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Institutions, economic growth and international competitiveness: A regional study

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Introduction

Changes to global economic and financial markets pose significant challenges as well as opportunities for international business. Multinational firms seeking entry to new markets often consider rates of growth, local demand conditions as well as the institutional profiles of potential host-markets as part of strategic decision-making. Institutional uncertainties prevailing in many emerging markets present challenges for investors (Moser, Kuklinski, & Srivastava, 2017). The rise of new players from emerging markets as well as the growing trend by multinational firms to locate investment in diverse regions are two factors informed by differing levels of international competitiveness and economic performance across regions.

Multiple studies on international competitiveness highlight the role of both micro and macro-level factors for international businesses. Michael Porter's work (1998) investigating the nature of international competition and sources of competitive advantage identifies four key determinants of national competitiveness, namely; i) factor conditions; ii) demand conditions; iii) supporting and related industries and iv) firm strategy, structure and rivalry. This concept is further developed in a framework comprising three broad, interrelated drivers of foundational competitiveness as; i) social infrastructure and political institutions; ii) monetary and fiscal policy and iii) the microeconomic environment. These insights highlight the need for more detailed understanding of the conditions extant in different locations of international business, and the role of institutions within international competitiveness.

Foreign direct investment (FDI) flows present significant sources of investment to growing economies. Despite much of FDI circulating within developed economies, the share

of global flows going to developing economies is projected to rise. Official cross-regional comparisons of FDI flows reveal the instability of investment flows to the Latin America and Caribbean region in recent times, a trend blamed on sustained economic recessions and uncertain macroeconomic and policy conditions in its economies (UNCTAD, 2017). Existing studies on this region focus predominantly on larger Latin American economies of Brazil, Chile, Peru and Colombia, to the exclusion of the multiple, less-prominent Caribbean economies. This study draws attention to these smaller, developing economies in this outlying region traditionally overlooked within mainstream IB studies.

A search of relevant literature on regional competitiveness identified a dearth of studies examining the developing economies of the Caribbean. While a handful of studies generally considered the Caribbean region's growth and competitiveness, these focused on specific sectors like agriculture (Hutchinson & Langham, 1999), tourism (Bolaky, 2011) or exchange-rate volatility (Kandil, 2015). Among these limited studies, none had examined Caribbean competitiveness in terms of institutional quality or growth, despite the acknowledged negative impacts of policy uncertainty on growth and investment. This study therefore seeks to examine the role of institutions in the competitiveness and economic performance of Caribbean economies.

Except for Belize (located in Central America), Guyana and Suriname (located in South America), the Caribbean economies are small island-states with an average land mass of 404,850km² (World Bank, 2017). These smaller economies share several similarities in addition to size and colonial heritage; being richly endowed with natural resources (bauxite, gold, oil and natural gas) and good weather most of the year. They additionally benefit from geographic proximity and good transport links to the richer North-American markets and substantial trade and travel connections with Europe. Majority of Caribbean exports go to the United States and the European Union under preferential trade agreements. Caribbean economies are

predominantly commodity exporters and service-based economies focused on tourism and financial services. Twenty Caribbean economies comprise the Caribbean Community (CARICOM), a regional grouping pursuing economic integration, joint foreign policy and security coordination and social development (Elliott, 2007; CARICOM, 2017).

This chapter starts with an overview of economic performance and foreign investment in the Caribbean region and reviews existing literature on institutions and economic growth. The following section outlines the methods and data used to test for institutions shaping the Caribbean economies' competitiveness and variances in economic growth. We test for the relationships between institutional quality and economic growth. Utilising the taxonomy devised by Rodrik, Subramanian & Trebbi (2004), this chapter then investigates the hierarchical impact that specific categories of institutions play within the performance of selected Caribbean economies. of the Caribbean, followed by a discussion of results and conclusion.

Institutions, international competitiveness and economic performance

Underlying the differences in economic performance of developing economies is a diversity of institutional frameworks prevalent in differing locations. Debates on national and international competitiveness assume the existence of particular institutional frameworks driving economic performance. However, the institutional landscape of most developing economies is heterogeneous. In particular, the persistence and quality of these institutions in developing economies differ significantly.

Allocative views of growth emphasise the efficient distribution of available resources to support national and international competitiveness (Delgado, Ketels, Porter & Stern, 2012). Neoclassical perspectives support the existence of a positive and significant relationship

between factor endowments such as land, capital (human, physical and financial) and entrepreneurship as proximate causes of competitiveness and economic growth. Accordingly, poorer developing economies may appear to be precluded from economic growth as they generally lack the capital needed to effectively exploit allocation opportunities. Indeed, Latin American and Caribbean economies lag behind others on the productivity frontier (Fagerberg, Srholec & Knell, 2007; Castro-Gonzales, Pena-Vinces, & Guillen, 2016) and this may be the result of a combination of factors, including either factor endowments or their geography.

Although a country's factor endowments may explain its choice for different types of investment, it cannot explain the choice for the distribution of those resources (Engerman & Sokoloff, 2002). Those decisions are driven by the forms and function of the individual economy's political and economic institutions.

A system of well-defined and enforced institutions encourages trade and productive behaviour, by defining and providing predictability of individual and corporate behaviour. Institutions as 'rules of the game' arise as both political and economic governance solutions which determine the efficiency with which the proximate determinants are accumulated and distributed. They enable economic activity to be conducted in an environment of higher overall security and returns on investments and reduced transaction costs.

Political institutions

Political institutions determine the form and character of economic institutions and define how power in any society is obtained, used and controlled (Engerman & Sokoloff, 2005). They reflect the power relationship among the ruling elites. The varied collective choices taken by different economies reflect differences in their political institutions and differences in the

distribution of political power inherited from their colonial histories (Acemoglu & Robinson, 2008). Political institutions that include “many” people in the governance process prevent abuse of the economic system (Acemoglu, Ticchi, & Vindigni, 2011). It is argued that sustained long-run economic growth requires ‘open access’ far-reaching political institutions that widen participation (Acemoglu & Robinson, 2015).

The central characteristic of a secure political system is one ‘credibly committed’ to preserving markets, through limiting political discretion over the economy and where the limits are self-enforcing (North, 1992; Williamson, 1998). Functional markets require institutions to govern political decision-making; form the basis for a rule of law, control of corruption and political choices. Any economic system must have secure political foundations limiting the state’s ability to confiscate wealth (Weingast, 1995; Rodrik, 2005).

Therefore, economic growth is supported by economic institutions when political institutions create effective constraints on the executive, preventing them from monopolising the market through rent seeking (Farhadi et al., 2015). The emergence of economic institutions is consequently not an automatic process, but rather an endogenous process dependent on the evolution of political power and political institutions.

Economic institutions

Economic institutions perform key roles in enabling the effective functioning of markets. A taxonomy of four key economic institutions developed by Rodrik et al. (2004) categorises institutions into either; i) market-creating; ii) market-regulating; iii) market-stabilising; and iv) market-legitimising institutions. This taxonomy provides a useful tool to examine the channels through which different types of institutions can impact economic

performance and thereby international competitiveness. Each category of institutions attempts to strike an appropriate balance between disorder and dictatorship (Rodrik, 2005); however, this taxonomy does not create a hierarchical framework for the relative importance of each category of institutions.

Market-creating institutions enable economic agents within an economy to interact, transact, and produce goods and services in the knowledge that economic profits from such activities is within their control (North, 1992; Rodrik, 2005; Das & Quirk, 2016). They protect rights and enforce contracts; in their absence, markets either perform poorly or fail to exist.

Studies investigating market-creating institutions utilise assorted indicators as proxies. Rodrik et al. (2004) used the rule of law, while Acemoglu & Johnson (2005) used ‘executive constraint’ as a proxy for property rights institutions and legal formalism for contracting institutions in order to separately estimate their effects on long-run growth. Ideal proxies should capture the cost of enforcing private contracts as well as those institutions that define the relationship between the state and its subjects and provide the legal framework for the enforcement of private contracts.

The second category of *market-regulating institutions* comprise the structures and arrangements that impose rules on markets to sustain long-run economic growth, while constraining market failures (Rodrik, 2005; Das & Quirk, 2016). Examples include regulatory agencies dealing with employment, financial services, telecommunication and transportation. Bhattacharyya (2009) used the EFW composite index of regulation in the credit market, labour market and business in general as a proxy of market-regulating institutions based on the assumption that they most closely reflect regulatory institutions.

The third category, *market-stabilising* institutions are designed to enable markets to build resilience against shocks, reduce inflationary pressure, minimise macroeconomic volatility and avert financial crisis. These include institutions that regulate central banks,

exchange rate regimes, budgetary and fiscal rules and other regulations to minimise inflationary pressure and volatility in the long-run (Bhattacharyya, 2009). Institutions that impose fiscal constraints on the setting of interest rates or taxation on savings reduce uncertainty and encourage investment and other productive long-term behaviours.

Finally, *market-legitimising* institutions serve to legitimise market outcomes. These are primarily concerned with the provision of social protection and insurance, redistribution and the management of social conflict in the event of shocks (Rodrik, 2005). These institutions are designed to minimise idiosyncratic risk to economic growth and employment, reducing the potential for market co-ordination failure among different factions within an economy. Democracy is used as a proxy for market-legitimising institutions based on the argument that a positive relationship exists between the effectiveness of democratic institutions and the quality of social insurance (Rodrik, 2005). Studies by Barro (1996); Tavares & Wacziarg (2001); Acemoglu, Johnson, Robinson & Yared (2005); Bhattacharyya (2009) use data from Polity IV democracy index as proxies for market-legitimising institutions as these measure the effectiveness of democratic institutions.

Market-creating, market-legitimising, market-regulating and *market-stabilising* institutions should work effectively to align the interests of individual economic actors with those of the society to enhance or foster higher levels of productivity and output.

Institutions and international competitiveness

Studies of international competitiveness have identified the role of macroeconomic factors such as the labour participation rates, access to capital and levels of technology in creating the opportunity for a developing country to mobilise working-age populations to increase productivity (Porter, Delgado, Ketels, & Stern, 2008). Delgado et al. (2012) define

competitiveness in terms of expected levels of output per working-age individual, supported by the overall quality of an economy as a place to do business. From this perspective, macroeconomic conditions such as national institutional structures set the framework of opportunities for productivity. More specifically, the quality of political institutions such as the rule of law and economic institutions that relate to business and labour regulation can enhance or inhibit productivity and consequently competitiveness.

Empirical evidence supports the suggestion of a significant relationship between the quality of market-creating and market-legitimising institutions and levels of productivity including, the presence of property rights, the quality of governance and the impact of corruption. Market-stabilising institutions that control inflation levels contribute to the overall institutional infrastructures enabling productive economic activity. Similarly, market-regulating institutions can either encourage or hinder anti-competitive behaviour among firms. Too little regulation may encourage anti-competitive behaviour while too much leads to red tape which increases transaction costs. Institutions therefore set the conditions under which these macroeconomic factors can be exploited for the purpose of increasing productivity and consequent levels of competitiveness.

Institutions and economic growth

Previous investigations into the importance of institutions for economic growth indicate strong evidence that property rights institutions are critical in determining economic growth (Barro, 1996; Rodrik et al., 2004). Other interpretations conclude that factor endowments can only affect long-run economic outcomes through the economic institutions that determine their allocation (Easterly & Levine, 2003; Acemoglu & Johnson, 2005). Where property rights are

well enforced and secure, individual actors within the economy feel safe from expropriation of their resources (Auerbach & Azariadis, 2015). Rent-seeking activities or redistributive activities that take up resources can reduce innovation and hinder the rate of economic performance.

Acemoglu & Johnson (2005) distinguish between contracting institutions and property rights institutions at the macro level, arguing that while contracting institutions regulate transactions between private parties, property rights institutions are intimately linked to the distribution of political power in a society as they regulate the relationship between ordinary citizens and the politicians or elites with access to political power. When property rights are weak, they fail to constrain those who control the State. This problem cannot be circumvented through writing alternative contracts between private parties to prevent future expropriation, as the state has a monopoly of legitimate violence which it uses to maintain and exercise power.

An early study in this area investigated fifty-five countries between 1972-95 and found that even though developing countries took longer to achieve institutional development, their economic institutions had a greater influence on economic growth. At the same time, economic growth had a positive relationship with improvements of institutional quality (Chong & Calderon, 2000). Subsequent studies have focused on different countries and regions; (such as Klomp & de Haan (2009); Haggard & Tiede (2010); Narayan, Narayan & Smyth (2011); Fatás & Mihov (2013); Flachaire, García-Peñalosa & Konte (2014); Nawaz (2015). These studies identify positive and significant relationships between political institutions and economic growth.

However, conflicting studies such as Commander & Nikoloski (2011) and Dias & Tebaldi (2012) find only limited evidence of a robust link between political institutions and economic growth. These contradictory results suggest that some economies may develop effective institutions for economic growth while others struggle to achieve these. Accordingly, it is necessary to empirically investigate these links in a range of contexts. This chapter contributes to this ongoing debate by investigating which institutions influence growth and international competitiveness in the Caribbean.

Reviewing economic performance and foreign investment in the Caribbean region

Economic performance and FDI flows to the Caribbean economies in recent times have been mixed, reflecting the diversity across individual countries. On average, FDI accounts for ten per cent of the total GDP for small-island economies (UNCTAD, 2017). Prior to the 2008 recession, the fastest growing CARICOM economies (Trinidad & Tobago, Belize, Suriname, Antigua & Barbuda and St. Kitts & Nevis) grew at rates above three per cent annually between 2000-09 while moderate rates of above two per cent were recorded for St. Lucia, Dominica, Bermuda and Grenada. The Bahamas, Barbados and Guyana grew on average at one per cent. Slow growth was recorded for The Cayman Islands at an average of zero percent, Haiti at 0.7 per cent and Jamaica at 0.9 per cent average annual growth rates respectively (World Bank, 2017). Post-recession, Caribbean economies have recorded mixed economic performances as summarised in the table below.

TABLE 5.1 ABOUT HERE

Caribbean economies remain highly vulnerable to global shocks as a result of their reliance on global commodity trades and tourism. Commodity exporters such as Guyana, Jamaica and Trinidad and Tobago depend on revenues from oil and gas, minerals and agricultural goods. Commodity exporters initially benefitted from rising global commodity prices pre-recession while service-dependent economies like The Bahamas and Barbados received declining tourism numbers post-recession (De Groot & Pérez Ludeña, 2014). Additionally, this region's geographic location exposes individual countries (e.g. Haiti, Grenada) to external shocks from natural disasters.

From 1990-2010, the top Caribbean destinations for FDI were the British Virgin Islands and the Cayman Islands which act as offshore financial centres attracting significant amounts of FDI (UNCTAD, 2017). However, the performance of these two states is not typical of the region and both states are not full members of the CARICOM. A more representative performance of FDI flows to this region is summarised in the graph below outlining the top five host-countries;

***FIGURE 5.1 ABOUT HERE ***

Post-recession, FDI inflows to the Caribbean (excluding offshore financial centres) have declined by nine per cent. The largest FDI recipients in 2015 were Dominica Republic (US\$2,221 million), Trinidad and Tobago (US\$1,619 million), Jamaica (US\$794 million), Bahamas (US\$385 million) and Barbados (US\$254 million) (UNCTAD, 2017).

The declining performance is explained by, *inter alia*, macroeconomic and policy uncertainty. Individual economies have undertaken a range of reforms to enhance their attractiveness to foreign investment. Incentives and concessions offered to foreign investors in

developing economies elsewhere such as subsidised rates, tax breaks or reduced regulatory burdens (Phelps, Stillwell & Wanjiru, 2009) are evident but the results on economic growth are mixed. Reforms adopted in Bahamas and Barbados have resulted in increased FDI flows (World Bank, 2017). Conversely, while IMF-backed reforms in Guyana appeared to spur economic growth pre-recession, FDI flows have gradually declined. Guyana's structural weaknesses, an oversized government, inefficient bureaucracy and significant restrictions on foreign investment may explain this slow growth.

Export-led growth models pursued successfully elsewhere reveal gradually declining reliance on FDI; in contrast, the domestic demand-driven growth models pursued in the Caribbean region rely on their ability to attract international investment (de la Torre, Pienknagura, & Levy Yeyati, 2013). Inflows to this region are driven partly by rising internal demand and the privatisation and liberalisation programmes undertaken in key sectors (telecommunications, electricity, natural resources, financial services, tourism). Understanding the role of domestic institutions and the links to growth is therefore central to enhancing this region's international competitiveness.

Methodology

We utilise data for ten CARICOM Members for which data for the period 1990-2014 is readily available. These Caribbean economies are ranked as high-income (Bahamas, Barbados and Trinidad and Tobago), upper middle-income (Suriname) and lower-income (Dominica, Grenada, Haiti, Jamaica, St. Vincent and the Grenadines and St. Lucia) based on gross national income (GNI) per capita revised as of July 1, 2016 (World Bank, 2017). The study is guided by two central research questions focused on economic performance and institutional quality.

Testing variance in the Caribbean region's economic performance

The first question examines the impact of proximate determinants, and specifically the impact of total factor productivity (TFP), on capital accumulation and labour productivity. An augmented Cobbs-Douglas growth accounting exercise decomposes economic performance, proxied by GDP per capita (Solow, 1994). Solow considers TFP to be a completely independent exogenous process, even though he does not address how technical progress is accelerated. Romer (1994) views economic performance as a measure of the combination of labour and capital and the counterbalance of 'good' institutions.

Technical progress is considered the result of improved and new ways of accomplishing traditional tasks. Neutral technological progress occurs where an economy experiences increases in output levels with no increase in TFP and no change in the combination of factor inputs. Alternatively, TFP that results in savings on labour inputs is considered labour-saving technical progress (Solow, 1994). Capital-saving TFP, although considered a rarer phenomenon, is the result of low-cost, efficient, labour-intensive techniques of production.

While the productive capacity of an economy is commonly described through use of aggregate production functions, the results should be cautiously interpreted. TFP not only measures technical progress, but captures the effects of myriad other determinants of efficient factor usage (government policy, political unrest and even weather shocks). It would be near-impossible to isolate individual determinants within the production function model as the results highlight proximate causes of economic growth but not the underlying fundamental determinants (Hall & Jones, 1999; Barrell, Holland, & Liadze, 2010). Secondly, the Solow

model does not explain the differences in technical progress across countries with similar technologies.

The following Cobbs-Douglas specification is assumed for all economies in the dataset:

$$Y_t = A_t K_t^\alpha L_t^{1-\alpha} \tag{1}$$

For the each time period t :

- $Y =$ GDP per capita (PPP) (constant 2011 international \$)
- $K =$ Capital stock (2011 US\$)
- $L =$ Total employment
- $A =$ TFP
- $\alpha =$ Output elasticity of capital
- $1-\alpha =$ Output elasticity of labour

The mean wage-share of CARICOM over 1990-2014 was used as guidance for the estimate of $1-\alpha$ which gives a value of 0.45 & a 0.55 for α . While $1-\alpha$ may deviate somewhat from the imposed mean coefficient for individual CARICOM Member economies, such differences should not utterly bias the potential output results. Y values and L values were taken from the World Development Indicators (World Bank, 2017). K was collected from Penn World Tables (Feenstra, Inklaar, & Timmer, 2015). To calculate TFP for each year we use the following derivative of equation (2):

$$A_t = Y_t - K_t - L_t \tag{2}$$

Table 5.2 summarises the growth accounting results. The first row shows each country's output growth. Over 1990-2014, Suriname experienced an annual average growth of two per cent, Haiti and Trinidad & Tobago each experienced an average of one per cent annual growth in labour. Bahamas, Barbados, Jamaica, St. Vincent and St. Lucia experienced stagnated

growth at less than one per cent. Dominica and Grenada exhibited negative labour force growth over the period (-3.76 per cent and -3.5 per cent respectively). These results may be attributed to the stagnant 2 per cent average growth rate of the working age population in these economies during this period; this is indicative of a capital-intensive economy, requiring greater investment in capital than skilled or unskilled labour.

***TABLE 5.2 ABOUT HERE ***

Extensive economic is generally considered unsustainable (Hall & Jones, 1999; Barrell et al., 2010) as it relies heavily on investment in capital stock and labour. Similarly, a negative TFP (the Bahamas -2.31 per cent, Barbados -2.10 per cent, Haiti -2.99 per cent, St. Lucia -0.96 per cent and Suriname -1.31 per cent) could be evidence of inefficient use of the labour force, misallocation of resources, failure to meet consumer demands and inefficient economy (Hall & Jones, 1999). Barbados and Haiti's low rate of growth (0.81 per cent and 0.78 per cent respectively) is indicative of economies heavily dependent on capital (2.62 per cent and 2.42 per cent respectively). The negative TFP coupled with increased capital and labour utilisation exhibited in Suriname indicates performance that may lead to economic contraction.

Testing for institutional quality

The second research question investigates the relationship between institutional quality and economic performance. For this, institutional observations for the same period were collected from the Economic Freedom of the World (EFW) index computed by Gwartney, Lawson, and Hall (2016). EFW ranks the degree to which policies and institutions are supportive of economic freedom. Data from EFW has been used in multiple studies examining

the impact of economic freedom on investment, economic growth, income levels and poverty rates (Le, 2009; Góes, 2016).

In line with existing studies, an expectation-maximisation (EM) algorithm utilising an iterative method was used to find the maximum likelihood estimates of missing values (Siddiqui & Ahmed, 2013) yielding 100 observations per country (Table 5.3). To reduce the institutional variables into fewer significant components, common factor analysis ('CFA') was used to isolate the underlying correlation of institutional quality indicators and explain variance with the fewest components (Siddiqui & Ahmed, 2013).

TABLE 5.3 ABOUT HERE

Utilising the Kaiser criterion (1960) the top four components were retained. The data was orthogonally rotated using varimax method. After rotation, the first component explained on average 37 per cent of the total retained variance and the remaining three components explained 25 per cent, 20 per cent and 17 per cent respectively. The four components are interpreted through the correlation between observed variables and components; higher loadings mean that the indicator is more relevant in defining the component. The components were classified as Market-Creating (*MC*), Market-Regulating (*MR*), Market-Legitimising (*ML*) and Market-Stabilising (*MS*) (summarised in Table 5.4).

*** TABLE 5.4 ABOUT HERE***

Description and analysis of institutional indices

INST is an aggregate index of the four institutional factors. Market-regulating factor was the largest contributor to *INST* (37 per cent), followed by market-legitimising (25 per cent), market-stabilising (20 per cent) and market-creating (17 per cent) institutions respectively.

The primary objective of *Market-creating institutions* is providing the basis for exchange, lowering transaction costs and facilitating economic growth. In this investigation CFA has identified that the major weights in this factor come from legal enforcement of contracts, hiring and minimum wage regulations, hours' regulations and starting a business.

Market-regulating institutions provide an element of economies of scale that can increase the cost of enforcing market-creating institutions, making private protection of property rights expensive and inefficient. Indicators that were strongly related to this factor include judicial independence, reliability of police, cost of tariffs, ownership of banks, hiring and firing regulations, centralised collective bargaining, bureaucracy costs, licensing restrictions and government effectiveness.

Indicators that weighted strongly as *Market-legitimising* factor included extra payments/bribes/favouritism derived from 'Business Regulations' sub-index of EFW. These measure the perceptions of the quality of equity within the economic system, in particular equity of government officials when deciding policies and contracts.

The indicators that weighed strongly on *Market-stabilising* factor included regulatory restrictions on the sale of real property, non-tariff trade barriers, mandated cost of worker dismissal and foreign ownership investment restrictions. Market-stabilising not only target inflation or impose government enforcement of fiscal actions; They reduce uncertainty, encourage investment and other productive activity through setting out collective and 'humanly devised' constraints.

Testing for the relationship between institutional quality and economic performance

To test the relationship between institutions and economic growth, this study followed a specification based on Barro (1991), Delgado et al. (2012) and Siddiqui and Ahmed (2013) which draw on empirical studies by Solow (1956); Lucas Jr. (1988) and North (1994) that confirm evidence of conditional convergence on input factors, some of which are related to institutions.

The specification used below:

$$y_{it} = \alpha_0 + \beta_1 MACRO_{it-1} + \beta_2 INST_{it} + \beta_3 TFP_{it} + \epsilon_{it} \quad (3)$$

$y_{it} =$	GDP per capita (PPP) (constant 2011 international \$)
$MACRO_{it-1}$ = $INST_{it} =$	Lagged macroeconomic covariate comprised of capital and total employment
$TFP_{it} =$	Institutional sub-indices
	TFP as a 'black box' of other determinants of efficiency of factor usage

Year dummies are included in the model to control for fixed time specific effects. Table 5.5 summarises the descriptive statistics for this data. Equation (3) is interested with the effect of *MACRO* and *INST* on national output, controlled for by *TFP* and fixed time specific effects. Each variable is measured differently, therefore, the standardised regression coefficients are used to compare the magnitude of their effects.

TABLE 5.5 ABOUT HERE

Following Delgado et al. (2012) the dependent variable is measured by the log of GDP per capita. It provides a measure of the potential for productivity of labour and capital. Average annual inflation rates for the Caribbean economies over the 25-year test period average 5.64 per cent, with standard deviations of 16.5 points respectively (World Bank, 2017).

Adverse labour market institutions are expected to have a negative influence on long-run economic growth, through increased unemployment. Developing economies are characterised by higher levels of unemployment and the absence of unemployment insurance, limited access to social security and welfare support and lower levels of income. These institutional factors suggest that the added worker effect is likely to be stronger for developing Caribbean economies.

Empirical results and discussion

Table 5.6 presents results of the model on the relationship between economic performance and the individual categories of macroeconomic and institutional factors, controlling for TFP. Model 1 examines the relationship of the macroeconomic environment. We find that capital has a growth limiting effect on *GDP per capita*, but no evidence of a significant relationship between the proximate determinants and economic performance.

TABLE 5.6 ABOUT HERE

Models 2-7 examine the individual influence of institutional factors on *GDP per capita*. The results indicate the existence of a robust relationship between *MR*, *ML* and *MS* and *GDP per capita*. The negative coefficient for *MS* suggests that these institutions have a growth maximising level effect on GDP per capita. The negative but significant relationship could be due to the restraint of parallel informal institutions which may occur as their quality increases and the market adjusts against external shocks. The parallel informal institutions make it easier for economic actors to conduct business within the complex bureaucratic regulations of an economy. Their systematic erosion with the introduction of more regulation may create inefficiencies, bureaucracy and increase the cost of transactions.

These results are also robust to substituting the aggregated institutional index *INST* (Model 7). The results validate *INST* and suggest that our findings are not driven by potential bias in any one institutional index.

Model 1-10 provides evidence that *MR*, *ML* and *MS* institutions become significant influencers on national output and attractiveness of these small-island economies for international investment. This would suggest that endowments that may be captured by TFP have separate effects on levels of economic performance. On average a standard deviation increase in capital is associated with approximately 23 per cent decrease in GDP per capita. This is significantly less than the effect of labour mobilisation, where an average standard deviation increase is associated with a 32 per cent increase in GDP per capita. Similarly, on average a standard deviation increase in TFP is associated with a decrease of less than one per cent in GDP per capita.

Conclusion

That institutions are important for economic growth is not in dispute. However, earlier empirical studies have not identified which institutions matter most or how they matter for economic growth. This study investigated this issue in the small-island developing economies of the Caribbean. It presented a sub-index of institutions for the period 1990-2014 as measures of institutions. These indices captured the effect of market-creating, market-regulating, market-stabilising and market-legitimising institutions, in a formal model alongside macroeconomic variables on economic performance and international competitiveness. There is evidence that those institutions designed to regulate and legitimise the market, impose roles within the market and constrain inefficiencies have a significant impact on levels of productivity. However, there is also evidence that market-stabilising institutions have a growth-maximising level beyond which increased bureaucracy can kill the incentive for investment and productivity. These findings suggest that strengthening market-legitimising and market-regulating institutions is crucial for these developing Caribbean economies, whether high-, middle- or lower-income, to promote economic growth and international competitiveness.

These results also indicate that in the absence of controls for TFP, institutions that focus on the measure of political participation and target external shocks have a significant impact on output levels. It would suggest that holding proximate determinants constant, productivity in these Caribbean economies is reliant on the control of inflation, self-imposed government enforcement of fiscal policies, integrity of the legal system, control of corruption and political stability.

This study contributes to existing literature on the competitiveness of host economies within international business, with a focus on developing countries and the overlooked Caribbean region. Results from this study build upon existing work and move the discussion beyond property rights and contracts. In line with existing literature, we confirm that institutions

play a role in the economic performance of the selected economies. Interestingly, the results indicate that specific institutions play varying roles within this region's economies. Different categories of institutions appear to matter more than others for growth and international competitiveness; we find differences in the impact of market-regulating institutions compared to market-stabilising institutions in this region's economies. Specifically, market-stabilising institutions appear to have a growth-maximising level beyond that which increased red-tape and bureaucracy would kill the incentive for investment.

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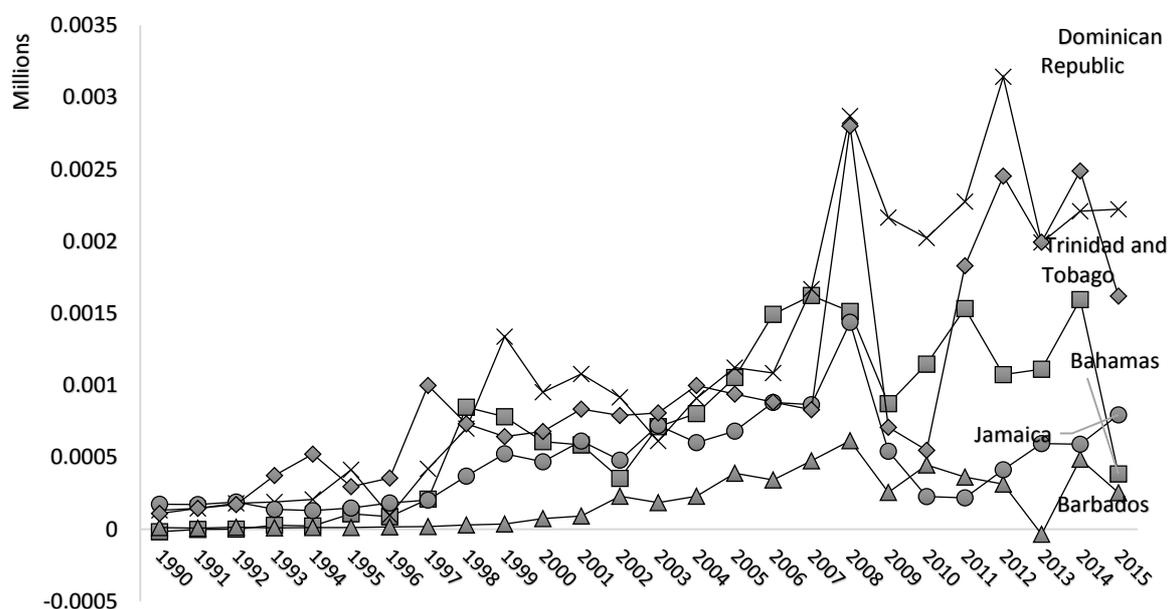
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Figure 5.1 Foreign Direct Investment Inflows to the Top Five Host Countries of the Caribbean (1990–2014 Annual, US\$ Millions)



Source: Compiled using data from UNCTAD (2017)

Table 5.1 CARICOM Member-states Annual GDP Growth (%) for Period 1990-2015

Country Name	1990-1999	2000-2009	2010-2015
Antigua and Barbuda	3.31	3.30	0.43
Bahamas, The	1.64	1.00	-0.10
Barbados	0.47	1.42	0.19
Belize	5.77	4.94	2.57
Bermuda	1.89	2.71	-1.37
Cayman Islands	5.31	0.00	0.00
Dominica	2.28	2.51	1.74
Grenada	3.51	2.18	1.77
Guyana	4.79	1.97	4.10
Haiti	2.53	0.77	1.92
Jamaica	2.16	0.93	-0.10
St. Kitts and Nevis	4.06	3.22	2.18
St. Lucia	5.51	2.53	0.61
St. Vincent and the Grenadines	3.40	3.45	0.85
Suriname	0.69	4.47	3.46
Trinidad and Tobago	3.95	6.52	1.61

Source: Authors estimates, data from World Bank (2017)

Table 5.2 Sources of Growth – Annual Percentage Rate of Change
(All results for period 1990-2014, unless otherwise indicated)

	GDP			
	Growth	Capital	Labour	TFP
The Bahamas	1.24	2.59	0.97	-2.31
Barbados	0.81	2.62	0.29	-2.10
Dominica*	1.68	1.38	-3.76	4.06
Grenada ⁺	3.51	3.44	-3.50	3.57
Haiti	0.78	2.42	1.35	-2.99
Jamaica	1.27	0.85	0.34	0.08
St. Vincent and the Grenadines	2.77	2.20	0.54	0.03
St. Lucia	3.12	3.18	0.90	-0.96
Suriname	2.79	2.00	2.10	-1.31
Trinidad and Tobago	4.44	0.22	1.22	3.01

* Data only available for the period 1990–2002.

⁺ Data only available for the period 1990–99.

Source: Authors estimates, data from World Bank (2017)

Table 5.3 Descriptive Statistics of Institutional Quality Data Observations

	Count	Mean	Min	Max	St. Dev
Judicial independence	100	-0.133	-2.191	1.960	0.889
Impartial courts	100	0.222	-1.281	1.707	0.842
Military interference in rule of law and politics	100	0.181	-2.431	1.233	0.840
Integrity of the legal system	100	0.214	-1.641	1.747	0.869
Legal enforcement of contracts	100	0.408	-1.450	3.655	1.141
Regulatory restrictions on the sale of real property	100	-0.279	-2.083	2.439	0.832
Reliability of police	100	0.113	-1.563	1.962	0.723
Tariffs	100	-0.091	-2.421	1.123	0.993
Compliance costs of importing and exporting	100	0.416	-2.910	2.322	0.801
Non-tariff trade barriers	100	-0.417	-3.502	2.035	1.123
Ownership of banks	100	-0.018	-1.130	0.750	0.841
Private sector credit	100	0.130	-2.852	1.507	0.873
Interest rate controls/negative real interest rates	100	0.132	-3.123	0.665	0.836
Hiring regulations and minimum wage	100	-0.182	-4.608	1.915	1.124
Hiring and firing regulations	100	0.185	-2.361	1.789	0.830
Centralised collective bargaining	100	0.449	-2.721	1.937	0.971
Hours regulations	100	-0.079	-2.665	1.154	0.914
Mandated cost of worker dismissal	100	-0.026	-2.878	1.773	0.985
Bureaucracy costs	100	0.335	-2.024	3.174	0.975
Starting a business	100	-0.400	-4.788	1.319	1.192
Extra payments/bribes/favouritism	100	0.200	-1.485	1.941	0.802
Licensing restrictions	100	-0.210	-2.111	1.654	0.929
Tax compliance	100	0.212	-1.730	1.786	0.930
Control of Corruption	100	0.226	-1.363	1.466	0.899
Government effectiveness	100	0.202	-2.344	1.582	0.913
Political stability and absence of violence/terrorism	100	0.228	-1.523	1.851	0.895
Foreign ownership investment restrictions	100	0.074	-1.974	2.124	0.840
Capital controls	100	-0.233	-1.009	1.560	0.841

Source: Authors calculations, data from EFW database (Gwartney et al. (2016))

Table 5.4 Results of Common Factor Analysis of Institutional Indicators

Institutional Quality Variable	Factor Loadings after rotation*								INST (weighted sum factor)
	MC		MR		ML		MS		
	(Weights and correlations between each variable and the factor)								
Judicial independence	-0.062	106%	-0.034	-3%	-0.481	109%	-0.162	1145%	-0.178
Impartial courts	0.000	-1%	0.044	4%	0.032	-7%	0.019	-137%	0.028
Military interference in rule of law and politics	0.005	-9%	0.001	0%	0.004	-1%	0.034	-238%	0.009
Integrity of the legal system	0.002	-3%	0.032	3%	0.041	-9%	0.072	-512%	0.037
Legal enforcement of contracts	-0.535	911%	0.113	10%	0.227	-52%	0.285	-2019%	0.064
Regulatory restrictions on the sale of real property	-0.052	89%	-0.012	-1%	-0.149	34%	-0.318	2255%	-0.116
Reliability of police	-0.012	20%	0.061	6%	-0.185	42%	-0.166	1178%	-0.060
Tariffs	-0.004	7%	-0.075	-7%	-0.128	29%	-0.037	260%	-0.068
Compliance costs of importing and exporting	-0.003	5%	0.010	1%	-0.015	3%	-0.015	104%	-0.004
Non-tariff trade barriers	0.002	-4%	-0.021	-2%	-0.003	1%	0.100	-708%	0.012
Ownership of banks	0.001	-1%	0.003	0%	0.043	-10%	0.001	-4%	0.012
Private sector credit	0.000	-1%	-0.002	0%	0.020	-5%	0.012	-87%	0.007
Interest rate controls/negative real interest rates	0.003	-5%	0.018	2%	-0.007	2%	-0.036	252%	-0.002
Hiring regulations and minimum wage	0.395	673%	0.086	8%	0.031	-7%	0.252	-1788%	0.159
Hiring and firing regulations	0.012	-21%	0.034	3%	0.100	-23%	-0.026	184%	0.035
Centralised collective bargaining	0.000	0%	0.009	1%	0.071	-16%	0.029	-206%	0.027
Hours regulations	0.009	-16%	0.002	0%	0.001	0%	-0.007	47%	0.001
Mandated cost of worker dismissal	0.043	-74%	0.121	11%	0.020	-5%	-0.316	2236%	-0.007
Bureaucracy costs	0.002	-4%	0.005	0%	0.052	-12%	-0.014	102%	0.012
Starting a business	0.067	114%	0.006	1%	0.033	-8%	0.066	-465%	0.036
Extra payments/bribes/favouritism	-0.023	39%	0.009	1%	-0.054	12%	0.057	-404%	-0.003
Licensing restrictions	-0.007	13%	0.011	1%	0.062	-14%	-0.099	700%	-0.002
Tax compliance	0.009	-15%	0.018	2%	0.026	-6%	0.002	-15%	0.015
Control of Corruption	0.060	102%	0.458	42%	-0.041	9%	-0.016	115%	0.166
Government effectiveness	0.013	-23%	0.076	7%	-0.093	21%	0.130	-922%	0.033
Political stability and absence of violence/terrorism	0.027	-46%	0.168	16%	-0.108	24%	-0.138	974%	0.011
Foreign ownership investment restrictions	-0.006	10%	-0.029	-3%	0.043	-10%	0.190	-1349%	0.038
Capital controls	-0.007	11%	-0.034	-3%	0.019	-4%	0.084	-597%	0.008

Source: Author calculations

Factors extracted using Common Factor Analysis method. Rotation performed using varimax method with Kaiser normalisation.

*Weights based on amount of variance explained by each factor in proportion to the total variance explained by all retained factors.

Table 5.5 Descriptive Statistics of Macroeconomic Variables

	Obs	Mean	Min	Max	St. Dev.
Capital	254	0.02	-0.01	0.07	0.01
Labour	221	0.01	-0.45	0.29	0.05
TFP	221	0.00	-0.27	0.51	0.06
GDP per capita, PPP*	244	13204.13	1502.03	31951.02	7118.96

Source: Author calculations, data from World Bank (2017), Feenstra et al. (2015) *GDP per capita, constant 2011 International \$millions

Table 5.6 OLS Regression Models Results

Dependent variable (in)	model1	model2	model3	model4	model5	model6	model7	model8	model9	model10
Macroeconomic										
Capital	-0.226 (0.190)	-0.536 (0.393)	0.348 (0.597)	-0.333 (0.440)	0.131 (0.468)	0.311 (0.409)	0.007 (0.478)	-0.187 (0.137)	-0.209 (0.166)	-0.240 (0.161)
Labour	0.324 (0.913)	0.437 (1.192)	0.115 (1.938)	-1.444 (1.676)	1.063 (1.745)	1.148 (1.504)	-0.648 (1.872)	-0.248 (0.669)	-1.020 (0.696)	-0.109 (0.101)
Endowments										
TFP	0.060 (0.221)	-0.333 (0.210)	0.081 (0.301)	0.055 (0.251)	-0.319 (0.338)	-0.047 (0.243)	-0.013 (0.289)	0.108 (0.171)	-0.081 (0.158)	
Institutional sub-indices										
ML		0.611* (0.271)			0.910* (0.425)				0.491** (0.171)	0.435** (0.155)
MS		-0.904*** (0.186)				-0.916** (0.249)			-0.259* (0.109)	-0.252* (0.108)
MC		-0.516* (0.224)	0.279 (0.333)						0.035 (0.141)	0.055 (0.140)
MR		0.680** (0.181)		0.733** (0.225)					0.670*** (0.138)	0.629*** (0.134)
INST							0.948 (0.503)			
constant	-0.439 (0.734)	-1.111 (0.815)	0.019 (1.224)	-0.864 (0.967)	0.625 (1.150)	-0.610 (0.917)	-0.064 (1.088)	-0.424** (0.150)	-0.401* (0.150)	-0.404** (0.149)
N	78	51	51	51	51	51	51	78	51	52
Year fixed effects	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO
r2	0.169	0.790	0.231	0.465	0.344	0.509	0.317	0.036	0.486	0.464
ar2	-0.279	0.448	-0.747	-0.217	-0.492	-0.117	-0.552	-0.003	0.4861	0.392
df_r	50.000	19.000	22.000	22.000	22.000	22.000	22.000	74.000	43.000	45.000

* p<0.05, ** p<0.01, *** p<0.001

Source: Author calculations