a convergence between the economies of Trinidad and Tobago, Barbados, and the ECCU. Undoubtedly, it is possible to draw up a list of guiding principles on macro-economic convergence within a CSME but they are most unlikely to go beyond declaratory good intentions, with absolutely no sanctions possible. In any event it is the market and the real world of trade and production which determine full currency convertibility. I am sure that large numbers of consultants and agencies are enthused at the prospect of juicy fees for their possible engagement on unworkable "full currency convertibility" in

> the extant circumstances.

This is a frank but fair assessment. However, while the Prime Minister of St Vincent and The Grenadines and current Chairman of the OECS Authority did an excellent job of articulating the problem, he failed to consider the possibility of a fintech solution. Admittedly, a fintech solution could not address the fundamental issues of macro-economic convergence but the introduction of CBDCs and the establishment of the Caribbean Settlement Network would facilitate digital currency convertibility as well as the abolition of exchange controls. It could advance the CSME in terms of free movement of capital without the need to “trifle with monetary and financial sector stability” to pursue unlikely macro-economic convergence in CSME (Gonsalves 2018). Not entirely convinced, Governor Antoine’s (2018) opined:

> The fiscal issues of member countries underpin monetary policy. Hence the monetary policy issues of some CARICOM countries may not be solved by the mere construct of a regional digital currency… In sum, convertibility would require a fiscal union or at least fiscal covenant and that is unlikely in the foreseeable future.

Though his point was well made, it did not go far as to remove the prospect from the realm of possibility. It is submitted, therefore, that it is worthy of further consideration.

<u>Conclusions on Caribbean Regionalism</u>

The Caribbean is a complex space that continues to redefine itself. Much of its resilience is because of being forced by the dynamics of the global political economy to continually seek innovative ways to face developmental challenges. In this regard, regionalisation may sometimes be considered as a necessary evil and the extent to which one regards this to be true may depend one’s regionalism. Notably, several integration projects co-exist in the Caribbean space with distinct regionalisms underpinning them. CARICOM has chosen intergovernmentalism and as such, must find effective ways to contend with the implications of that choice.

CHAPTER II
The Financial Technology Solution

Approximately forty-five (45) years after the establishment of CARICOM and twelve (12) years since the introduction of its CSME, the promise of deeper economic integration and monetary union remains unfulfilled due largely to the dynamics of Caribbean regionalism. Nonetheless, technological advancements have been made that could facilitate CARICOM and its objectives in ways compatible with its with its regionalism. One such advancement is the introduction of CBDCs, which could facilitate currency convertibility within CARICOM through the Caribbean Settlement Network. Therefore, one must critically examine blockchain technology, its value proposition and the proposed solution itself to make an informed assessment as to its potential impact.

Blockchain as a Distributed Ledger Technology

As mentioned at the outset of this paper, distributed ledger technology refers to a decentralised type of database which, by virtue of being spread across multiple locations or participants, relies on consensus to process, validate or authenticate transactions or other types of data exchanges. Whereas, Blockchain is one form of distributed ledger technology that synthesises data in a particular way - into an immutable 'chain' using a cryptographic signature called a hash.

Blockchain technology was introduced to the world as the underlying technology of Bitcoin - a cryptocurrency developed by a mysterious person or group of persons known as Satoshi Nakamoto (Popper 2015). It was arguably a response to the financial crisis and was premised on being a "purely peer-to-peer version of electronic cash [that] would allow online payments to be sent directly from one party to another without going through a financial institution" (Nakamoto 2008, 1). However, Bitcoin's underlying technology did more than just present an opportunity to revolutionise the global financial system. It introduced a "new era of openness, decentralisation and global inclusion" while simultaneously serving as "the foundational platform of the Fourth Industrial Revolution" (Tapscott and Tapscott 2017, 4).

Being open source software, blockchain technology also facilitated further technological advancements. By design, the source code of open source software is both accessible and free of cost, which allows developers to run the software for any purpose, study how the software works, improve the software and share it. One can only presume then that the initial developers of the Blockchain were fully cognisant of its rich potential and considered it to be a global resource.

In testament to this potential, several use cases for blockchain technology have been identified over the past ten years. These include secure digital identity solutions, recordkeeping, healthcare information sharing, voting, title registration, micro-finance structures, delivery of public services and many more, all of which may hold some promise for the region (UNESCAP 2017). However, the most common use case remains – digital currencies and that is the focus of this study.

The Value Proposition of Blockchain Financial Systems

The impetus for Bitcoin is equally applicable to other forms of digital currency, including CBDCs. As Nakamoto (2008) explained at the outset of his white paper:

> Commerce on the Internet has come to rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments. While the system works well enough for most transactions, it still suffers from the inherent weaknesses of the trust based model. Completely non-reversible transactions are not really possible, since financial institutions cannot avoid mediating disputes. The cost of mediation increases transaction costs, limiting the minimum practical transaction size and cutting off the possibility for small casual transactions, and there is a broader cost in the loss of ability to make non-reversible payments for non-reversible services. With the possibility of reversal, the need for trust spreads. Merchants must be wary of their customers, hassling them for more information than they would otherwise need. A certain percentage of fraud is accepted as unavoidable. These costs and payment uncertainties can be avoided in person by using physical currency, but no mechanism exists to make payments over a communications channel without a trusted party.
>
> What is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party. Transactions that are computationally impractical to reverse would protect sellers from fraud, and routine escrow mechanisms could easily be implemented to protect buyers. In this paper, we propose a solution to the double-spending problem using a peer-to-peer distributed timestamp server to generate computational proof of the chronological order of transactions…

In simple terms, the main value proposition of blockchain technology is that the primacy of consensus and the decentralised storage of information it provides makes it extraordinarily difficult to compromise because there is no single point of failure. It, therefore, offers immutability. Hence the interest across the globe in ascertaining the feasibility of leveraging blockchain technology to create e-money or a digital representation of fiat currency (the coin and paper money of a country established as legal tender). CBDCs, as discussed herein are synonymous with said e-money and are generally expected to offer such advantages over the incumbents as: increased seigniorage (the profit the central bank makes from issuing legal tender), efficiency, secure non-counterfeitability, auditability, monetary policy support, interoperability and financial inclusion (Bitt Inc. 2017). UNESCAP (2017) also suggests that CBDCs can increase transparency, mitigate dangers of cash handling and generally improve central banking.

For financial systems, this prospect of CBDCs built on blockchain technology would translate into the introduction of unprecedented resilience and the ability to change economic organisation such that transaction costs and the need for trusted intermediaries would be significantly reduced (Tapscott and Tapscott 2017). Put another way, it is now technologically possible to access to a truly digital, instantaneous, cross-border, cost effective, secure, peer-to-peer payment system, without a bank account. In terms of value proposition, that translates into social inclusion, financial empowerment and economic growth, especially for the unbanked, underbanked and other marginalised sectors of society. In short, CBDCs can revolutionise the traditional banking industry but it is not expected that they would replace physical notes and coins overnight. Rather, the most likely scenario is that the two would co-exist and complement each other, much like the relationship between email and traditional postal methods (Bitt Inc. 2017).

Moreover, ongoing innovation ensures that CBDC models continue to be developed to address the inefficiencies of physical notes and the incumbent financial system. Meaning that the technological options to address issues of reoccurring printing and coining costs, cash management, remote payments, counterfeit currency etc are expanding. Underscoring the point, Gabriel Abed (2018) suggests that: "…there are a hundred and one solutions right now and it's all about building the one that suits that particular central bank and ensuring that it follows a standard so that it could talk to the dollar of another central bank."

Indeed, given the ongoing technical and other debates with respect to CBDCs as well as the myriad of design choices identified by the Bank of England Staff Working Paper No. 724 (Meaning, et al. 2018) and others, Bitt advocates for the adoption of a global standard to ensure interoperability among CBDCs. This proposal is outline in its Draft Digital Multilateral Clearing Facility White Paper Proposal (Bitt Inc. 2018), which has yet to be published and remains under revision. Notwithstanding this, the vision is clear – the interoperability of CBDCs will underpin the Digital Currency Settlement Network that Bitt intends to develop (Bitt Inc. 2018).

<u>CBDCs and the Caribbean Settlement Network</u>

The proposed Caribbean Settlement Network would form part of the larger Digital Currency Settlement Network. Therefore, if CARICOM adopts CBDCs and establishes the Caribbean Settlement Network, it would simultaneously deepen economic integration within CARICOM, advance the CSME and provide proof of concept for the larger Digital Currency Settlement Network. Bitt envisions central banks issuing CBDCs built on blockchain into a digital financial ecosystem that has multiple layers of existing and developing functionality (Bitt Inc. 2017). The real significance of this for the Caribbean would be that free movement of capital could finally be a reality, with the added benefit of currency with the capacity for rich features. These technological developments could also lead to the internationalisation of currencies that previously suffered from low demand in foreign exchange markets (Bitt Inc. 2017).

When asked to explain the Caribbean Settlement Network in accessible terms, Gabriel Abed (2018) put it this way:

> The Caribbean Settlement Network is nothing more than a set of mathematical calculations based on smart contracts and blockchain technology that, when executed, would allow two central banks using similar digital dollars or following the same digital dollar standard to talk and interact and inter-exchange between themselves, whether two or many central banks are part of it. The Caribbean Settlement Network is an initiative to bring a multilateral clearing facility to the Caribbean basin that acknowledges the strengths of CARICOM, the diversity of the Caribbean's currency system and the richness of its trade associations to build a single network where consumers and financial institutions could clear and settle local dollars without having to move to hard currencies. The Caribbean Settlement Network is the first phase towards a Global Settlement Network driven by central bank digital dollars. The Caribbean Settlement Network is CARICOM and the Caribbean basin's first and only inter-regional settlement system that would facilitate multiple trade agreements in the form of digital dollars whether those are bilateral currency swaps, multilateral

currency swaps, trade weighted index currencies or economic benchmark weighted index currencies.

Within CARICOM and its CSME, the current institution arrangements for the free movement of capital consists primarily of the Council for Finance and Planning (COFAP) and the Committee of Central Bank Governors (CARICOM Secretariat 2010). COFAP is responsible for promoting and facilitating the adoption of measures for fiscal and monetary co-operation among the Member States; the establishment of mechanisms for payment arrangements; and pending the establishment of a monetary union in CARICOM, recommending arrangements for the free convertibility of the currencies of the Member States on a reciprocal basis (CARICOM Secretariat 2010). Whereas, the Committee of Central Bank Governors, advises the COFAP on matters relating to capital, including Free Movement of Capital (CARICOM Secretariat 2010). At the national level, the Ministries of Finance and other relevant government agencies also coordinate to ensure that domestic policies, laws and regulations accord with the relevant treaty obligations (CARICOM Secretariat 2010).

Among the participating countries of the CSME that are subject to these institutional arrangements, there are approximately eight currencies which cannot be directly exchanged with each other, some of which do not have a fixed exchange rate. While Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, Saint Lucia and St. Vincent and the Grenadines share the Eastern Caribbean dollar; Barbados, Belize, Guyana, Haiti, Jamaica, Suriname and Trinidad and Tobago each have their own currencies. Furthermore, there are even more currencies among the wider CARICOM membership (full, associate and observing). Therefore, currency convertibility and abolition of exchange controls become important to intraregional transactions (CARICOM Secretariat 2010). This also means in practice that unless a member state balances their trade with another member state, it must earn hard currency - typically United States dollars (USD) - by exporting to extra-regional trade partners to meet their settlement obligations (Williams 1985).

As simple as that may sound, it is a reoccurring problem which underscores the limitation of regional trading in non-convertible currencies. By way of example, tensions recently rose between St. Vincent and the Grenadines and Trinidad and Tobago resulting in The Honourable Dr. Ralph Gonsalves, Prime Minister of St. Vincent and the Grenadines, threatening to bring Trinidad and Tobago before the Caribbean Court of Justice over its "shortage of foreign exchange" to pay for imports from that country (Caribbean News Now 2018). In the interim, however, Minister of Finance, Economic Planning, Sustainable Development and Information Technology, The Honourable Camillo Gonsalves announced that as of 1 March, 2018 previously suspended exchange control procedures would apply to payments in USD from St. Vincent and the Grenadines to the twin island republic, such that prior approval would need to be first be obtained (The Vincentian 2018). In a clear attempt to pressure resolution, the Minister also noted during this announcement that the average trade surplus between the two countries over the past five years is equivalent to over USD 55 million in Trinidad and Tobago's favour (The Vincentian 2018). Added to this, the demographic most acutely affected by the situation are Vincentian small farmers and traders (Gonsalves 2018).

Applying a fintech solution to this problem, a digital bilateral currency swap could be facilitated between Digital Eastern Caribbean dollars (DXCD) and Digital Trinidadian dollars (DTTD). Having each adopted an interoperable CBDC, the Central Bank of Trinidad and Tobago (CBTT) and the Eastern Caribbean Central Bank (ECCB) could utilise the Caribbean Settlement Network to facilitate a direct conversion between the two digital currencies at an agreed exchange rate to settle (Bitt Inc. 2018). Whereas, a physical currency swap would have significant costs, risks and frictions associated with having to first convert to USD before converting to the other regional currency; a digital currency swap would simply convert the domestic digital currency directly to the other digital currency. Between end users – the persons engaging in the cross-border trade – the payment process is facilitated via a secure, digital wallet on their smartphone equipped to facilitate the onboarding, offboarding and interoperability of any CBDC within the region, with or without access to a traditional bank account.

The digital wallet in the scenario above is a mobile application available in all smartphone application stores as a free download and gives users access to bill payment, peer-to-peer transfers, transaction history and more (Bitt Inc. 2017). This wallet could also be used to purchase goods and services from businesses that use the Merchant/Teller Application, which serves as a point of sale facility with additional capabilities such as report generation. Both applications are capable of being 'white labelled', which means that traditional financial institution could brand the wallet, for example, and offer it to their customers.

In short, therefore, Bitt's digital payments software stack, including the Caribbean Settlement Network can securely reduce settlement times, mitigate against dependence on correspondent banking relationships and facilitate a regional trading system and CSME that eliminates the need for USD as a medium of exchange between member states. The significance of this, simply cannot be overstated given the region's ongoing challenges with de-risking and potential global financial exclusion – a key pillar of persistent poverty, which is already estimated to be approximately 40% in the Caribbean (Dukharan 2018).

For the avoidance of doubt, correspondent banks are financial intermediaries that provide services on behalf of another financial institution by facilitating transactions that either originate or are completed in foreign countries. The dependency, therefore, arises from the fact that domestic banks have limited access to foreign financial markets and rely on correspondent banks for said access, including the facilitation of foreign currency transactions, check clearing, process documentation and acting as transfer agents for funds. However, increased regulation of banking systems has had the effect of making correspondent banking relationships with Caribbean financial institutions more expensive and less attractive. Nonetheless, correspondent banking plays an integral role in regional transactions. Without these banking relationships, domestic businesses are cut off from regional and international trade and financing, families are unable to collect remittances from relatives working abroad, and foreign investors may be unwilling to invest if there is a risk they will be unable to repatriate their profits. It is submitted, however, that CBDCs coupled with the Caribbean Settlement Network could mitigate against this vulnerability.

Notably, during the recently concluded general elections in Barbados, the Barbados Labour Party campaigned, in part, on a promise to digitise the Barbados dollar. Having eventually proceeded to form the government after an unprecedented clean sweep of all thirty constituencies on the island, the Honourable Mia Mottley not only assumed the office of Prime Minister of Barbados but with it, responsibility for CSME and Monetary Union within CARICOM's Quasi-Cabinet structure. What this means, it is submitted, is that she has the opportunity to not only have Barbados lead a regional discourse about the adoption of CBDCs but also to literally redefine the CSME.

However, in the words of arguably the most progressive of the current CARICOM Central Bank Governors, there are "…disadvantages in progressing either too expeditiously or adapting too slowly given the rapidly evolving financial technological changes" (Antoine 2018). As such it is prudent for the region, through individual central banks and collectively, to consider evidence-based information with respect to the strengths, weaknesses, opportunities and threats presented by CBDCs. In this regard, the ECCB was the first central bank or monetary authority in the world to sign a memorandum of understanding with Bitt to conduct a pilot project aimed at, among other things, creating a DXCD and a supporting digital payments and transfers infrastructure using blockchain technology (Eastern Caribbean Central Bank 2018). Motivated by "…a responsibility to encourage and support innovation consistent with the [ECCB]'s mandate to facilitate the balanced growth and development of member countries" it was determined that "…blockchain technology merits [their] attention and consideration at this time." (Antoine 2018).

For more traditionally conservative central banks in the region, such as the Central Bank of Barbados, discussions are ongoing, but no formal engagement or regulatory pronouncements have been made. In the absence of prohibition, therefore, Bitt has launched a mobile money product in Barbados under the mMoney brand as a proof of concept, which has already gained some market penetration in terms of wallet adoption and a growing merchant/teller network. Arguably then, independent of other regional central banks, the company could very well launch a digital representation of another regional currency (not legal tender) and demonstrate interoperability as proof of concept for a Caribbean Settlement Network.

However, as it relates to coordinated efforts within the institutional framework of CARICOM, a draft speech to be delivered by the Honourable Mia Mottley, Prime Minister of Barbados at Bitt's forthcoming conference in September reveals that:

> The CARICOM Central Bank Governors have already begun preliminary work in the area. In November 2016, the Central Bank Governors agreed on the establishment of the CARICOM Fintech Working Group which convened its inaugural meeting chaired by the Deputy Governor of Bank of Jamaica Mr. Livingstone Morrison in March 2017. In October 2017, as part of its mandate, the Working Group administered a regional survey to the CARICOM Central Banks in an effort to gauge the degree of development and uses of financial technology, including blockchain and related innovations, in regional countries and to identify areas of work common to Caribbean Central Banks. The exercise was used to identify synergies where work can be harmonized across the region, as well as an information gathering tool and sharing mechanism. The results of the survey, which were reported at the last CARICOM Central Bank Governors meeting in May 2018, show signs of favourable growth for the Fintech industry, indicating that 56% of respondents are considering regulatory strategies such as a Regulatory Sandbox and amendments to legislation to bridge gaps in the legal and regulatory framework. There is still however, some work to be done. Coming out of the survey, a number of initiatives were recommended for the next steps:
>
> - Each Central Bank is to conduct a detailed analysis of their existing legal and regulatory framework to ascertain the adequacy of coverage for regulating digital currency.

- Forging greater collaboration in treating with the regulatory underpinnings of digital currency across the region.
- Harmonizing the development of central banks' frameworks, guidelines or policies for treating with digital currency, specifically concerns relating to operational/cyber risk and legal.
- The engagement of dedicated resources such as a cross-departmental teams or internal fintech work group to research the impact of fintech on financial systems.

The same draft speech goes on to note that the Caribbean could very well become a global innovation hub. Its prime location is ideal for international travel and by extension the time zone, allows it to attract many innovative businesses to its shores. Factors identified as attractive to fintech companies includes: excellent information and communication technology (ICT) infrastructure; high quality of human capital and educational programs which address innovation; and a suitable regulatory environment. In testament to the existing opportunities, it was also noted that there are already at least four internationally recognised fintech companies operating from Barbados.

Conclusions on Fintech as an Integration Tool

As a factor of production, the free movement of capital is fundamental to CARICOM and its CSME. Yet, member states cannot enjoy its benefits in the current dispensation of the CSME. The reality is that multiple, unexchangeable currencies within a single market or economy is problematic, but the establishment of a monetary union in CARICOM is highly unlikely. As CARICOM itself implicitly recognises, the next best thing is an arrangement for the free convertibility of the currencies of the member states on a reciprocal basis. The Caribbean Settlement Network provides that arrangement but is requires member states to adopt CBDCs. In doing so, it could serve as a platform for deeper economic integration but in way compatible with CARICOM's regionalism.

CHAPTER III
Development Through Integration

On the premise that greater development can be achieved through integration and fintech offers innovative new tools to facilitate this, it is submitted that fintech thereby affords the Caribbean opportunities to advance national agendas and reposition the region in the global political economy. That said, it is important not to lose sight of the human face of development. In the words of Dudley Seers (Todaro 1994, 15):

> The questions to ask about development are therefore: What has been happening to poverty? What has been happening to unemployment? What has been happening to inequality? If all three of these have declined from high levels, then beyond doubt this has been a period of development for the country concerned. If one or two of these central problems have been growing worse… it would be strange to call the result 'development' even if per capita income doubled.

The Present Global Moment

In a recent call for papers in relation to its seminar under the theme: Macroeconomic Trends, Challenges, and Solutions Facing Developing Countries in the 21st Century, the Central Bank of Barbados (2018) summarised the present global moment as follows:

> Despite the strengthening of the global economy, including the majority of emerging and developing countries, the Caribbean region continues to experience mixed economic outcomes amid the persistent challenges primarily associated with weak fiscal balances, stubbornly high or rising indebtedness and the devastation from severe hurricane damage. Furthermore, Caribbean countries could potentially suffer from the negative spillover effects from a trade war between the United States and China and the uncertainties surrounding the Brexit negotiations between the United Kingdom and the European Union.

In addition to this neat encapsulation, global financial crisis, political uprisings, undermined hegemony and core-like spaces emerging from the periphery are but few of the factors influencing international relations in the present global moment (Grenade 2011). As such, ever shifting dynamics of the global political economy as well as domestic concerns continue to render regional integration necessary but problematic (Grenade 2011). Moreover, Grenade (2011, 4) offers additional insight to the effect that:

> The situation is compounded particularly for post-colonial countries. Despite strong incentives to integrate, the process of integration is often haunted by historical ghosts; compromised by conditions of vulnerability, poverty and insecurity; undermined by the lack of political will and popular support and stymied by the absence of common institutions.

Further, the standard-setting apparatus of the global political economy are typically closed clubs such as the G7, G8, G20, OECD, FAFT and others which exclude the voices of SIDS in most meaningful ways. Further, the administrative cost of compliance with the global standards set can stretch already scarce resources, inundate already taxed capacities and generally undermine competitiveness.

In this context, CARICOM and its member states navigate the global political economy with great difficulty. The prospects of an individual member state being able to advance its interests internationally, without the collective strength of its region behind it are limited. At the same time, CARICOM member states compete against each other for limited markets, foreign exchange and dwindling aid flows to safeguard the national economy. Vis-à-vis the rest of the world, they are often forced to compete on an uneven playing field, having to contend with both economies of scale and scope not being in their favour.

Notwithstanding the foregoing, CARICOM member states will always be prone to external shocks, but their size does not necessarily preclude sustained growth, provided they find creative ways to improve their competitiveness (Read 2004). Early adoption of CBDCs and the creation of appropriate legal and regulatory frameworks to take advantage of other fintech developments are both examples of innovative approaches and practical policy tools that cater to the unique characteristics of SIDS in a dynamic and highly competitive world.

Reorienting the Region

Globalisation has undermined the state-centric world and continues to redefine it (Falk 1997). As a result, sovereignty has come to mean the shared exercise of public power and authority between national, regional and global authorities (Grenade 2016). Therefore, the Caribbean must start seeing itself as pooling and multiplying the sovereignty of individual member states through the regional centre rather than ceding their sovereignty to it. If, as Moravcsik (1998) insists, the purposeful advancement of integration requires the convergence of interests - national, regional, global, public and private sector – the time may be now to redefine Caribbean regionalism. Based on the foregoing discussion, it would certainly appear that such interests are currently aligned with the prospect addressing longstanding deficiencies in CARICOM and its CSME
.

Looking to the EU as the imperfect but instructive model of deep economic and political union among sovereign states, one readily identifies that the coordination of core economic policies and the surrender of significant sovereign prerogatives have been shifted to the regional centre not purely out of ideological alignment but due to economic interdependence (Moravesik 1998). Notwithstanding the obvious distinctions between Global North and Global South regionalisms discussed at length by Grenade (2016) and others, the significance of economic interdependence as an imperative for deep integration remains germane to both spheres. Furthermore, it is submitted that CARICOM's stagnation and relative ineffectiveness is due directly to its refusal to acknowledge that its integration model, desperately clings to a narrow understanding of sovereignty and jealously guards an outdated notion of the independent nation-state, even in the face of increasing economic interdependence.

Against this background, it is submitted that CARICOM cannot advance its regionalisation (deep economic integration via a fully implemented CSME) because its regionalism does not align (stubborn intergovernmentalism). This paper has advanced a fintech solution that is compatible with CARICOM's regionalism but would also allow it to advance its CSME to some degree through digital currency convertibility. Should the solution be adopted, it would be an achievement of global significance but would not be the only demonstration of blockchain's ability to change economic organisation in the developing world.

Illustratively, the Common Market for Eastern and Southern Africa (COMESA) has sought to leverage blockchain technology to create a digital free trade area, whereby transacting parties can share ledgers securely in real time and electronic certificates of origin can be produced (Mbogo 2018). The anticipated time and cost savings coupled with its enhanced security could have a profound impact on trade within that region. Notably, however, the digital free trade area is only part of COMESA's broader agenda "Towards Digital Economic Integration" (Mbogo 2018). Thus, underscoring the point that fintech can indeed serve as an integration tool to chart new developmental paths. Of special relevance to CARICOM, is the fact that the micro, small and medium enterprises (MSMEs) of COMESA are expected to be among the main beneficiaries of the greater financial inclusion and empowerment facilitated by such use of technology (Mbogo 2018).

Returning one final time to the description of CARICOM as "prime-ministerial, paper-based, piece-meal and people-less", it can be concluded that integration in this context is theoretical, centralised, top down and does not resonate with the people (Grenade 2011, 12). The Caribbean Settlement Network, as a fintech solution presents the opportunity to engage the private sector and individuals more directly in advancing integration and development. By increasing the participants in the process, one would arguably decentralise the progress, spreading responsibility for success beyond the intergovernmental structure and empowering other actors within the region to do what cash-strapped governments cannot. In a similar vein, the Golding Report (CARICOM/CARIFORUM Review Commission Secretariat 2017, xii) suggested that reorienting the region in the sense of changing its focus and direction, must necessarily involve "…the private sector on whom so much of the CSME's delivery of benefits depends and the Caribbean people whose support, enthusiasm and involvement must be nurtured and mobilised if a real 'Community' is to flourish."

As it relates to the rest of the world, the sword and shield analogy is an apt one. A shield is seen as protection from perceived threats, especially during battles. In this regard, the region constantly ensures that member states do not have the face their natural vulnerabilities or man-made threats alone. Coordinated responses, functional cooperation and emergency aid, where necessary are examples of this. On the other hand, the region is most clearly a sword in foreign policy coordination. Here, member states can use their combined votes at international meetings as leverage to advance their interests and even become policy-makers. Similarly, they can create and share strategic partnerships with other regions or states. Given the challenges of navigating the global political economy as SIDS, both sword and shield are likely to be required. To be effective, however, they must be strong and purpose-driven.

In this connection, The Honourable Dr. Ralph Gonsalves (2018) made the following proposal with respect to the reorientation of the region during his previously referenced lecture, Some Salient Issues for Resolution in CARICOM, which this paper proposes to endorse and adopt verbatim:

> …given the impact of globalisation in all its dimensions, the nature of the regional economy, and the limitations of the trade and economic aspects of CARICOM, at least two poles of regional integration are likely to emerge in concert with the CARICOM construct itself.

A northern Caribbean pole of integration based on enhanced trade and economic integration is likely to be fashioned including Jamaica, Haiti, Dominican Republic, Cuba, the Bahamas, and in due course, possibly Puerto Rico.

A second pole of deepened socio-economic integration centred in the OECS member countries, Barbados, Trinidad and Tobago, Guyana, and possibly Suriname, is likely to be consolidated. Belize's economic and trading fortunes, regionally, are inextricably linked to the Central American Integration System (SICA) which includes Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, and the Dominican Republic.

Within this second pole, the economic union and confederal political arrangement in the OECS will retain its distinctiveness and uniqueness. In time, Barbados may seek entry to the OECS or some formal associate relationship with it, as Martinique and Guadeloupe have done.

Criss-crossing these two central poles of integration is likely to be Trinidad and Tobago, given its petroleum and natural gas resources; and Guyana, too, given its abundant natural resources, geographic size, and its recent entry into potentially lucrative oil exploration and production, commercially.

CARICOM will continue to evolve and consolidate but with different tracks for different countries, a kind of flexible or variable integration geometry. Already, Bahamas is within CARICOM but has not signed on to the trading and economic arrangements of the CSME. Jamaica is possibly on track in precisely the same direction. Belize is probably headed that way, too. And depending on what happens in the prospective northern pole of integration, Haiti may do the same while remaining anchored in CARICOM in its functional cooperation, foreign policy coordination, and security connections. CARICOM, in any event, is likely to remain a central political expression of our Caribbean civilisation.

The Golding Report is spot-on with its analytic insight that:

> "Globalisation is continuously reshaping the geography of production and consumption and thereby the patterns of trade across the world and it threatens to marginalise small countries that have not yet developed the capacity and resilience to withstand the intensity and competitiveness of that new paradigm. This provides even more urgent and compelling reasons for regional integration among a group of neighbouring countries whose people already share much in common in terms of history, culture and experiences."

This perspective is quite consistent with a two-pole integration process, an OECS carve-out in CARICOM, criss-crossing energy-based economies, and an evolving CARICOM which anchors our Caribbean civilisation, short of a Single Economy but consolidating its gains in the Single Market, functional

> cooperation, foreign policy coordination, and security collaboration. There is in fact a packed, and meaningful, agenda in each of these areas of CARICOM.

It is submitted, therefore, that the foregoing represents a clear articulation of a feasible way forward that acknowledges the nuances of the regionalisms at play in the Caribbean space.

<u>The Developmental Implications of Fintech</u>

The dynamics of the global political economy demand that the member states of CARICOM continually seek innovative ways to face their developmental challenges and needs. This paper asserts that early adoption of CBDCs could constitute an opportunity for the region to 'leapfrog' in terms of key development indicators and global competitiveness. However, as Todaro (1994) insists development is best understood as more than economic growth. It encompasses the whole gamut of social, political, institutional and other change that makes the conditions of life within a society materially better (Todaro 1994). As such, for the purposes of the paper the development implications of fintech are centred on concerns such as poverty, unemployment and inequality more so than per capita income, even though that too is likely to be profoundly impacted should the region decide to be early adopters.

As previously indicated, it is now technologically possible to offer the Caribbean a truly digital, instantaneous, cross-border, cost effective, secure, peer-to-peer payment system, that does not require a bank account. That translates into social inclusion, financial empowerment and economic growth, especially for the unbanked, underbanked and other marginalised sectors of society. In this regard, it is important to note that of the seventeen interconnected objectives known as Sustainable Development Goals, eight of them require the achievement of universal financial inclusion as a prerequisite for success. To this end, the World Bank has set the goal of achieving universal financial inclusion by 2020 (Dukharan 2018).

Financial Inclusion contemplates that "…all people who can use them have access to a full suite of quality financial services, provided at affordable prices, in a convenient manner, and with dignity for the clients" (Gardiva and Rhyne 2011). From a World Bank perspective, it exists when "individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit and insurance – delivered in a responsible and sustainable way" (UNESCAP 2017).

Achieving universal financial inclusion within the proposed timeframe simply cannot be achieved by traditional means. A fintech solution like the Bitt software stack is required. Cognizant of this, institutions like the Inter-American Development Bank encourage "…the region's advance to the digital age – this means using technology in every form to transform the way governments and the private sector work." (Turner-Jones 2018). Similarly, Caribbean economist and executive at Bitt, Marla Dukharan (2018) suggests that should the region harness fintech as a sustainable solution to its fundamental socio-economic challenges, the consequence could be the highest net brain gain and net inward migration on a per capita basis. Pointing to the fact that the digital economy is growing faster than the traditional economy, she asserts that it presents the opportunity for not only job creation but sustainable growth (Dukharan 2018).

Current developmental challenges facing the region, include natural vulnerabilities associated with being SIDS as well as susceptibility to natural disasters. These are further compounded by man-made threats, such as de-risking and financial exclusion, significant crime rates, high indebtedness, global political marginalization and the effects of climate change. In this context, it is important to note that the transformational potential of fintech is by no means limited to payments systems. As the Head of the Caribbean Division of the Inter-American Development Bank put it, "plenty of opportunities exist to leapfrog development and solve problems with technology" and there are examples across the region of attempts to do so, including blockchain initiatives directed towards trade facilitation; Jamaica's National Identification System, which uses digital identity to promote inclusion; and The Bahamas' use of blockcerts for educational certificates (Turner-Jones 2018).

When asked to conduct a Strength, Weaknesses, Opportunities and Threats (SWOT) analysis on the Caribbean Settlement Network, as a fintech solution for the region, Gabriel Abed (2018) considered that its strengths included, the potential it held for facilitating the reorientation of the region as well as "…first mover advantages in applying distributed ledger technology to a problem that has been unsolvable.". In terms of weaknesses, he noted that it was a huge undertaking with a steep learning curve that demanded considerable resources (Abed 2018). However, the opportunities it presented included greater economic growth for the region, deeper integration and the replacement of jobs restricted to local income sources with other jobs that offered global income-earning potential (Abed 2018). Finally, in terms of threats he pointed to the disruption as some jobs become redundant, the risks associated with nascent technology and the possibility that global political pressure might be exerted on the region to abandon its efforts (Abed 2018).

In sum, therefore, as with any emerging sector there are risks; but in this case, they come with fintech's promise of diversification and innovation for the developing world. For the Caribbean specifically, this could mean that the fintech hub is the next iteration or necessary evolution of the Caribbean offshore financial center. Indeed, much of the same supporting infrastructure and resources can be repurposed or extended to this new industry for significant economic gain, including job creation and economic stimulation. Consistent with this, a recent McKinsey Group study posited that the widespread adoption of digital finance could boost the Gross Domestic Product (GDP) of emerging economies by USD 3.7 trillion by 2025 (Bitt Inc. 2017). Two thirds of which, would come increased productivity of both the public and private sectors due to digital payments (Bitt Inc. 2017).

In an article, interestingly entitled The Future Is Female, And Digital (In That Order), Marla Dukharan makes some insightful observation about the impact fintech could have on the financially excluded and women. Further to Todaro's (1994) point, poverty, unemployment, inequality and basically every other development indicator can be positively impacted if the full potential of blockchain technology is realised. The effects of which, will be most profoundly felt by those most marginalised by the incumbent financial system. This would include vulnerable demographics of society as well as MSMEs, who account for the final third of the GDP boost noted by the McKinsey Group study referenced above (Bitt Inc. 2017).

To this point, CARICOM member states are becoming increasingly financially excluded, because of de-risking, which constrains their ability to capitalize on the opportunities presented by emerging technologies and the 'gig economy' (Dukharan 2018). Quoting World Bank statistics, Dukharan (2018) also noted that "…around 2 billion people (40% of the world's adults, 50% of the world's poorest) are unbanked, and a whopping 85% of world's financial transactions are conducted in cash!" This underscores the need for greater financial inclusion as well as the sheer magnitude of the task of World Bank's 2020 deadline for universal financial inclusion.

Further making the case for a fintech solution, Dukharan (2018) added that "remittances, which are a lifeline for the world's poorest, are projected to reach USD500 billion worldwide this year, but roughly 10-15% of which, or USD50-75 billion, will be lost to money transfer fees." This is a significant concern to the developing world, where migrant workers living overseas play a crucial role in the ability of dependant beneficiaries to meet their basic needs in relation to food, living expenses, healthcare and education as well as other important undertakings such as starting businesses (UNESCAP 2017). The Caribbean is one region dependent on this flow of revenue, so it follows that if the introduction of CBDCs eliminates or significantly reduces transfer fees, more money would be available to impact Caribbean economies and fund sustainable development.

Also of note is the fact that approximately 1.6 billion of the 2 billion unbanked globally, have access to a mobile phone (Dukharan 2018). Increased global mobile phone usage has been the first step in offering digital alternatives to traditional banking to unbanked populations, especially in emerging markets to which most of the world's smartphones are shipped (UNESCAP 2017). This suggests that CBDCs (and in the interim mobile money or virtual currency solutions) could provide much-needed financial inclusion to accelerate development. As such, mobile money platforms are emerging to fill this need, especially in countries where the existing financial infrastructure is geographically disparate (UNESCAP 2017). In the Caribbean, this may prove useful in cases of broad dispersion of population outside of accessible financial centres, for example: rural communities in Guyana, Suriname or Jamaica as well as the smaller, more financially isolated islands within archipelago of The Bahamas.

Based on all these value propositions, Bitt has already introduced mobile money to the Caribbean through its mMoney Mobile Wallet and Merchant Teller Applications in Barbados, which it intends to make available regionally. Capitalising on the more than 100% mobile penetration in the Caribbean, it is expected that the impact should be akin to that of M-PESA in Kenya, which is reported to have lifted as many as 194,000 households – 2% of the population – out of poverty and reduced the cost of remittances by 90% (Dukharan 2018). These digital solutions offer material savings over current traditional banking solutions, for both wallet users and merchants and have already resulted in higher levels of financial inclusion, particularly among the unbanked and underbanked. In many ways, therefore, they constitute proof of concept and vividly demonstrates the capabilities and benefits that CBDCs could have for SIDS. Additional possible benefits relate to efficiencies associated with digital payments becoming possible for government services, the elimination of restrictive barriers to e-commerce and the facilitation of discreet social benefits disbursement, maintenance and other similar payments.

CBDCs may also be association with increasing the efficient use of financial resources, reductions in risk and loss for market participants and the motivation of consumption (Bitt Inc. 2017). For example, UNESCAP (2017) found that digital currency money transfers (including international money transfers) had several positive implications for development including improvements in the global remittance process and boosting small-scale international trade. By providing an alternative financing route for entrepreneurs and MSMEs in less developed countries, digital currency software applications, such those offered by Bitt under the mMoney brand, can support the growth of business while passing on time and cost savings to the customer. Additionally, the speed and efficiency of digital currency transactions facilitated by distributed ledger technology has been proven to not only facilitate commerce but also incentivise entrepreneurship and extend the reach of start-ups internationally (UNESCAP 2017).

Another very important Sustainable Development Goal to the Caribbean is gender equality. Women are disproportionately affected by both poverty and financial exclusion (Dukharan 2018). Illustratively, over one billion women worldwide and 52% of women in the Caribbean and Latin America are unbanked, underpinning gender inequality, which costs 10%-37% of GDP worldwide (Dukharan 2018). Again, referring to M-PESA as evidence of the long-term development implications of fintech solutions like mMoney, it has been notably effective in improving the economic lives of poor women and of members of female-headed households (Dukharan 2018). This point is very culturally relevant to the Caribbean context. Likewise, the assessment by the OECD that "…the use of digital platforms provides women with greater access to markets, knowledge and more flexible working arrangements, which can result in higher female employment rates on platforms than in traditional industries" (Dukharan 2018). This technology could also be expected to greatly impact the informal sectors but integrating them into a more inclusive financial system.

For all its benefits, the potential of blockchain technology as a development tool is not exclusively our own. As such, the member states of CARICOM must do more than discuss the opportunities, they must seize them. Dukharan (2018) expressed similar sentiments to the effect that:

> The digital economy presents untold opportunities for the Caribbean in terms of achieving job creation, growth, socio-economic development, sustainability, and resilience. But these opportunities also exist equally for everyone inhabiting this planet, and unless we make a deliberate choice to harness the potential of this sector, we run the risk of being left behind. Already, the Eastern Caribbean plans to create and test a digital version of its currency, Montserrat plans to create a digital financial ecosystem on the island, the Cayman Islands and Jamaica are shifting towards an E-Government platform with the assistance of Estonia, and Barbados' new Government has articulated a host of reforms aimed at embracing the digital economy. What about the rest of us?

<u>Conclusions on Integration as a Development Strategy</u>

Regionalism is a necessary imperative for development but a costly and problematic undertaking (Grenade 2016). Thankfully, the Caribbean's history demonstrates that the regional integration enterprise can take various forms and content (Gonsalves 2018). The present global moment is ripe with opportunity for the region to reorient as recommended above to pursue its development objectives in a more purpose-driven way. In this context, the introduction of CBDCs and digital currency convertibility through the Caribbean Settlement Network can significantly advance Caribbean integration and facilitate increased regional development.

CONCLUSION

Interpretation of Findings

CARICOM's regionalism does not serve its purposes. It neither engenders not facilitates the kind of collective self-reliance that would afford member states the privilege of engaging with the global political economy as a policy-makers rather than policy-takers (Axline 1977). However, this can change if the political will to do so is developed.

Without repeating the well-made points and enlightened recommendations that have been made by far too many and documented everywhere from the Time For Action Report (West Indian Commission 1992) all the way through to the latest Comprehensive Review of the CSME (CARICOM Secretariat 2017) and even the controversial Golding Report (CARICOM/CARIFORUM Review Commission Secretariat 2017), this paper refers to them to make the point that the region is well aware of what is institutionally required as well as the global imperatives for it. Notwithstanding this, implementation paralysis remains acute.

Consequently, it has been suggested that if CARICOM member states do not take purposeful action to exorcise the ghost of Federation, in order to embrace an effective degree of supranationalism, it could ironically meet a similar demise. However, there may be an alternative. Rather than collapse, continues as is, or miraculously adopt a fundamentally different regionalism than that which has been woven into its very construction, CARICOM can reorient itself.

Having regard to the fact that ideology (regionalism) directly influences the process (regionalisation), it may be time to accept as the Honourable Dr. Ralph Gonsalves (2018) has suggested that CARICOM can be something, but it cannot be that which it is not. In this regard, the introduction of CBDCs and digital currency convertibility can certainly advance Caribbean integration and facilitate increased regional development within CARICOM by contributing to the competitiveness and growth agenda of member states, but it is no panacea, as Governor Timothy Antoine (2008) rightly noted in his contribution to this research.

By embracing overlapping memberships, sub-regionalism and other inescapable characteristics of the Caribbean space, CARICOM could become more effective at that which it is capable of – provision of a CSM enhanced by the Caribbean Settlement Network, functional cooperation, foreign policy coordination, and security collaboration (Gonsalves 2018). Thus, permitting individual member states to simultaneously pursue other forms of integration as aligned with their national development objectives in whatever forum may be ideologically suitable for them, without the guilt or aspersion that CARICOM may somehow be less effective because of such pursuits. In this way, what was once a negative becomes a positive.

As Grenade (2016, 8) advised, "…regionalism must transcend market imperatives to seek to balance economic viability and socio-cultural cohesion". Therefore, CARICOM's reorientation, in the sense of changing its focus or direction as recommended, would put it in better position it to reorient itself vis-à-vis the rest of the world.

Recommendations

Based on the foregoing conclusions, the general recommendation of the paper is that CARICOM should seize the opportunity to be global leaders in the arena of fintech by adopting the proposed blockchain-based financial solutions. By adopting CBDCs and leveraging digital currency convertibility for the purposes of its CSME, the region could mitigate several natural vulnerabilities as well as man-made threats. In this regard, the following specific actions are recommended:

1. **Engage in a Digital Multilateral Clearing Facility Pilot and Proof of Concept Experimentation:** Notwithstanding any other pilot programmes which Bitt may engage in from time to time with member states, a Digital Multilateral Clearing Facility Pilot should be undertaken with COFAP and the Committee of Central Bank Governors. This would entail a phased approach within controlled environments to deploy, test and assess the feasibility of the suggested implementations (Bitt Inc. 2017). In doing so, it should seek to ascertain the suitability of CBDCs and/or the Caribbean Settlement Network, including the use of digital currency convertibility to advance the CSME. Specific consideration should be given the impact of this proposed mechanism on the free movement of capital in the region.

2. **Create an Enabling Environment for Fintech:** By developing fintech as both a national and regional interest area, a coordinated approach can be taken to the creation of an enabling (or at least permissive) legal and regulatory environment for fintech innovations e.g. regulatory sandbox schemes and other light regulatory touches so as not to stifle innovation in this emerging industry. An enabling environment must necessarily include the right conditions for digital financial ecosystems to thrive, for internet and mobile connectivity to broaden and strengthen, and for both these developments to support a much-needed transition to E-Government (Dukharan 2018). In doing so, the Caribbean could establish itself as a global fintech hub, encouraging foreign direct investment, job creation and opportunities for the region to participate in or lead globally significant research and development. It must begin, however, with governments and regulators engaging each other and the public through education and capacity building to ensure digital readiness (UNESCAP 2017). Additionally, the private sector and civil society need to play supporting roles.

3. **Reorient the Region:** Further to the recommendation made by the Honourable Dr. Ralph Gonsalves (2018) during his lecture, Some Salient Issues for Resolution in CARICOM, the region should reorient itself such that CARICOM evolves into a flexible or variable integration geometry, while the Northern Caribbean Pole of Integration pursues trade and economic integration, the Southern Caribbean Pole concentrates on socio-economic integration and the energy-based economies ‘criss-cross’ the two.

4. **Create an Enabling Environment for CARICOM and its CSME:** Consolidate and extend functional cooperation, security arrangements, foreign policy coordination, and the single market activities (Gonsalves 2018). This should be facilitated and enhanced by the currency convertibility offered by CBDCs and improved intra-regional air and sea transportation.

5. **Establish an Executive CARICOM Commission to advance and superintend the CSME:** In the words of The Honourable Dr. Ralph Gonsalves (2018), "CARICOM is seeking to implement the CSME but with a ramshackle governance and administrative apparatus" – this must be addressed purposefully and there are quite literally decades of reports, reviews, assessments and papers, both internal and external, that outline what is required, which almost unanimously point to an Executive CARICOM Commission, similar to but not the same as the European Commission (Gonsalves 2018).

6. **Adopt a Compromise Position in relation to Chapter 7 of the Revised Treaty of Chaguaramas:** In order to advance the CSME, the demands of the OECS for an amendment to the Revised Treaty of Chaguaramas to include a special carve-out for the OECS to accommodate the Eastern Caribbean Economic Union established in 2010 by the Revised Treaty of Basseterre should be met, provided that Chapter 7 is also strengthened operationally to better protect the interests of Disadvantaged Countries, Regions and Sectors, including MDCs (Gonsalves 2018).

Possible Developments & Wider Implications

As with any nascent technology, fintech is rapidly evolving especially as it relates to CBDCs and digital payment systems. Central Banks around the world are exploring the viability of digitising their legal tender in some form and private sector entities are exploring its capabilities. If nothing else, the research and development opportunities are endless, and it seems almost inevitable that at some point in the foreseeable future physical notes and coins will become obsolete.

In this sense, it may be fortuitous that one of the global market leaders in the digital payments space is a Barbados international business company leveraging primarily regional talent and foreign direct investment to research, design and provide bespoke CBDCs and other payment solutions, with particular emphasis on the Caribbean (Bitt Inc. 2017). However, when the window of opportunity is small, there is little room for hesitation.

In this connection, every central bank or monetary authority in the region is somewhere in Bitt's business development pipeline, even if at the introductory stage. The intention is to give this region the first mover advantage on the premise that 'big ships turn slow' so in this case, small size may be an advantage as it is believed that the Caribbean could quickly make the necessary changes to embrace this technology (Abed 2018). With or without the Caribbean Settlement Network, therefore, there appears to be keen appetite in the region for fintech solutions and this should be fully explored in the best interest of the region and its people - at home and abroad.

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