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AND DEVELOPMENT IN THE ECCU**

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LEVERAGING ICTS TO SPUR ECONOMIC GROWTH AND DEVELOPMENT IN THE ECCU



BY

MS BEVERLY LUGAY

ABSTRACT

The Information and Communications Technology (ICT) sector has been a catalyst for growth in many developed and developing countries. Although the ICT sector has received considerable attention by the ECCU and OECS member countries, the region still lags behind despite gains in efficiency and digital inclusion. This paper firstly identifies the transmission mechanisms through which the ICT sector contributes to growth. Secondly, based on the literature it presents some ideas on how the ECCU can leverage ICTs to spur growth and development. The paper proposes that the ECCU can leverage ICTs by: producing ICTs goods and services on a significantly large scale; maximizing the use of the internet to promote e-commerce and facilitate marketing especially by the private sector; further strengthening and improving public administration; and instituting ICT training as an integral part of the education system.

Key words: ICT sector, Transmission mechanisms, Leveraging

JEL classification: L86; O40

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1.0 INTRODUCTION

The Information and Communications Technology (ICT) sector has been a catalyst for economic growth in many countries such as Korea, Japan, Sweden and the USA. ICT industries are critical in the global digital economy, and constitute one of the vital drivers of productivity growth in a knowledge-based economy. The dynamism of the sector is driven by the rapid rate of innovation and productivity, not only in the industries that produce hardware, software and microelectronic components, and services used in ICT applications, but also in the sectors that benefit from the adoption and use of these technologies. Due to its crucial importance as a key driver of economic growth and productivity, the ICT sector has received considerable focus in recent years evidenced by the development of ICT policies and strategies across the ECCU.

The purpose of this policy brief is to identify the transmission mechanisms through which the ICT sector contributes to growth and how the ECCU can leverage ICTs to spur economic growth and development. Although there has been significant progress in the use of ICTs, there remains tremendous opportunities that could be further exploited such as the production of ICT goods and services and e-commerce.

2.0 ICT SECTOR DEFINITION

In 1998, a consensus was reached among OECD countries to define the ICT sector as a combination of manufacturing and services industries that capture, transmit and display data and information electronically. The agreement of the definition was based on a list of industries drawn from the third revision of the International Standard Industrial Classification (ISIC revision 3) and on the following fundamental principles:

- For manufacturing industries the products of a candidate industry must be intended to fulfill the function of information processing and communication including transmission and display. In addition, the industry must use electronic processing to detect, measure and /or record physical phenomena or control a physical process. Examples of manufacturing industries include: office, accounting and computing

machinery; television and radio receivers, sound or video recording or reproducing apparatus and associated goods; and insulated wire and cable.

- For services industries the products of a candidate industry must be intended to enable the function of information processing and communication by electronic means. Examples of services industries include: telecommunications; and computer and related activities such as software consultancy and supply, data processing and database activities.

The purpose of the OECD definition was to provide a framework to compile statistics which would allow for comparisons across time and countries and to support basic economic analysis. The sector definition was supplemented by the ICT goods definition in 2003 and the ICT services definition in 2006. In 2006, a review began of the ICT definition and the industries that would comprise the ICT sector. After much deliberation and discussions, the following general principle is used to identify ICT economic industries:

- ‘The production of goods and services of a candidate industry must primarily be intended to fulfill or enable the function of information processing and communication by electronic means, including transmission and display’. (OECD, 2007)

In support of the amended definition, a number of calibrations were made to the subset of industries. For instance, the repair of consumer electronics was excluded from the sector mainly on the basis of data availability while web portals, data processing, hosting and related activities were included under the telecommunications sub-sector.

3.0 THE TRANSMISSION MECHANISM THROUGH WHICH THE ICT SECTOR CONTRIBUTES TO ECONOMIC GROWTH AND DEVELOPMENT

There appears to be ample evidence that ICTs contributed to a surge in output and labour productivity in both developed and developing countries. Oliner and Sichel (2000) found that about 20.0 per cent of US output growth over the period 1996-1999 can be attributed to the

use of ICTs and approximately 10.0 per cent to the production of ICT components. Furthermore, 37.0 per cent of labour productivity growth was attributed to capital deepening from the use of ICTs. Colecchia and Schreyer (2001) in examining the contribution of ICTs to economic growth for nine OECD countries found that in the first half of the 1990s, ICT's contribution to economic growth ranged between 0.2 and 0.5 percentage point per year. During the second half of the 1990s the range of contribution rose to 0.3 and 0.9 percentage point per year. The effects were largest in the USA, followed by Australia, Finland and Canada. Moreover, the Republic of Korea among other Asian economies experienced economic transformation driven by the ICT sector (see Box 1). However, the level of ICT's contribution to growth depends on a number of factors some of which were identified by Vu (2005). In assessing the impact of the ICT sector on economic growth for 50 major ICT spending countries, Vu (2005), found that the key determinants of the variance in ICT contribution to growth across economies were education, institutional quality, openness and English fluency. In addition, ICT investment has a significant impact on economic growth as a higher level of ICT capital stock per capita allows an economy to achieve a higher growth rate for given levels of growth in labour and capital inputs.

Most recently, ICTs have been seen as effective tools in increasing efficiency of the education and health systems especially in poor and low income countries. For instance, in the Iganga District in Uganda, three years after traditional birth assistants began using walkie-talkies as an integral part of their work, the maternal mortality rate dropped by 50 per cent (Skuse, 2004). Radio based awareness programmes have also played a critical role in the fight against HIV/AIDS and Tuberculosis in many African countries and tracking communicable diseases have become more affordable. In the ECCU, there has been a concerted effort to mainstream ICTs in the delivery of public services through the Electronic Government for Regional Integration Project (E-GRIP). In the private sector, ICTs have improved efficiencies and networking, and have broadened access to markets through the World Wide Web.

Generally, there are three mechanisms through which the ICT sector can contribute to economic growth, all of which are interrelated: 1) ICTs support growth processes and enhance key economic sectors, thereby increasing productivity; 2) The production of ICT goods and services such as ICT manufactured products (semi-conductors, mobile phones, computers etc) and ICT communications and computer services have contributed to output growth and; 3) Investment in ICTs boost job creation and have contributed to capital deepening.

- **ICTs support growth processes and enhance key economic sectors, thereby increasing productivity.** The diffusion of ICT as a capital input has led to more output per unit of input. Hameed (unpublished) in surveying firms in 56 developing countries found that firms that use ICTs grow faster, invest more and are more productive and profitable than those that do not. The use of ICTs in public administration, health, manufacturing and financial services among others have also improved efficiency in these sectors.
- **The production of ICT goods and services such as ICT manufactured products and ICT communications and computer services have contributed to output growth.** The production of ICT goods and services has led to higher levels of exports and investments which fuelled higher GDP growth. In India, for example, in 2007 more than \$40.0b worth of IT based services were exported (nearly half of its service exports) which contributed to an increase in real GDP growth to 9.8 per cent from 4.9 per cent in 2001 (World Bank Group, 2011). According to Sudan et al (2010), there remained significant room for new country entrants in the IT based services industries because only about 15 per cent of the global potential market was exploited.
- **Investment in ICTs boosts job creation and has contributed to capital deepening.** ICT has been the most dynamic component of investment in recent years which have yielded more output per unit of input and high returns. Because ICTs are efficient and effective means of performing many intermediate tasks, the demand for ICTs has

grown at a rapid rate and consequently created millions of jobs across the globe. For instance, the software industry in India was almost non-existent in the early 1980s but in 2005 employed more than 250,000 employees (Ashish Arora et al, 2005). In the USA, in 2000 ICT employment amounted to nearly 10 million or 6.9 per cent of civilian employment and in the Eastern Caribbean Telecommunications (ECTEL) member states¹, the telecommunications sub-sector employed about 1,333 employees in 2011.

Nevertheless, there are some uncertainties about the direct link between the ICT sector and economic growth. Souter (2004) noted that the differences in the macro-economic context between developed and developing countries determines the type of relationship. Developing economies which are largely based on the production of raw materials and subsistence agriculture may benefit little from the application of ICTs while some developing countries have proven that concentrating on ICT production and service sectors can help their economies grow, as observed in Asia in the 1990s. He concluded that, although some evidence suggests ICTs contribute to general economic growth, there is very little evidence to believe that the poorest countries will be able to utilize its full potential in increasing efficiencies in its resource-based industries. The Global Competitiveness Report (2001-2002) highlighted a similar sentiment, that countries face differing challenges and priorities as they move from resource-based to knowledge-based economies. At low levels of development, economic growth emanates mainly from the mobilization of primary factors of production- land, primary commodities and unskilled labour while the transition from middle-income to high-income status involves the transition from a technology importing economy to a technology-generating economy. It is also argued that there is bi-directional causation as economic growth increases the demand for ICTs therefore fueling growth in the ICT sector.

¹ Member countries are Dominica, Grenada, St Kitts and Nevis, Saint Lucia and St Vincent and the Grenadines

Box 1: Case Study of the Republic of Korea

The Role of the ICT Sector in Economic Recovery in the Republic of Korea

The Republic of Korea topped the ICT Development Index in 2010 and 2011 and in 2013 ranked #11 in the Network Readiness Index. These indices measure performance with regard to ICT infrastructure and uptake; and the degree to which economies across the globe leverage ICT for enhancing competitiveness, respectively. The Republic of Korea came a long way in attaining these prestigious rankings. In 1962, devastated and underdeveloped by the Korean War and poverty, the Republic of Korea had only US\$110 of GNI per capita. In 2007, GNI per capita reached US\$19,730. The ICT sector was a dominant player in the process of recovery from the 1997 Asian Financial Crisis and propelled a new phase of development, contributing 46 per cent to GDP growth in 2000. Consequently, the country became one of the world's largest trading partner and one of the major manufacturers in the areas of semi-conductor, LCD, digital TV, mobile phone, shipbuilding, automobile and steel. Korea's ICT industry is divided into three major categories: ICT equipment; telecommunications services; and software industries. The ICT equipment sector is the most significant in terms of production, accounting for more than two thirds of the industry. Wired and wireless telecommunications technologies form the backbone of the knowledge and information society in Korea. Korea has established itself as a global ICT powerhouse by leading the development of the ICT-based society. According to the Bank of Korea, about 30 to 40% of Korea's total GDP growth is contributed by the ICT industry. Indeed, ICT has been a major pillar of Korean economy and has helped elevate the country as one of the leading countries in today's global economy since 1990s.

How did Korea achieve such rapid growth in ICT Development and by extension economic growth? The answer lies in the policies and tools used to develop the ICT sector and infrastructure, some of which include the following:

- Three ambitious mid-term ICT development plans were formulated to transform the economy to a knowledge based economy. They were the Informatization Promotion Act (1995), Cyber Korea 21 (1998) and e-Korea Vision 2007 (2003).
- The re-organization of government ministries to place strong focus on these development plans.
- There was a unique funding mechanism. In 1996 the ICT Promotion Fund was created which promoted re-investment of profits into the ICT sector and enabled focused investments.
- Enhancement of competition in the telecommunications service market to put downward pressure on tariffs which created more demand.
- Strong government support. In 2000-2002 the government targeted 10 million people (21 per cent of the population) for internet and computer literacy programmes. About 4,000 free information facilities were set up across the country and all schools were given free internet access.

As a result of these initiatives, the Republic of Korea now boasts of state of the art IT infrastructure; quick assimilation of digital technology; a substantial domestic economy; talented human resources and; world class global companies.

4.0 HOW CAN THE ECCU LEVERAGE ICTS TO SPUR GROWTH AND DEVELOPMENT?

The ECCU economies have been severely impacted by the global economic crisis which began in 2007/2008 with many countries experiencing negative growth over the last four-five years. In addition poverty levels have been high, nearing 30.0 per cent in some countries such as Dominica and St Vincent and the Grenadines. The economic performance of the ECCU has been hampered by a tight fiscal situation which has hindered the capacity of governments to respond to economic shocks such as the 2001 terrorist attack in the USA and the most recent global economic crisis. As a strategy going forward and cognizant of the challenges facing these small open economies a Draft OECS Development Strategy was formulated in 2000 as it was realised that confronting the issues of lacklustre growth and development as a block would augur well for the sub-region. One of the strategic sectors identified for driving growth and development in the medium to long term was the ICT sector among others such as tourism, agriculture and manufacturing. According to the Development Strategy, Information Services have not developed beyond data and transaction processing. To this end objectives of the strategy were as follows:

- Strengthen the capacity of public and private sector entities engaged in the sector such as providing specialist training for software engineers and designers in the formal education system and professional training for support personnel.
- Promote increased domestic and foreign investment in the industry by developing standardized incentive legislation and establishing customized plant and infrastructure.
- Expand access to telecommunications services which include the provision of competitive band-widths for on-demand facilities and the reduction of tariffs on international leased circuits to support the growth of international business.
- Increase the competitiveness of the OECS in information services, within the global economy by increasing participation in the International Telecommunications Union

(ITU), World Trade Organization (WTO), Free Trade Area of the Americas (FTAA) processes and introducing measures to nurture and protect intellectual property.

To date substantial progress has been made in achieving some of these objectives. The E-GRIP project has yielded trained personnel in e-procurement, e-tax filing and software training for staff of the public sector. In addition, Tax e-filing and an Electronic Procurement System for pharmaceuticals under the OECS Pharmaceuticals Procurement Services should be fully implemented and operational by the end of 2013. The Automated System for Customs Data (ASYCUDA) has been a significant tool in customs modernization. Internet usage through the creation of government websites have allowed member governments to disseminate information at relatively low cost to the public and helped improved accountability and transparency. Radio and television programmes and social media such as Facebook and You Tube have also been effective communication and coalition building tools. The telecommunications environment has also been enhanced through the operation of at least two or more telecommunications providers which has contributed to a significant reduction in the price of ICT products and services. ECCU governments have also partnered with the telecommunications providers to facilitate internet access in schools and communities thereby promoting digital inclusion. Despite these headways there are still a number of opportunities presented by the ICT sector which the ECCU can exploit to spur growth and development. These include:

- Tapping into the manufacturing of ICT products and services. Given the strong demand for ICT goods and services the ECCU can position itself to be a producer of these. This can be accomplished by first creating an environment that would attract renowned ICT companies. Given the small size of the labour force relative to other countries such as Latin America, for instance, focus should be placed on the higher end production chain that would yield higher value added. To support this, the education system would need to be transformed in order to develop the required skills and talent needed and create a competitive edge. Investment in research and development to stimulate innovation is also a significant component, in addition to addressing issues related to logistics and connectivity, in particular shipping.

- The internet provides a huge opportunity for e-commerce by the business sector especially those involved in the production of speciality or unique-type ECCU goods and services. Mimicking e-commerce giants like Amazon, the private sector could tap into the global market. The internet also allows for effective marketing and networking; and access to market data relating to product pricing, standards and financing which are important in determining the level of competitiveness.
- In the public sector, ICTs provide a wealth of opportunities to enhance administration and increase efficiency, some of which would require new legislation or amendments to existing legislation. For example, in the fight against crime, media related evidence could be admissible in court and traffic violations associated with license expirations and renewals could be better enhanced by the use of databases. A number of reforms regarding the business environment (ease of doing business) could be further enhanced with the use of ICTs such as customs processes; access to credit; registration of property and ease of obtaining basic services such as electricity. Emergency warning systems whether through media or equipment are important components of ICT which are crucial in disaster preparedness and risk mitigation strategies.
- The ICT sector could be better leveraged if ICT training becomes an integral part of the education system and business development modules. Increasing affordable access to ICTs and improving infrastructure are critical components for diffusion.

5.0 CONCLUSION

Over the last decades, the ICT sector has been a major catalyst for growth and development in both developed and developing countries. As a capital input, ICTs boost productivity and the production of ICT goods and services increases output. Investment in ICTs has also generated high levels of employment and thereby improved social conditions in many countries. Within

the last ten years, realizing the potential and opportunity for growth provided by the sector, member governments of the ECCU formulated national ICT strategies and policies aimed at laying the framework for developing ICT infrastructure, increasing access and capacity building, promoting social and economic development and supporting the national development agenda. Despite progress made in some aspects of ICT development such as improving digital inclusion and enhancing efficiency in public and private institutions, there remains significant room for expansion of the sector. The ECCU countries should place on the agenda the following: the production of ICT products and services on a significantly large scale; the private sector should maximize the use of the internet to promote e-commerce and facilitate marketing; the further strengthening and improvement of public administration and efficiency in the delivery of public services; ICT training should become an integral part of the education system and business development; and the implementation and greater monitoring of ICT strategies and policies. By increasing focus on ICTs, and implementing the foregoing, the ECCU can better position itself to leverage the enormous opportunities provided by the ICT sector.

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COLLECTIVE INVESTMENT SCHEMES AS ALTERNATIVES FOR SMALL INVESTORS IN THE ECCU



BY

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ABSTRACT

Mutual funds are increasing in popularity globally as an avenue for small investors to enhance wealth and investment sophistication and as a means to deepen local securities markets. In the wake of challenges in the regional insurance sector, the development of collective investment schemes (CISs) is gaining greater attention. This paper examines the feasibility of CISs as an option for small investors in the ECCU. The analysis underscores the paradox of CISs, which, on one hand, may be beneficial to financial development, but conversely, may serve as substitutes for or displace traditional banking sector deposits. The paper attempts to shed further light on the region's financial deepening process by empirically examining the impact of interest rates and risk in the savings and investment decisions of ECCU households using a combination of cointegration approaches. The paper finds limited evidence of higher returns affecting the saving decisions of ECCU households. In encouraging the development of the sector therefore, the paper highlights the regulatory framework as a prerequisite for enhancing investor protection, mitigating potential risks and enhancing financial stability.

JEL CLASSIFICATION NUMBERS: C22, G11, G23, G28, G32

KEYWORDS: mutual funds, non-bank financial institutions, alternative investments, financial regulation, ARDL, structural breaks

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1.0 BACKGROUND

The ECCU financial system is at a critical juncture in its development. The recent global financial crisis has highlighted some of its vulnerability at a time when the region is seeking to deepen its integration process. The fallout from the insurance sector has caused widespread losses to investors and if not comprehensively addressed, may adversely impact investor confidence in the financial system. At the same time, regional investors are becoming more sophisticated seeking more advanced tools and new cross-border opportunities. These challenges and the need for enhancing economic output in the wake of the global financial crisis have provided greater impetus for creating a financial system which is more efficient and diversified, and placing greater focus on non-traditional financial institutions.

A key component of the Bank's vision for a Single Economic and Financial Space is the provision of the full spectrum of financial products and services which would cater to the needs of households and small investors. Although significant advances have been made in the development of money and capital markets in recent years, these markets have not developed the breadth, depth and sophistication that are necessary for facilitating economic growth. Market capitalisation remains low and there is still significant scope for mobilising household savings. In response to this shortcoming, greater attention is being placed on the mutual fund industry as a means of increasing the options for regional investors and for harnessing the growth-enhancing potential of the financial sector.

These recent events have highlighted the need for modernisation and regulation of the financial system, as it is now widely acknowledged that the banking system alone cannot support the multiple objectives of economic efficiency, investor sophistication and financial market development. Collective investment schemes² (more popularly unit trusts/mutual funds), have been considered a viable option for diversifying the financial sector, given their propensity to meet a myriad of financial objectives. CISs were originally designed to pool resources from several sources (usually small investors) and channel them to capital markets, thereby

² Hereafter CIS's

increasing returns.³ These funds are seen as important tools for risk-pooling, maximising returns and diversification for investors lacking the necessary skills to assess investment risks. With their superior capacity to process information and to transact in large volumes, CISs are likely to lower the cost of intermediation and promote an investment culture among small investors. Despite the growing significance of CISs in financial reform among emerging countries, the mutual fund industry in the ECCU remains largely under-developed.⁴

In light of the above, the paper attempts to shed further light on the appropriate policies in the financial deepening process in the ECCU. To this end, the study investigates whether higher interest rates and/or financial deepening through the establishment of new financial instruments may induce ECCU households to shift savings to alternative and higher-yielding instruments. The paper's focus therefore will primarily be on analysing a savings function by estimating the long-run impact of nominal interest rate and other explanatory variables on ECCU households' savings decision. The paper proceeds as follows. Section two links the Bank's broader objectives with the establishment of collective investment schemes. The third section provides an overview of early mutual funds development, while the empirical model which addresses the industry's feasibility for the ECCU is considered in section 4. In this section, the ARDL approach as well as the Gregory Hansen technique are both explained and used for estimating cointegrating equations with and without endogenous structural breaks. Section 5 of the paper presents the empirical results while the final section concludes and presents some policy issues with respect to the development of Collective Investment Schemes in the ECCU.

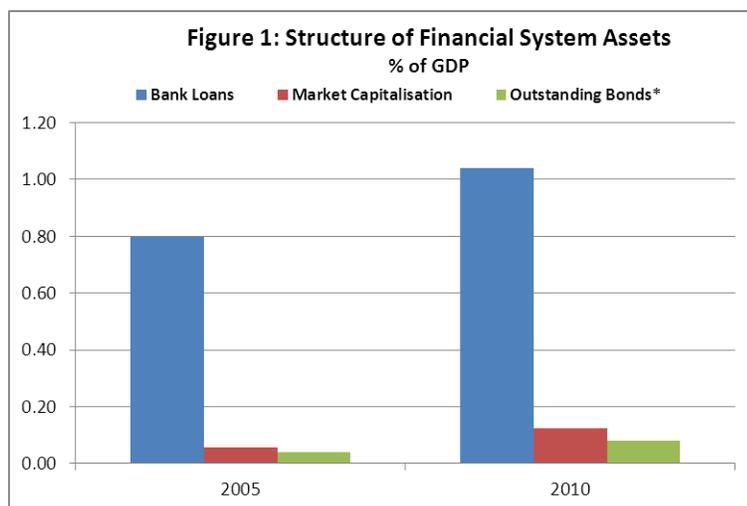
³ While mutual funds are usually targeted at households, they are also widely used by corporations and other institutional investors

⁴ A few collective investment schemes have been developed in the ECCU. For example, the Bank of Nevis was licensed in 2004, both as an offshore and a domestic fund. Dominica was the first country to establish a Unit Trust in July 1999 by setting up the Dominica UTC Growth and Income Fund.

2.0 ROLE OF CISs IN THE ECCU FINANCIAL SYSTEM

The global financial crisis and the prevalence of unregulated schemes in the ECCU and the wider Caribbean (Carvajal et al, 2009) continued to highlight potential weaknesses in the financial system and have prompted regional policy-makers to seek genuine alternatives for enhancing the wealth and financial sophistication of regional investors. However, while the region has made significant strides in the development of its markets and its Non-Bank Financial Institutions (NBFIs), to date, banks remain the dominant financial institutions in the region. The equity market is dominated by a few firms while liquidity in the secondary market remains well below those of CARICOM counterparts.

As part of this overall objective, the Bank in the late 1990s developed money and capital



markets and institutions to support the region's overall development objectives. But while these reforms have been largely positive, the region has not witnessed the expected gains with respect to the participation of the small investors. In effect, financial intermediation in ECCU remains dominated by the banking system (see Figure 1),

which is estimated to account for 85.0 per cent of total deposits. Relative to other emerging markets, there are few financial products which are available to residents of the ECCU. The proposed reform therefore has been driven by a number of concerns, among which, the need to enhance financial access to and sophistication of small investors, particularly with respect to their participation in securities markets; and reduce the cost of financial services and allow investors to manage risks by offering a wider range of investment products. Ultimately, mutual funds are expected to enhance growth by providing greater long-term resources to fund the region's development.

A mutual fund can be defined as an investment company that pools the assets of investors (usually with a common and pre-determined financial objective) and collectively invests those assets in a range of financial instruments.⁵ Undoubtedly, this can be done by individuals and institutions, but this usually requires both time and skill which some individuals may not have. As such, CISs effectively bridge this gap, thereby allowing small investors (and institutions) to delegate asset management to professionals at a lower cost than doing so individually.

Besides providing professional management and enhanced returns, these schemes provide a useful channel into regional securities markets which redound to the benefit of the entire financial system, by reducing the system's vulnerability to future shocks. In the absence of investment alternatives such as mutual funds, investors may resort to unregulated investments or excessive household liabilities.

3.0 OVERVIEW OF CISs

This section consolidates some of the relevant literature and current trends on collective investment schemes and financial deepening, highlighting the macroeconomic and policy issues related to this industry. The economic literature on savings and consumer behavior identifies a number of factors which may influence long-run savings and investment rates, ranging from economic, to social and demographic factors.

Numerous studies have tried to investigate the impact of financial deepening and liberalization on private savings in several developing countries, both from a single-country perspective or cross-country analysis (Becinvenga and Smith, 1991; Beck et al, 2000, Chowdhury, 2003). Data used for financial reform have varied depending on data availability as well as concept of financial reform, and so the results of these studies have been mixed. Some of these studies have found that financial deepening may raise the level of savings by widening the range of saving instruments and increasing the expected return through higher interest rates and reduced

⁵ Investors invest in these CIS by purchasing shares issued by the fund, which then uses the cash raised to invest in portfolios of stocks, bonds and other securities.

risks as deeper markets make financial assets more liquid. Conversely, some studies have argued that financial deepening may decrease savings by reducing liquidity constraints through improved access to consumer credit.

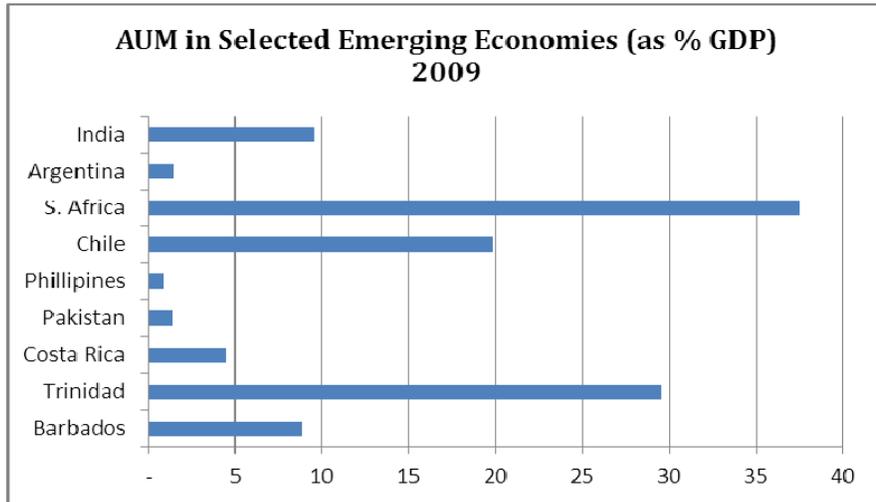
Notwithstanding, the benefits of an efficient financial system are clear. Levine (1997) outlined some of the key functions performed by the financial system, including enhancing the mobilisation of savings, allocation of resources and portfolio diversification among others. Through its intermediation role, a comprehensive financial system can allocate funding and resources to their best uses in an economy. However, in order to reap these benefits, a financial system requires efficient functioning of its three main components: an appropriate regulatory, payment and settlement infrastructure; a broad range of financial services; and well-developed financial markets.

Viewed from the wider context of financial development, Levine notes that a more developed financial system is more likely to lead to economic growth in several ways. By affecting the rate of savings, a more developed system can provide increased savings by allowing savers with a better risk-return trade-off. Secondly, by altering capital accumulation, the developed system provides a more efficient exchange of resources between savers and firms, who in turn would be able to increase production (Levine, 1997). From the specific perspective of financial instruments, CISs are likely to lower the cost of intermediation and benefit both investors and issuers given their professional management and ability to engender economies of scale (Roldos, 2004). Ultimately, they should also result in enhanced competition and may encourage commercial banks to be more proactive, thereby enhancing allocative efficiency.

In recent years, mutual funds have been an influential form of raising savings in both emerging and developed markets, and are considered a successful innovation in the financial intermediation process (see Figure 2). At year-end 2012, global mutual fund assets were valued at US\$26.8 trillion, with the United States of America accounting for 49.0 per cent of this total (Investment Company Institute, 2012). Ownership of mutual funds by households

has grown significantly, with an estimated 44.0 per cent of USA households owning fund shares, up from 6 per cent in 1980. This included many different types of people across various age, income groups and with a range of financial goals.

Figure 2: Assets under Management in Selected Emerging Economies



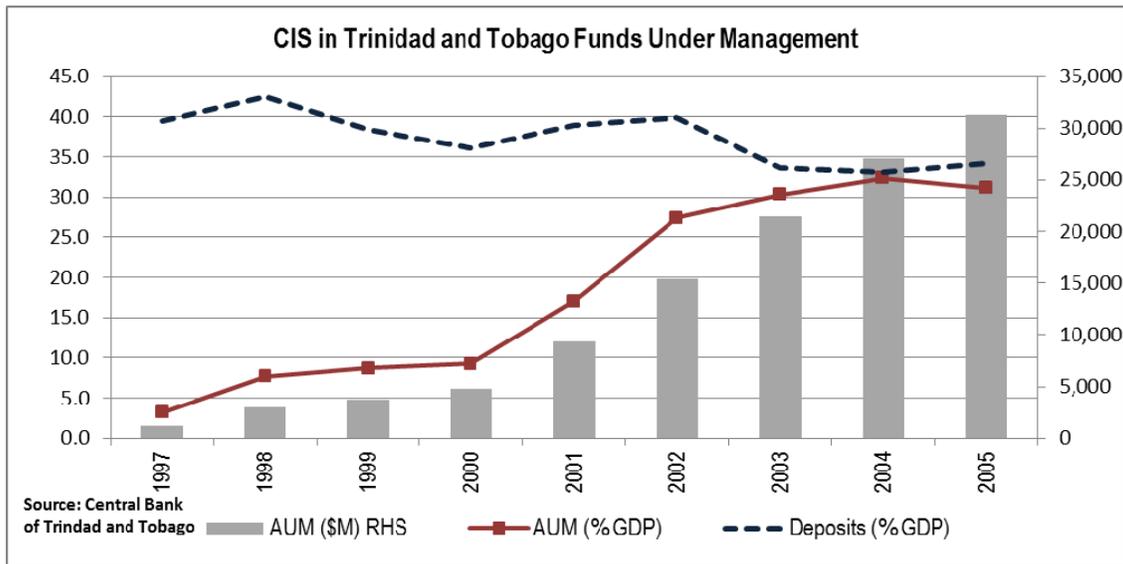
Although often seen as an investment option for small investors, mutual funds are vastly different from banks and other traditional forms of saving. One of the distinguishing features of these schemes relative to other financial institutions, such as banks, is the high level of operational transparency that it offers to households (Kaminsky et al, 2003). Mutual funds invest in marketable instruments which follow a mark to-market valuation for their assets (which is usually done on a daily basis), with the investment risk being borne mainly by investors. Given the greater risk exposure of capital markets, the efficient management of a mutual fund is essential for protecting the interest of the small investor, who may have little knowledge about the dynamics of these markets.

In the case of developing economies, Ong and Sy (2004) note that mutual funds have been instrumental in increasing the financial sophistication of the general population and contributed to the development of local securities markets. The rapid growth of mutual funds can be attributed to financial globalization, and aging populations. This has led many small investors,

including retired persons to invest in financial instruments that are both liquid and promise high long-term returns.

The development of mutual funds in the Caribbean has also made some important advances. Assets under management of the mutual fund industry in Trinidad and Tobago for instance, have increased steadily overtime (Figure 3). In some countries, growth of funds in non-bank financial institutions such as mutual funds have risen faster than the growth of deposits in commercial banks (IMF, 2008), which suggest the significant potential of this industry.

Figure 3: CIS in Trinidad and Tobago: Funds Under Management



In identifying the key factors that determine mutual fund success, a number of authors (*Klapper et al, 2003; Khorana et al, 2009*) have noted that there is a strong relationship between per capita GDP and mutual fund development. In general, the studies have found that mutual funds are more advanced in countries with better developed and more stable capital markets.⁶ In developing countries, lower interest rates have also been a critical factor.

⁶ This may be a reflection of investor confidence in the market, market liquidity and a greater supply of investable securities.

With respect to interest rates, the evidence in the region and in emerging countries remains unclear the extent to which interest rates can affect private savings. Earlier studies (see *Bennett, 1996; Ogaki et al, 1996*) have observed that interest rates may be a necessary but not sufficient condition in inducing savers to shift savings to instruments with higher returns. Bennett, studying a number of CARICOM countries, noted that the primary determinant of savings was not the interest rate, but rather the ability to save. Others noted that the choice in investment assets depended on the degree of liquidity and the transactions cost for less liquid assets.⁷

Related to the issue of interest rates and the growth of this sector, some of the emerging literature has linked a decline in traditional deposit-taking business in favour of investment management such as mutual funds. Gallo et al (1996) note for instance, that low interest rates have prompted a portfolio shift in household savings from traditional bank deposits to mutual funds. They noted that such fear of potential disintermediation on the part of banks may have pushed them into mutual funds business.

With respect to determinants of mutual fund development, the literature reveals mixed findings. Some of the literature attribute the success of the sector to the characteristic features of mutual funds (such as distribution channels, reputation of the management company, communication) while there is a wide literature which finds that country characteristics better explain fund performance. In seeking to explain the success of mutual funds, Khorana et al (2005), note that a dominant banking sector can discourage the mutual funds industry, particularly if banks consider mutual funds as a strong substitute for traditional deposit-taking activities. The demand-side factors focus on the characteristics of potential investors, related to wealth, investment sophistication and education. Indeed, given the high degree of disclosure and transparency of the mutual fund industry, relative to opaque methods such as deposits, it is expected that more sophisticated populations would adopt this innovation more quickly than other investment forms.

⁷ For example, opening a savings account would require less time and money than setting up a brokerage service account.

The history of the mutual fund industry in other emerging markets has been characterised by sluggish development due mainly to a lack of public interest in the early years (see Figure 3). In emerging Asia for instance, while most CISs were established as early as the 1950s, most did not begin to grow until the mid-1990s (Hapitan, 2008).⁸ Despite a weak start, the industry grew by more than 20 per cent in 2003-04 for many East Asian countries. In Malaysia, the Securities Act was passed in 1960, but the first funds were not established until the late 1960s. The Malaysian Government actively encouraged and sponsored the establishment of new funds in the initial years, with active marketing and distribution in 1990s via bank branch networks. In the case of the Philippines, the industry remained dormant from early 1960s until early 1990s as a result of interest rate ceilings, which discouraged the development of capital markets. Ghosh notes however, that by end 2004, East Asia accounted for 10 per cent of global net asset value of mutual funds (Ghosh, 2006).

An assessment of early mutual fund development in Trinidad and Tobago revealed that the first scheme witnessed minimal growth in its financial base, however this gradually increased, such that its growth rate surpassed that of deposits in the banking system. Swan-Daniel and Sergeant (1997) noted that the UTC was relatively successful in changing the composition of domestic savings away from bank deposits towards other types of instruments and resulted in increased competition among institutions. The next section will outline an empirical framework that would help to assess the viability of the industry in the ECCU.

4.0 METHODOLOGICAL FRAMEWORK

Of the various factors identified in the literature, the level of income has been cited as instrumental in mutual fund uptake. This is highlighted in Figure 3, which illustrates that from a selected group of countries, those with high per capita incomes such as Ireland and Canada had the highest value of mutual fund investment when compared to other economies at lower income levels. Notwithstanding these trends, it is noted

⁸ Given the lack of data and the heterogeneous nature of these funds, it was difficult to identify a common benchmark index to review performance.

that even economies with lower than average per capita incomes such as India and South Africa had higher than expected mutual fund demand when compared to similar economies at their respective levels.

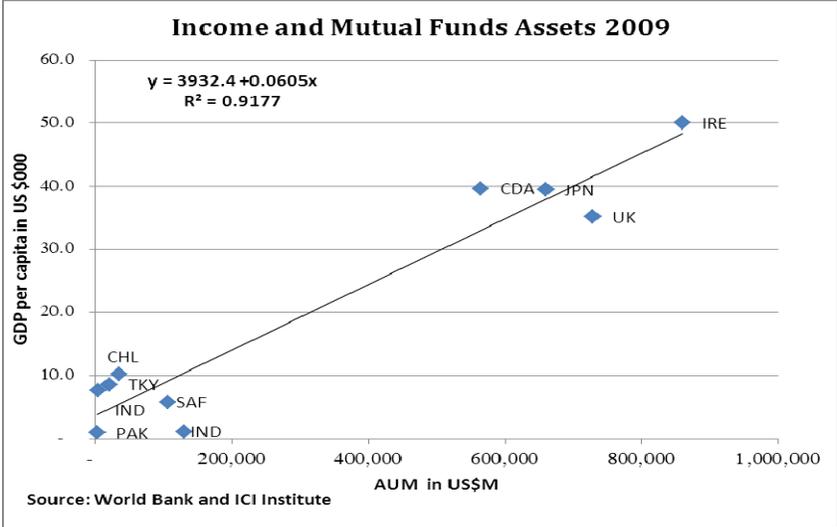


Figure 4: Income and Mutual Funds Assets (2009)

In considering the potential impact of mutual funds on the ECCU financial sector, the paper utilises mainly two estimation techniques to estimate a model and to check for robustness, namely the autoregressive distributed lag (ARDL) modelling approach and the Gregory and Hansen procedure. It does this by first examining the impact of interest rates on household deposits as well as the responsiveness of households to financial deepening by estimating whether new financial markets may have offset traditional forms of savings. After twelve years of financial institutional development in the ECCU, with the Eastern Caribbean Securities Exchange (2001) and the Regional Government Securities Market (RGSM) in 2002, it may be possible to analyse the evidence of how financial deepening may have impacted households' deposits.

The theoretical and empirical findings in the literature are viewed as a useful starting point for the analysis. Most of these examinations on the effects of financial deepening and reform on

savings have linked the variables of financial reform to traditional savings specifications, which generally include those relating to the life cycle hypothesis, fiscal policy, macroeconomic and financial sector variables. Given limited data, the paper was not able to fully exploit many of these variables. The data set used for the empirical analysis consists of quarterly observations from 1993:4 to 2012:3 for real GDP (y), weighted average deposit rate ($wadr$), inflation (inf) and household credit ($lcresd$). In addition, the impact of institutional development is captured by a dummy variable (D03), which takes the value of zero prior to the development of the ECCU financial markets (2001/02) and one in the subsequent period. The dummy explores whether there has been a decline in households' propensity to save due to the establishment of these new financial institutions.⁹

Co-integration without Structural Break

Since the focus is to determine the link between financial deepening and household savings, an appropriate technique is the adoption of cointegration analysis. Therefore, the ARDL framework, popularized by Pesaran et al (2001) is used in the study to determine both the effect of interest rates and institutional development on household's deposits in the banking system. The ARDL framework has some well-known benefits which makes it useful for analysing this underlying relationship. These benefits include allowing for different orders of integration and its superior small sample properties. The ARDL framework is generally represented as follows:

$$\Delta Y_t = \alpha_t + \sum_{i=0}^p \beta_1 \Delta Y_{t-1-i} + \sum_{i=0}^p \beta_2 \Delta DET_{t-1-i} + \delta_1 Y_{t-1} + \delta_2 DET_{t-1} + \varepsilon_t \quad (1)$$

Where β_1 and β_2 represent the short-run dynamic parameters, while δ_i represent the long-run relationship, and ε_t is an error term with the usual properties. The null hypothesis is $H_0: \delta_1 = \delta_2 = 0$ which would indicate that a long-run relationship does not exist. The lag

⁹ It may be useful to develop a more rigorous measure of financial deepening. Most writers have used a composite measure from several dimensions of financial reform. However, the study focuses on the impact of specific financial deepening measures rather than broad-based financial reform.

structure was set at (2) data, but was later refined under the general to specific approach to dynamic econometric modelling, popularized by Hendry (1986). The calculated F-statistic is then assessed against critical values tabulated by Pesaran et al (2001). If the calculated F-statistic lies outside of the critical region tabulated by Pesaran et al (2001), then the variables are presumed to be co-integrated. Diagnostic and stability tests are then conducted to assess the fit of the ARDL model.

In order to test the interest rate and risk effect on households' bank deposits and investment decisions, the following relationship is examined for the ECCU:

$$\Delta ls_t = + \alpha_1 ls_{t-1} + \alpha_2 ly_{t-1} + \alpha_3 wadr_{t-1} + \alpha_4 lcred_{t-1} + \alpha_5 lnf_{t-1} + \sum_{i=0}^p \delta_{1i} ls_{t-i} + \sum_{i=0}^p \delta_{2i} \Delta ly_{t-i} + \sum_{i=0}^p \delta_{3i} \Delta wadr_{t-i} + \sum_{i=0}^p \delta_{4i} \Delta lcred_{t-i} + \sum_{i=0}^p \delta_{5i} \Delta lnf_{t-i} + \delta_6 d03 + \varepsilon_t$$

Computed F-statistic = 8.40***		
	Lower-Bound Critical Value	Upper Bound Critical Value
Critical Values (%)		
10	2.262	3.367
5	2.649	3.805
1	3.516	4.781

*** denotes rejection of null hypothesis at 1% level of significance

The results from the ARDL estimates are identified in table 3 and are based on the general to specific technique, with the estimates in the equation being a combination of short and long-run effects. The results reveal that in the long-run, nominal interest rate on deposits and credit

are statistically insignificant while real GDP and inflation have a significant long-run effect on household savings (see Table 2).

In terms of the short-run dynamics, the results reveal that changes in real GDP, interest rates, household credit and inflation are seen to have significant short-term effects, but these are only statistically significant for some lags. Similar to the long-run effects, lagged income growth has a significant positive effect, whereas change in bank deposit interest rates, which was not significant in the long-term, appear to be incorrectly signed (negative) but significant for ECCU household savings in the short-run. As expected, current growth in household credit is found to have a negative effect in the short-run suggesting that increases in household credit lead to a fall in household savings. The coefficient associated with ECM_{t-1} which measure the speed of adjustment back to the long-run equilibrium value is correctly signed (negative) and is statistically significant at the 5 per cent level, which provides further evidence between the long-run relation between household savings and its determinants.

Table 2: ARDL Model Using General to Specific Technique

$\Delta lsav = -0.37 - 0.06lsav_{t-1} + 0.09ly_{t-1} - 0.003lnf_{t-1} - 0.48\Delta lsav_{t-2} - 0.02\Delta wadr_{t-2}$					
(-1.07)	(-2.46)**	(1.67)*	(-161)*	(-4.73)***	(-2.77)***
$- 0.33\Delta ly_t + 0.46\Delta ly_{t-1} + 0.37\Delta ly_{t-2} - 0.23\Delta lcred_t + 0.01\Delta r$					
(2.09)**	(2.81)***	((2.49)**	(-2.32)**	(2.02)**	
R ² = 0.582	R ² adj = 0.499	F = 0.00	DW = 2.09	NORM = 0.580 (0.748)	
LM = 0.088[0.895]	RESET = 1.997[0.163]		ARCH 0.164[0.687]		

Notes: *, ** and *** show significance at 10%, 5% and 1% levels respectively. F-statistic for the diagnostics tests are shown and the associated p-value in brackets

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Appendix I

ADF Unit Root Tests

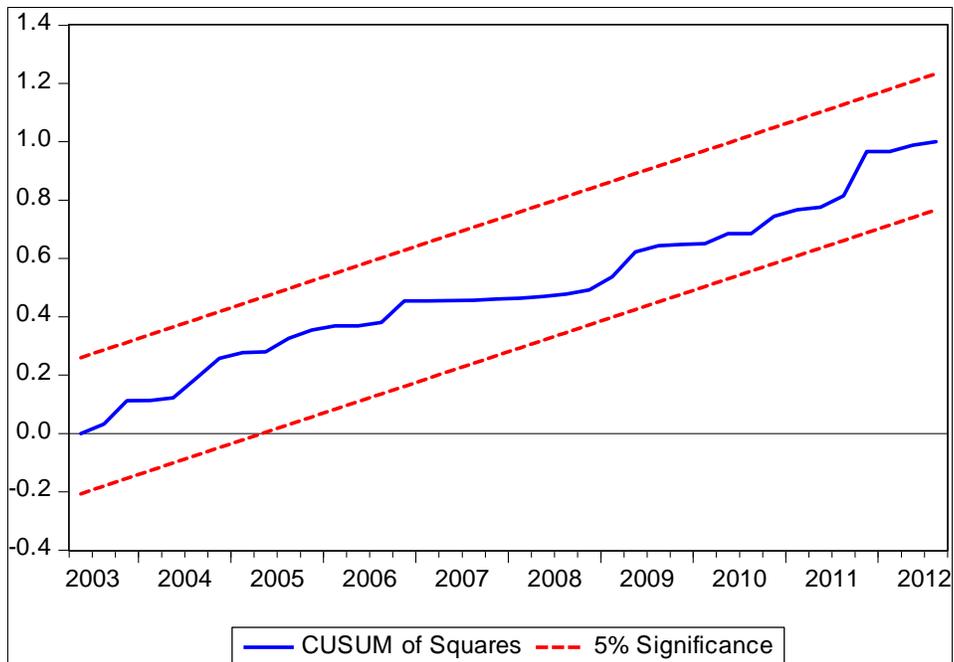
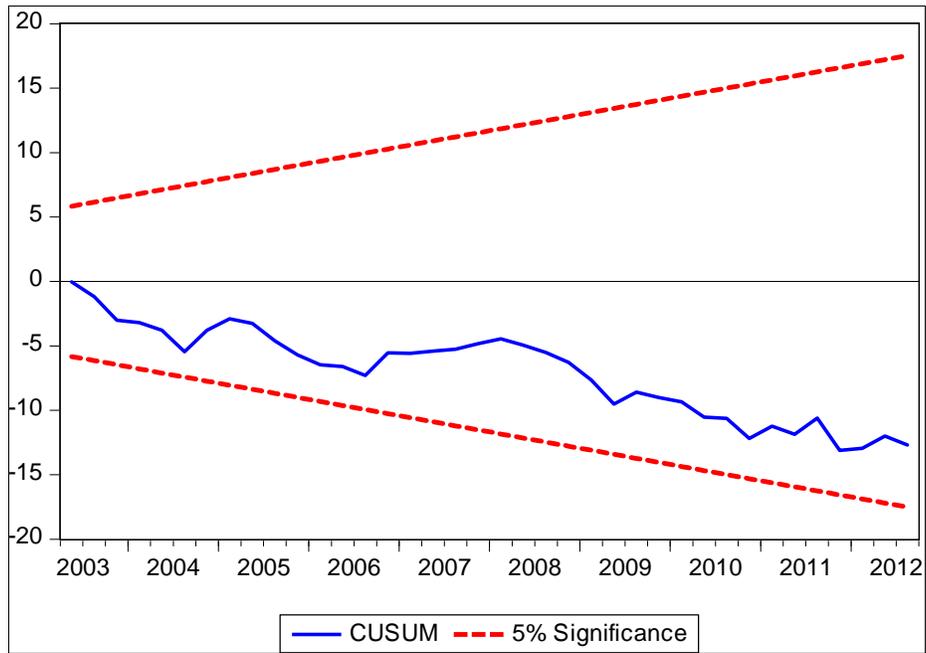
Variable	Level		1st Difference	
	Constant	Constant and Trend	Constant	Constant and Trend
Household Deposits	-1.98	-0.39	-6.55	-7.23
	0.30	0.99	0.00	0.00
Real GDP	-1.34	-2.09	-2.21	-6.09
	0.61	0.54	0.21	0.00
Inflation Rate	-4.87	-9.52	-19.23	-19.12
	0.00	0.00	0.00	0.00
Deposit Rate	-1.12	-2.37	-6.09	-6.15
	0.70	0.39	0.00	0.00
Household Credit	-0.74	-1.44	-3.94	-4.34
	0.83	0.84	0.00	0.00

Appendix II

Long-Run Estimates							
Regressor	Constant	wadr	Inf	ly	d03		
Coefficient	-0.367	0.003	-0.003	0.097	0.012		
t-statistic	(-1.078)	(0.716)	(-1.613)*	(1.668)*	2.022**		
Short-Run Estimates							
Δly_t	Δly_{t-1}	$\Delta lersd_t$	Δly_{t-2}	Δls_{t-2}	$\Delta wadr_{t-2}$	Δtnf_{t-2}	scm_{t-1}
0.334	0.464	-0.228	0.375	-0.476	-0.018	-0.004	-0.059
(2.094)**	(2.807)***	(-2.319)**	(2.494)**	(-4.732)***	(-2.767)***	(-3.491)***	(-2.458)**

Note: ***, ** and * denote significance at 1%, 5% and 10% levels

The Plots of CUSUM and CUSUM of Squares Statistics



DIAGNOSTICS, CONSTRAINTS, FACILITATION - THE ECONOMIC GROWTH PROCESS IN ECCU COUNTRIES

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ABSTRACT

Despite periods of temporary accelerations, economic growth in the ECCU has been less than stellar. The existing trend towards a secularly declining growth path was reinforced by the economic and financial crisis of 2008. This paper abstracts from the short-term effects of the crisis, and places economic growth in the ECCU on a longer-run, comparative basis. Specifically, the paper investigates the constraints to economic growth in the ECCU. Further, the analysis seeks to examine the causes of the productivity and growth slowdown in the 1990s, and points to areas where policy-makers can focus efforts at relieving the ties that bind.

Key words: comparative, productivity, growth

JEL classification: O11, P52

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1.0 INTRODUCTION

In the modern literature, three approaches – of various vintages – to the study of economic growth and its determinants have been dominant. The first approach is the standard growth accounting/regressions literature, which employs a standard Solovian growth model to account for the sources of growth. By construction, this framework cannot account for differences in growth rates among or between countries. The estimates derived are *averages*; over a period of time, and do not immediately lend themselves to issues of dynamics and changes in industrial structure. Moreover, the growth regression / accounting framework is silent on offering advice to policy makers on how to jumpstart growth, other than fairly generic platitudes such as improving productivity.

An improvement is the growth diagnostics framework of Hausman, Rodrik and Velasco (2008). The approach views growth as the result of a constrained optimisation problem, and thus attempts to identify which of the constraints are “most” binding, in the sense that a relaxation or removal of that particular constraint may (hopefully) lead to a sustained growth acceleration. However in the realistic case of several distortions, the removal of a particular constraint may generate dynamic interactions among the remaining distortions that outweigh the welfare effect of removing the first distortion. Hausman et al get around this problem by focusing the reform effort at removing the most binding constraints - where the welfare effect can be guessed to be extremely large – and thus produces the most societal gain. In practice, these binding constraints may not be easily identifiable; Hausman et al therefore focuses on the proximate determinants of economic growth (such as saving, investment, education, productivity and infrastructure). The idea is that once it is recognised where to focus the reform effort, it may be easier to identify associated economic distortions, alleviation of which may lead to sustained economic growth.

Lin and Monga (2010) put forward what can be considered a variant of the diagnostic approach. The basic premise behind the Growth Identification and Facilitation Framework (GIFF) is that countries should discover their latent comparative advantage. Structural policies play an important role in this framework, to overcome severe informational and co-ordination

constraints in developing economies. This is in addition to the traditional focus on ‘getting prices right’ for efficient resource allocation. As a practical matter, the framework suggests that countries should seek comparators who are at a higher stage of development (but not too dis-similar), examine the product mix and factor endowments of the chosen comparators to assess similarity, so as to ascertain if the chosen comparator is losing comparative advantage in particular products. The implication is that if countries whose factor endowments are not too dis-similar are losing comparative advantage in particular product lines / sectors, the country concerned can seek to orient production and development toward those sectors.

Economic recovery in the ECCU has been ephemeral, following the global financial crisis. Real GDP contracted by 2.1 per cent over the period 2009 – 2012, in sharp contrast to an average expansion of 4.8 per cent in the three years prior. Consequently, the aggregate ECCU economy is not estimated to return to pre-crisis growth levels before 2015. Beyond the recovery however, the challenge for policy-makers is how to increase the rate of growth in the ECCU over the medium-term. The projected weak economic recovery in the ECCU reflects the fact that initial conditions prior to the crisis were weak – despite the temporary growth spurt of 2003 – 2008. Of concern is the apparent secular decline in economic growth over the past two decades – in sharp contrast to comparable small states. After growing almost three times as fast as other small states in the 1980s, the ECCU fell behind by two full percentage points in the 1990s and 2000s.

Against this background, the paper attempts to address the following questions: (1) how does economic growth within the ECCU region compares to other small states and other similar country groups? (2) Have initial endowments, such as small size and geographic location, and external shocks such as commodity prices, natural disasters, and changing trade patterns played a role in determining ECCU’s growth potential¹⁰?

¹⁰ For a detailed analysis of Grenada utilizing the growth diagnostics framework, see Grenade (2012)

2.0 METHODOLOGICAL CONSIDERATIONS

To identify some of the binding constraints on growth, this paper utilizes a relatively new approach, growth diagnostics, popularised by Hausman, Rodrik and Velasco (2005). The main message of the growth diagnostic methodology is that the “optimal” growth model is unknown. Thus, the growth diagnostic process should generate some idea of the possible constraints on growth in a particular economy, and thus affects the probability that may be assigned to different alternative hypotheses. The growth diagnostic methodology is of similar intellectual origins as the literature on decision making under ambiguity: the diagnostic seeks a way to move forward, while frontally addressing the uncertainty about what is the right model of the economy.

Economic growth largely depends on the returns to accumulation (physical capital, human capital, and equity capital), the appropriability of those returns, and the cost of financing accumulation. Formally, we have the result from a standard growth model where, along a (constrained) balanced growth path, consumption and capital grow according to:

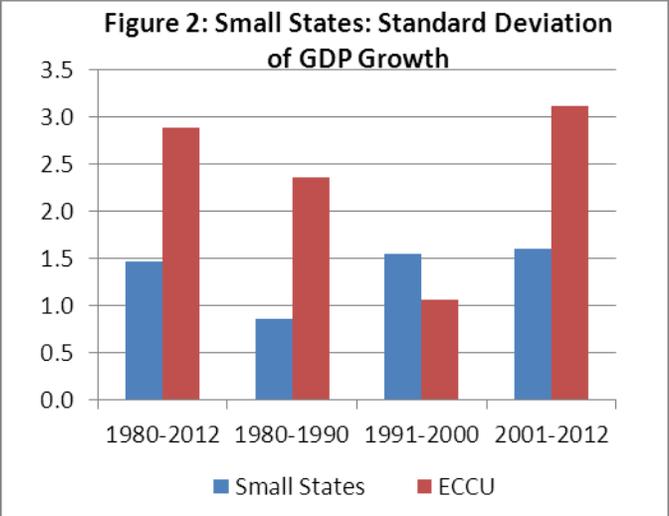
$$\frac{\dot{c}_t}{c_t} = \frac{\dot{k}_t}{k_t} = \sigma[r(1-\tau) - \rho] \quad (1)$$

Where c denotes consumption; k is the capital stock; τ is the capital tax rate; ρ is the real interest rate, and σ denotes the elasticity of inter-temporal substitution in consumption. The private return on capital, r , is given by:

$$r = r(\alpha, \theta, x) \quad (2)$$

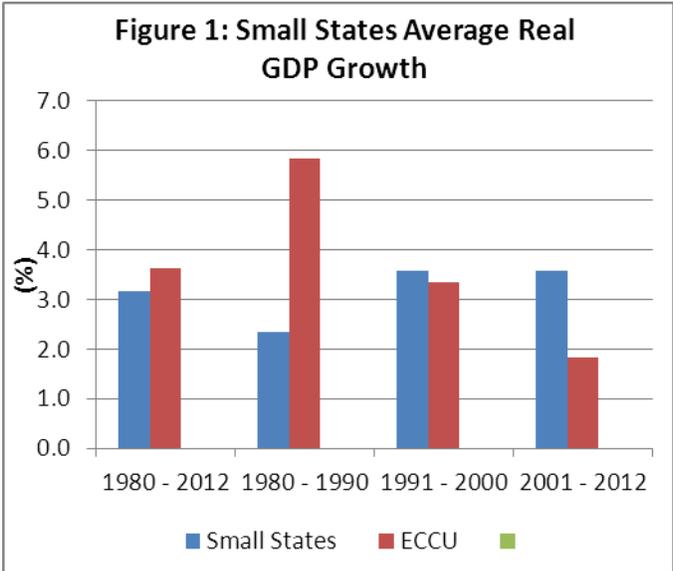
In which α is an indicator of total factor productivity, x is equal to the availability of complementary factors of production such as infrastructure and human capital, while θ is an externality index that drives a wedge between the social and private returns to asset accumulation. These equations succinctly capture the possible factors that can affect growth performance, and thus can provide an answer to the question; “what constrains growth?” The

diagnostic algorithm is normally represented in the form of a ‘decision tree’: the analyst moves down the tree, and tries to identify where to locate a particular country, and thus ascertain what are the binding constraints to sustained economic growth and development.



3.0 GROWTH PERFORMANCE – STYLISED FACTS ECCU AGGREGATE

The importance of economic growth lies in its contribution to economic and social development broadly defined. While certainly not a panacea, economic growth is correlated with an improvement in living standards, creating in the process opportunities for economic agents to achieve desired goals and lead lives they value. The ECCU economies have made remarkable progress on many aspects of development, including the Millenium Development Goals (MDG’s). The current juncture of low growth and a high debt overhang however, threatens the regions developmental progress. The ECCU grew faster than comparator countries over the entire sample period considered (1980 – 2012). However, this performance was entirely driven by the high growth rates of the 1980s. A decadal breakdown shows that the ECCU has distinctly underperformed other small states in the latter part of the period – particularly the 2000s (figure 1). Growth in the ECCU has also been volatile. Growth volatility was high in the 1980s, but this coincided with rapid growth. While volatility declined in all countries in the 1990s (figure 2), in the

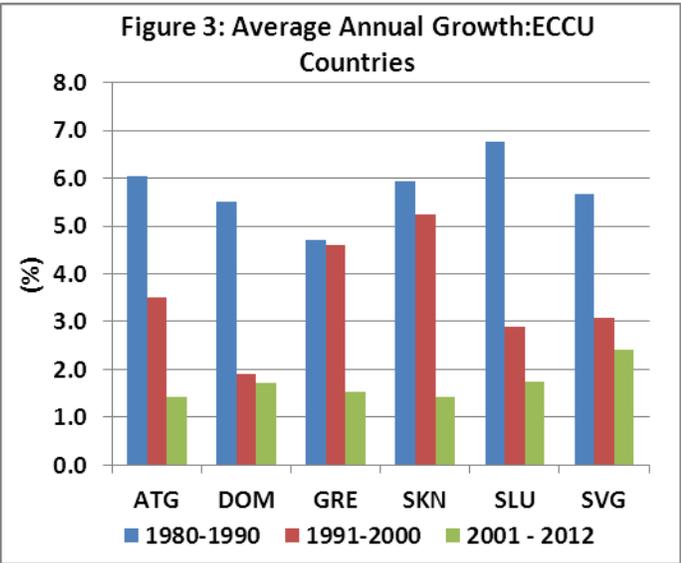


2000’s ECCU growth volatility exceeded by a factor of 3 the volatility of other small island states. Thus, average growth rates declined, and became more volatile.

Remarkably, the variations in growth among ECCU member countries have been quite similar (figure 3), and confirms the picture emerging from the ECCU average. In all of the countries, real GDP growth was highest during the 1980s then progressively declined thereafter. Over the entire sample period (1980 – 2012), St Kitts and Nevis (SKN) (4.4%) and Saint Lucia (SLU) (3.8%) grew faster than the ECCU average (3.7%). In some ways Saint Lucia has been the most consistent performer, growing faster than the ECCU average in two of the three decadal periods (1991-2000, and 2001 - 2011).

3.1 Growth Constraints in the ECCU

As an aid in identifying likely binding constraints to economic growth in the ECCU, the paper adopts the conceptual framework of Hausman, Rodrick and Velasco (HRV) (2005). In the HRV framework – consistent with neoclassical growth theory – there are primarily three avenues to growth: growth can occur through factor accumulation, by improving the appropriability of the returns to factor accumulation, or by increasing productivity. To increase *factor accumulation*, policy makers can seek to: (i) increase domestic savings, through improving the financial system, reducing deficits on the fiscal accounts, or reforming social security; (ii) facilitate access to foreign savings, by having an open capital account and improving foreign direct investment and other capital inflows; and (iii) promote human capital development by improving access to, and quality of education. To improve *appropriation*



of factor returns, policy makers can focus efforts on (i) providing a fair, equitable and predictable system of taxation; (ii) reducing the possibility of expropriation through macroeconomic volatility, (iii) improving contract enforcement and property rights, and (iv) providing political stability, effective and stable public institutions, and good governance. To enhance *productivity*, an investment in skills, provision of complementary public investment, promotion of innovation, resolution of co-ordination failures, and promotion of foreign direct investment are all areas that policy-makers can concentrate their attention.

In the HRV framework, the objective is to remove the most binding constraints to economic growth, or the largest distortions in the economy. In the limit, all distortions would be removed, and growth enhancing infrastructure and institutions would be made simultaneously, and we are in the world of the first-best. However, economic distortions have direct and indirect effects, and as HRV demonstrates, relieving one constraint can create destabilizing movements in others – hence for all practical purposes, economies operate in a second-best world. Thus the HRV framework recognizes that not all growth-enhancing reforms can be conducted simultaneously, and different policy interventions can have very different growth effects. The herculean task facing policy-makers is to *identify*, and *relieve* what they perceive to be the most binding economic growth constraints in the ECCU countries. This will obviously not be a single period game: constraints can be binding at different points in time, and the policy thrust may have to change to reflect that, including policy reversals if the requisite desirable changes from earlier policy interventions are deemed insufficient.

A growth diagnostic exercise typically involves the analyst asking a series of questions, in an iterative manner, going down the decision tree and trying to exhaust all possibilities, with supporting evidence. Thus, why has economic growth in the ECCU slowed since the mid-1990s?

- ❖ Is it inadequate *access to finance* or inadequate *returns to investment*?
- ❖ If it is *access to finance*, is this because of a lack of access to savings, or the result of poor financial intermediation?

- ❖ If it is low *economic returns*, is it because social returns to investment are low, or because private investors cannot appropriate the returns?

In what follows, each of these questions will be examined in the context of the decision tree (appendix 1).

3.2 Is it High Cost of Financing?

A prohibitive cost of financing domestic investment may retard economic growth over the medium-term. The cost of financing may be high because of insufficient international or domestic finance. Is a high cost of finance the binding constraint? What is the evidence that low national savings, high real interest rates, difficulty in accessing foreign capital, or weaknesses in financial intermediation have been ‘binding’ constraints? The ECCU saving rate averaged 17.4 per cent over the period 1980 - 2005, close to the average saving rate of 19.4 in the comparator group of countries over the same period (figure A1). However, domestic savings in the ECCU has trended downwards from 2000, and has been low relative to the level of domestic investment over the entire sample period. For low aggregate saving to be a constraint on growth, savings would be remunerated through high interest rates to depositors, or access to foreign savings would be constrained. The real lending rate is not excessively high, and compares favourably with the comparator group (figure A2). Moreover, the ECCU economies have not been locked out of international capital markets. Quite the contrary, as the ECCU economies have ready access to foreign savings, as reflected in a persistent current account deficit, which does not fit in well with the hypothesis that low aggregate savings is the binding constraint to growth.

3.3 It could be poor intermediation

An alternative hypothesis to a savings constraint on growth is weaknesses in financial intermediation. This would be reflected for instance in elevated spreads between lending and deposit rates. Spreads may be high for a variety of reasons, such as a high cost structure of the banking system, implicit taxes on financial intermediation (a high reserve requirement), or a

high deposit rate. Spreads in the ECCU has been stable, but are generally higher than spreads in the control group. Given the low level of the reserve requirement and the deposit rate, it is unlikely that these are the main reasons for the interest rate spread. There is some evidence that credit demand in the ECCU is low. High lending rates might suggest a savings constraint, but deposit interest rates are simultaneously low. For finance to be a binding constraint, this would be revealed in several ways: both lending and deposit rates would be high, as would the spread; access to external finance would be curtailed; there would be instances of credit rationing, as well as evidence of monopoly. On some dimensions – a high spread for example – finance appears to be a constraint, but on others, it does not appear to be. It must be borne in mind that access to finance has been continually cited by small and medium-sized enterprises (SME's) as a constraint to their development (Grenade 2012). According to the above analysis, there is no shortage of finance or investment opportunities in the ECCU. This implies that the binding constraints lie on the left-hand side of the diagnostic tree, that is, the return to economic activity may be low.

3.4 Is it low social returns?

Low levels of economic growth can be due to low returns to economic activity (the left-side of the decision tree), which in turn can be exacerbated by low social returns to investment, or low private appropriability of returns. In other words, investment capital might be available, but returns may not be attractive as a result of poor location, poor geography, inadequate infrastructure, skill mis-matches or insufficient human capital. A lack of data limits the analysis of assessing whether human capital or inadequate infrastructure acts as significant growth constraints. However, many small economies perform strongly in the UNDP Human Development Index, which contains a substantial education component (Briguglio, 1995). In fact, the six independent ECCU countries are considered high HDI countries, with high mean years of education for the adult population. The magnitude of the social return to education is a crucial tool for assessing the efficiency of public investment in education, law and order and other social institutions. In fact, much of the argument for public education is based on the recognition that education confers significant positive externalities. One of the direct benefits of high social returns are a more organized, disciplined labour force, contributing directly to

productive sectors of the economy. A low level of human capital does not appear to be a binding constraint in the ECCU. If low education was a serious problem for economic growth, the returns to education would be high, and unemployment rates for those with adequate years of schooling would be low. The evidence is quite limited on this, but several ECCU countries have made substantial investment in primary, secondary, and vocational education. It is conjectured that these investments will deepen human capital within the region, which may ultimately lead to higher growth rates in the future.

Another constraint to greater economic activity is that of poor geography. Small island developing states face a number of challenges: a small pool of labor, few economies of scale, and a heightened vulnerability to external shocks. Economic theory suggests that small states suffer from intrinsic dis-advantages (Easterly and Kray 2000, Alesina and Spolaore 2003, World Bank 2008). Small states suffer from scale diseconomies in public service provision, while small size may limit an economy's scope for diversification, hence production and exports are highly concentrated in a few niche areas. This exposes small states to terms of trade shocks, and thus they are disproportionately exposed to natural disasters such as tropical cyclones. However, several studies show that small island states are not at a growth disadvantage owing to their small land mass. Among developing countries, small states have a higher GDP per capita than all states (World Bank 2008). Moreover, the proximity of the ECCU economies to the North American market makes it hard to argue that insularity, remoteness, and "islandness" acts as a significant drag on economic growth.

3.5 Is it Low Appropriability?

The return on economic activity might be low as a result of low appropriability. An attractive return on investment might be possible, but may be difficult to capture as a result of macro-economic risks, excessive taxation, an inefficient tax structure, weak institutions and infrastructure, and macro-economic instability. The quasi-currency board arrangement has served the region well, anchoring inflation expectations, engendering macro-economic stability, and thus assuring investors that returns on investment will not be eroded. The ECCU ranks well among peers on inflation and investment, but less well on the current

account balance, as well as public debt. (figures A3 – A6). Based on the foregoing, it is unlikely that macroeconomic instability can be seen as a binding constraint to growth in the ECCU. Elevated fiscal deficits and the debt overhang are still a cause for concern, particularly if they place upward pressure on real interest rates and sovereign spreads.

3.6 Is it Weak Institutions?

The ECCU economies rank well on voice and accountability indices of the World Bank, and are well-functioning Parliamentary democracies, with a tradition for rule of law, and a respect for property rights. The importance of institutions in the economic growth process cannot be understated; effective institutions can offset inherent dis-advantages such as small size, limited opportunities for diversification, and export concentration. While the ECCU has the *requisite* institutions the *effectiveness* of those institutional structures has not been rigorously examined; anecdotal evidence suggests that there may be room for improvement. For example, the private sector in the ECCU is seen as not contributing as much as it can to economic growth and development in the region. What may be required however, is a new form of productive development strategies to achieve structural transformation and growth. A supportive literature has coalesced around the argument that industrial policy is as much about eliciting information from the private sector on significant externalities and infrastructural bottlenecks as it is about designing appropriate policy. Fortunately for the ECCU region, there are several institutional mechanisms already in place to promote such dialogue, namely Chambers of Commerce and Industry, Tripartite Committees, the OECS Business Council and economic symposia, where the approach of Antigua and Barbuda and St Kitts and Nevis can be emulated. It is debatable whether these institutions are fulfilling their roles, or if they can be used to promulgate the type of debate and interaction envisaged. The key point is that industrial policy should be seen as a discovery process, whereby firms and governments learn about underlying costs and opportunities, and latent comparative advantage. However, governments are not omniscient, and probably have less information than the private sector on key market failures that prevent upgrading and structural transformation. The policy setting is thus one where public officials are embedded within a network of linkages with private groups. The challenge is to construct a mechanism that is transparent, and rules-based, with

clear guidelines and responsibilities for solutions, as well as an evaluation of outcomes when they occur. Looked at in this way, productive industrial policy is a policy *process*, rather than a policy *outcome*, where instruments and solutions are proposed ex-ante. In this regard, ECCU policy-makers are encouraged to intensify the engagement with the private sector, on a formal basis, so as to provide the enabling environment for viable, private sector growth.

4.0 DISCUSSION AND CONCLUSION

What are the chains that hold the ECCU back? Several constraints have been identified by applying the growth diagnostic. A review of the literature and stylized facts on constraints to growth in the ECCU suggests a list of factors that warrants deeper investigation. Cost and access to finance does not appear to be major binding constraints, as real interest rates are not excessively high and savings appear adequate. It should be noted however that the aggregate data may not tell the full story, as access to finance has been a constant refrain from SME's. This possibly suggests non-price rationing of credit. Access to finance for SME's may thus be seen as a binding growth constraint. This reflects both capacity constraints on borrowers and inefficiencies in allocating savings to domestic investment rather than a lack of domestic and foreign savings. Improving financial intermediation is thus a key area where policy-makers can focus their efforts.

It is suspected that low returns to economic activity may be a binding constraint. Private returns may be reduced due to the high cost of doing business – high utility costs for example - or through a lack of complementary factors of production – such as poor infrastructure, and ineffective institutions. In this regard, high corporate taxes, emigration rates, and skill mismatches are particularly cogent. The macroeconomic environment has been stable, giving confidence to investors that returns will not be expropriated. The ECCU does have a low savings rate, particularly since 2005, but this has been supplemented by foreign savings. The financial sector is deep, but high interest rate spreads and issues of access to finance by some sectors of the economy suggests that financial intermediation perhaps needs to be improved. Structural reforms in the commercial banking sector, geared towards improving financial intermediation for firms might help in alleviating credit constraints as well as reducing the

costs of investment. The implied finance constraint reflects both capacity constraints on borrowers and inefficiencies in allocating savings to domestic investment rather than a lack of domestic and foreign savings per se. The Eastern Caribbean Enterprise Fund (ECEEF) is a vehicle that can be used to provide small firms with resources for expansion and upgrading. The ECEEF is envisaged as a private equity fund to serve as an alternative mechanism for mobilizing technical and financial resources for the private sector.

The rate of capital accumulation compares well with the peer group, but there is a perception that productivity growth has not kept pace. The economy-wide returns on investment - and perhaps more importantly the contribution of investment to economic growth - may be diluted by the level of tax and duty free concessions granted to foreign investors. The repatriation of profits by some businesses, and perceived low levels of skill and technology transfer from inward direct investment is also hypothesized to lower the productivity enhancing benefits of direct investment. Inserting local origin rules in contract negotiations with foreign investors and increasing the opportunities for joint ventures with domestic firms - with a significant skill and technology transfer component - may provide some scope for raising the productivity and contribution of investment to sustainable growth and development.

It is recognised that there are no cookbook recipes that can address the myriad of problems faced by individual ECCU sovereigns, such as high debt to GDP ratios, varying levels of resource endowment, low growth, and high unemployment. This paper sought to bring into sharper relief the need to respond to the challenges of the ECCU by addressing both macro and micro factors, while offering options which abides by the social, political, and economic realities of the region.

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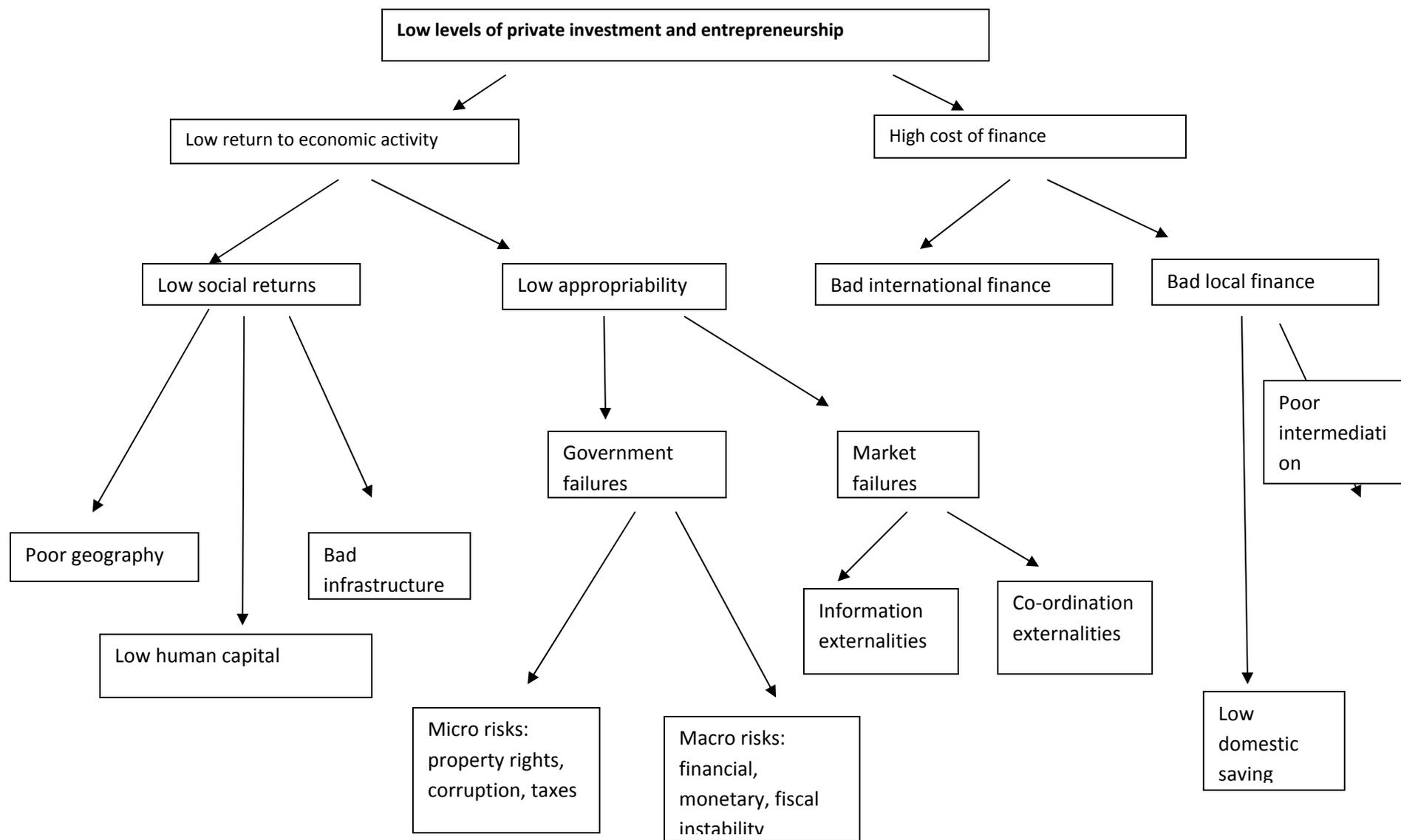
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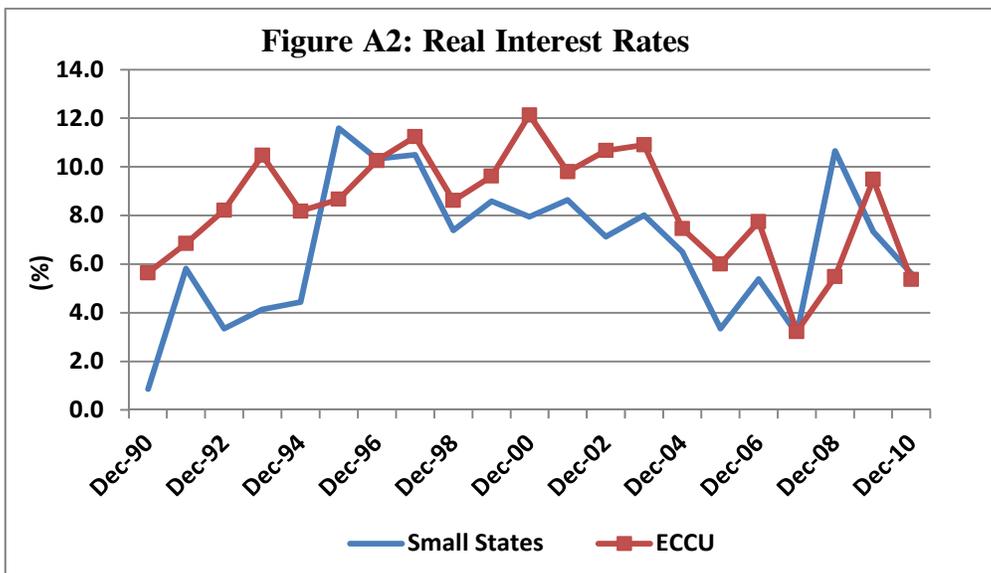
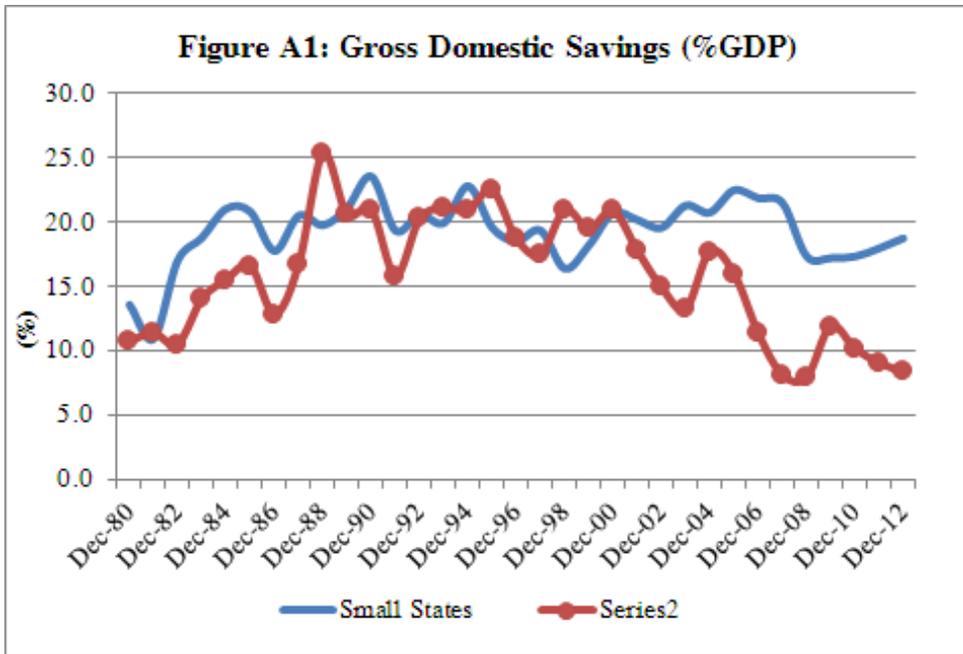
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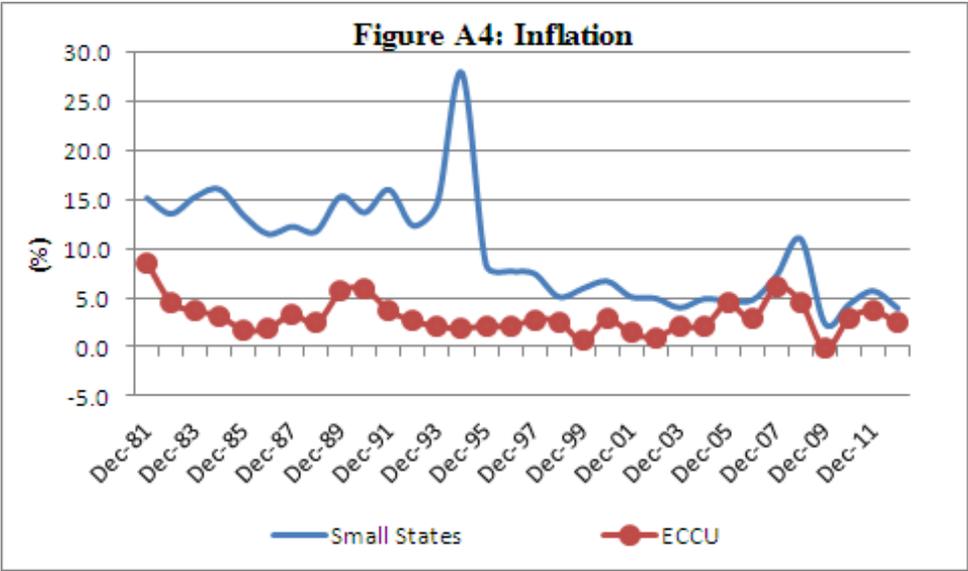
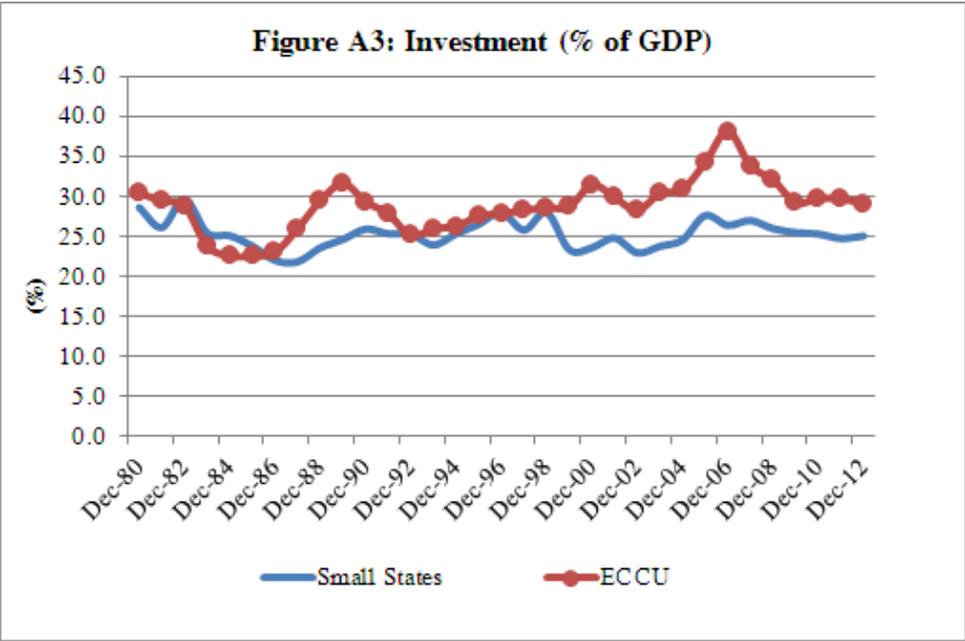
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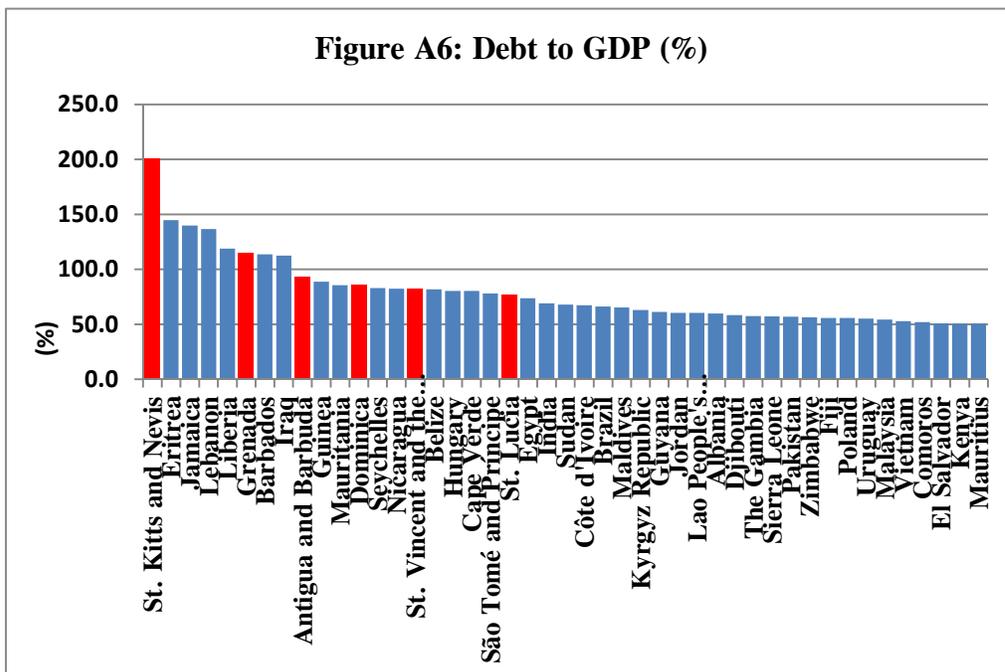
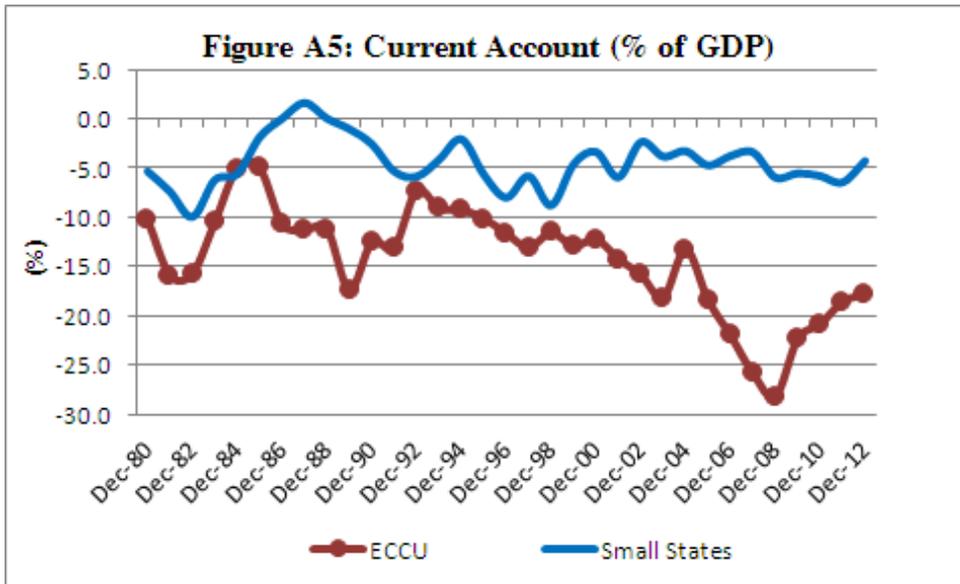
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Appendix 1: Growth Diagnostics









Appendix2: List of Small States

Antigua and Barbuda	Maldives
The Bahamas	Malta
Bahrain	Marshal Islands
Barbados	Mauritius
Belize	Federal States of Micronesia
Bhutan	Montenegro
Botswana	Namibia
Brunei	Nauru
Cape Verde	Palau
Comoros	Qatar
Cyprus	Samoa
Djibouti	San Marino
Dominica	Sao Tome and Principe
Equatorial Guinea	Seychelles
Estonia	Solomon Islands
Fiji	St Kitts and Nevis
Gabon	Saint Lucia
The Gambia	St Vincent and the Grenadines
Grenada	Suriname
Guinea-Bissau	Swaziland
Guyana	Timor-Leste
Iceland	Tonga
Jamaica	Trinidad and Tobago
Kiribati	Tuvalu
Lesotho	Vanuatu