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PRIVATE SECTOR ASSESSMENT OF JAMAICA



Contents

Executive summary

I. Private sector assessment

- 5 Background
- 5 Macroeconomic overview
- 8 Institutional effectiveness
- 9 Components of the productive sector
- 11 Services
- 12 Industry and agriculture

II. Key challenges for private sector development

- 14 Access to finance
- 16 Corporate taxation
- 18 Crime and corruption
- 19 Key inputs and infrastructure
- 20 Trade and FDI policies
- 21 Lack of innovation
- 23 Environment
- 24 Gender
- 27 Analytical remarks

III. Emerging sectors

- 28 Tourism
- 28 Information and communications technology (ICT)
- 29 Food processing
- 29 Culture/creative and sports industries

IV. Priority areas and action plan

- 31 Background
- 31 Assessment of the national innovation system in Jamaica
- 33 Policy suggestions
- 35 Conclusions

References

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The Private Sector Assessment Report for Jamaica was authored by David Tennant was commissioned by the Inter-American Development Bank (IDB), with funding from the Compete Caribbean Program, a regional private sector development, technical assistance initiative financed by the IDB, the United Kingdom Department for International Development (DFID) and the Department of Foreign Affairs, Trade and Development Canada (DFATD), and executed in partnership with the Caribbean Development Bank (CDB) (for more information and access to the full document visit Compete Caribbean www.competecaribbean.org).

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Executive summary

The Private Sector Assessment Report (PSAR) provides a comprehensive overview of the private sector in Jamaica. It evaluates the primary components of the productive sector, the key challenges that it faces, potential emerging sectors, and finally, policy recommendations for priority areas. It draws on both primary and secondary data sources. Primary data analyses were derived from interviews with key stakeholders from the domestic private and public sectors as well as interviews with regional and international agencies. A listing of the main stakeholders interviewed is documented in the original country report.¹ Secondary data were utilised to describe the state of the country at both the micro and macro levels. In addition to these specific elements of the research, the development of the PSAR was assisted by consultations organised under the Caribbean Growth Forum² (CGF).

The private sector in Jamaica is relatively large, employing almost 90% of the country's working labour force. Approximately 82% of the working labour force employed by the private sector works in micro, small and medium-sized enterprises (MSMEs). Although Jamaica has a high level of early-stage entrepreneurial activity, it also has a high rate of failure of firms. Only 5.1% of the persons who currently own or manage a business have done so for more than 42 months. The report highlights this as critical, because although early-stage entrepreneurs can provide dynamism in an economy, established businesses are needed to provide stability and employment. The level of established-business ownership is used to indicate the sustainability of entrepreneurship in a society. In the case of Jamaica, the result indicates a harsh business environment and weak institutions, which increase uncertainty and reduce the planning horizon for firms.

The private sector in Jamaica faces a challenging business and macroeconomic environment. Macroeconomic performance has been poor over the last two decades. While numerous factors have contributed to slow growth, the World Bank (2011) has identified widespread low productivity as the fundamental reason for Jamaica's disappointing economic performance. In the World Bank's 2010 Enterprise Surveys³ firms identified tax rates, access to finance, and the

¹ The original reports can be found on Compete Caribbean's website: <https://www.competecaribbean.org>.

² The CGF is a facilitated methodology for public-private dialogue around issues central to private-sector development and growth. It brings a non-traditional approach to the greatest challenge currently faced by the region: creating sustainable and inclusive growth. The Forum also aims to facilitate an action oriented dialogue around key policy reforms needed across three thematic areas: investment climate, skills and productivity and logistics and connectivity. The CGF is a joint initiative by the Compete Caribbean Program, the Inter-American Development Bank, the World Bank, and the Caribbean Development Bank. It is supported by the Department of Foreign Affairs, Trade and Development Canada (DFATD), the United Kingdom's Department for International Development, the CARICOM Secretariat and the University of the West Indies.

³ An Enterprise Survey is a firm-level survey of a representative sample of an economy's private sector. The surveys cover a broad range of business environment topics including access to finance, corruption, infrastructure, crime, competition, and performance measures. The World Bank has been conducting these surveys all over the world using a specific instrument. In 2010, Compete Caribbean funded Enterprise Surveys in 14 CARIFORUM countries (CARIFORUM is the forum of the Caribbean group of the African, Caribbean and Pacific, or ACP, states). Nine of these countries were included in this exercise for the first time, and this data set represents the only statistically reliable, micro-level data on the characteristics of the private sector in these countries. These surveys can be found at www.enterprisesurveys.org.

cost and supply of energy as the main constraints in the Jamaican business environment. A follow-on 2013 firm-level survey funded by Compete Caribbean, identified tax rates, practices of competitors and crime and theft as the main constraints to the business environment. The PSAR includes key inputs such as electricity, water, transportation, communication technologies, infrastructure, crime, corruption, and trade and foreign direct investment (FDI) policies as additional factors that inhibit the development of the private sector. The lack of innovation in Jamaica is discussed, and is seen as a primary weakness contributing to low and stagnating productivity.

The Jamaica PSAR identifies large and fast-growing sectors based on an analysis of each sector's contribution to GDP and growth of real value added over the past decade. The report provides an overview of four of these potential growth sectors: tourism, information and communications technology (ICT), food processing, and cultural/creative and sports industries.

Technology and innovation policy are priority areas to drive economic growth and development of the private sector. Increased productivity through innovation and technology use are typically the most feasible ways of combating the competitiveness challenges faced by small Caribbean countries with small markets and high labour costs.

The PSAR concludes that the policy framework for technology and innovation in Jamaica must seek to capitalize on the innate creativity of the Jamaican entrepreneur while addressing weaknesses in the national innovation system. The ultimate objective should be to enhance the competitiveness of Jamaican businesses by enabling them to improve their efficiency and the quality of their output through the use of advanced technology. Any policies that are implemented must thus seek to address the varying innovation and technological needs of different types of firms, and to improve the creation and flow of usable knowledge throughout the national innovation system. Policy initiatives should seek to address the specific needs of three categories of key stakeholders: businesses that come under the category of technology followers; businesses that are technology developers or leading technology users; and research institutes, universities and agencies that offer science, technology and innovation and ICT support to businesses.

The PSAR recommends that the government of Jamaica address the weaknesses identified in its policy and co-ordination function for innovation and technology. A high-level champion for innovation and technology needs to emerge, preferably at ministerial level, and be given the requisite institutional, financial and legal support to drive far-reaching innovation and technology policy reforms.

I. Private sector assessment

Background Private-sector development (PSD) is a priority for Jamaica's leaders and is part of Vision 2030 Jamaica, the country's first long-term national development plan. The plan was produced through extensive collaboration between the government of Jamaica, the private sector and other civil-society groups, and thus largely indicates shared societal perspectives and objectives. The plan aims to enable Jamaica to achieve developed-country status by 2030.

The national development plan's early acknowledgement of the role of productive enterprises speaks to the primacy of private-sector development in the Jamaican planning process. Ensuring that the economy is prosperous is one of only four national goals that are outlined in this plan. The national outcomes associated with this goal include: a stable macro-economy; an enabling business environment; strong economic infrastructure; energy security and efficiency; a technology-enabled society; and internationally competitive industry structures.

These outcomes hint at the challenges currently facing the country, which must be targeted as part of any comprehensive programme of private-sector development. Vision 2030 Jamaica more specifically identifies the challenges as including "high public debt; low productivity in most sectors; fiscal imbalance; anaemic export performance; weak infrastructure; poor educational performance; unemployment among youth (those aged 15-24) as high as 23.6%; weak institutions; inadequate transparency and accountability in governance; and a high perception of corruption permeating public and private sectors".

In the light of the review of public utterances and documentation from both the public and private sectors, the overarching goal of PSD in Jamaica would appear to be increased prosperity for the citizenry, economic growth and employment generation. This is to be achieved through enhancing the productivity and competitiveness of businesses and bolstered by fiscal consolidation and debt sustainability. With this background in mind, the following section provides an assessment of the private sector in Jamaica, including an analysis of the main macroeconomic and institutional elements.

Macroeconomic overview

Jamaica is highly vulnerable to external shocks, particularly any slowdown in the US or sudden spikes in global fuel and food prices. Over the past 15 years a large public-sector debt burden has been a drag on domestic demand, resulting in reliance on the external sector to drive GDP growth. In 2008-10 the economy was in deep recession. Although growth resumed in 2011, GDP shrank again in 2012 and growth was minimal in 2013, at just 0.2% (see Figure 1). Years of real appreciation in the value of the Jamaican dollar hurt export competitiveness and prevented export diversification, so that only a small number of exports drive growth and generate foreign exchange. The government is committed to structural and fiscal reforms to reduce the debt burden and create a foundation for more balanced long-term growth under the IMF programme that came into effect in May 2013.

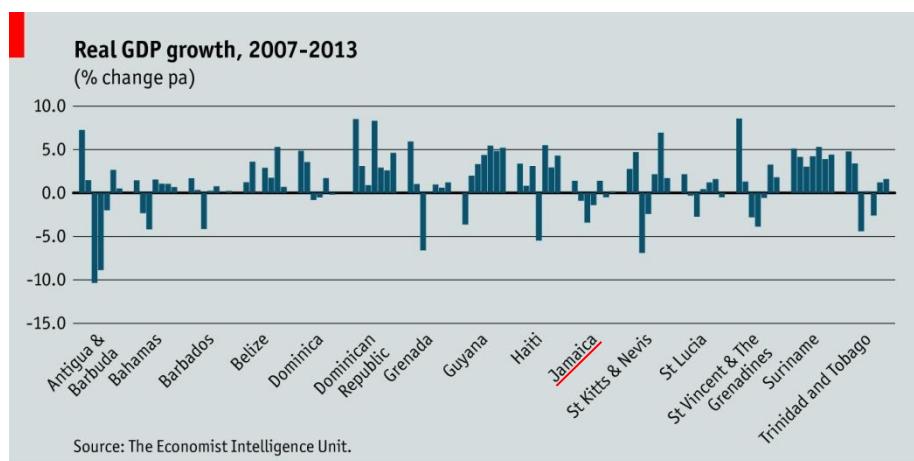
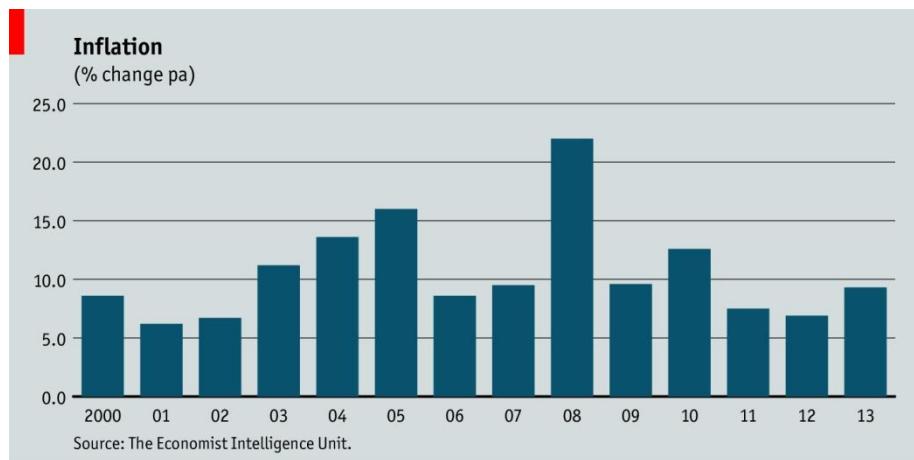
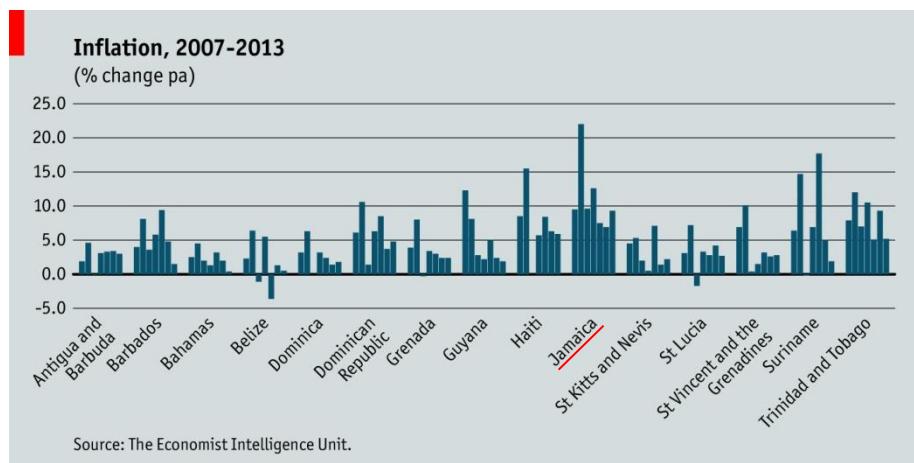
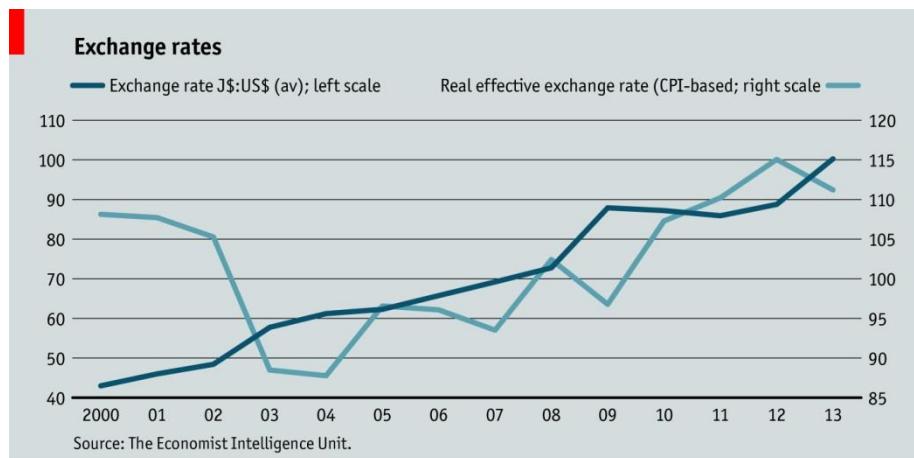
Figure 1**Figure 2****Figure 3**

Figure 4

Macroeconomic instability has contributed to Jamaica's poor growth and employment performance, by making the domestic business climate relatively unstable and challenging. Inflation remains an issue, averaging over 9% annually between 2009 and 2013 (see Figures 3 and 4). The challenges experienced by businesses were further exacerbated by the fact that the periods of relatively low inflation were achieved through tight monetary policies, which caused interest rates to rise. Additionally, relatively large fiscal deficits and the bail-out of financial institutions following the crisis of the mid- to late 1990s led to increased domestic borrowing that was significantly higher than that in the comparator group of countries.

Figure 5

As a small, open economy Jamaica is susceptible to, and heavily impacted, by external shocks. The goods-producing sectors are dominated by international trade patterns that could adversely affect growth prospects. This is due to, *inter alia*: (i) a high degree of dependence on imported fuel and intermediate goods necessary for domestic production, and a significant concentration of imports from the US; (ii) a consistently relatively rapid real rate of depreciation of the Jamaican dollar against the US dollar (see Figure 5), which increases businesses' operational costs and reduces their competitiveness; (iii) a severe lack of

diversification both in goods exported (which are typically primary commodities or goods with low value-added content) and the countries to which they are exported (dominated by the US); (iv) persistent current-account deficits, the financing of which is heavily reliant on remittances from the US and the UK.

Institutional effectiveness

In 2003 the World Bank noted that Jamaica has relatively strong democratic traditions and institutions, with a high level of political participation, free media, a high-quality civil service and a highly ranked regulatory framework. The Bank noted, however, that the "very poor rule of law and crime negate these positive elements in the business environment".

To give a broad overview of current institutional effectiveness in Jamaica, selected indicators of institutional strength used by the World Economic Forum (WEF) in compiling the Global Competitiveness Index for 2013-14 are highlighted in Figure 6 and Table 1. Jamaica has some areas of relative strength, achieving above-average rankings and outperforming some of the regional comparator countries. These areas include judicial independence, strength of investor protection, and property rights.

There are two broad areas of notable concern in which Jamaican institutions are ranked particularly poorly by the WEF. These relate to the perceptions of and actions of politicians and government officials, and to the costs of crime. Of specific concern are wastefulness of government spending; transparency of government policymaking; public trust of politicians; favouritism in decision-making by government officials; the burden of government regulation; organized crime; and the costs to businesses of crime and violence.

Figure 6

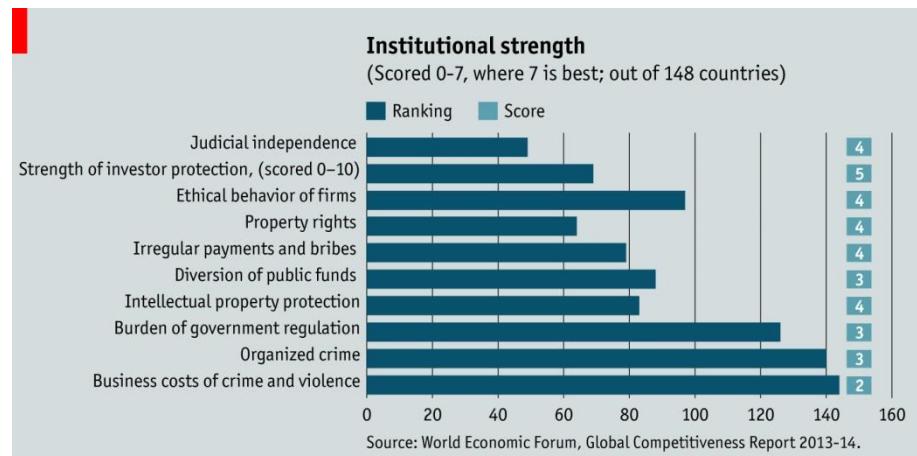


Table 1: Institutional effectiveness

	Barbados		Guyana		Jamaica		Trinidad and Tobago	
	Ranking	Score	Ranking	Score	Ranking	Score	Ranking	Score
Property rights	38	5.0	89	3.9	64	4.3	74	4.2
Intellectual property protection	37	4.5	91	3.3	83	3.5	84	3.5
Diversion of public funds	28	4.8	100	2.8	88	3.0	89	2.9
Judicial independence	21	5.5	79	3.5	43	4.6	49	4.4
Burden of government regulation	19	4.2	126	2.8	43	3.8	87	3.4
Organized crime	17	6.2	140	3.2	91	4.6	120	4.1
Strength of investor protection	134	3.0	69	5.3	69	5.3	25	6.7
Ethical behaviour of firms	25	5.1	70	4.0	97	3.7	118	3.4
Irregular payments and bribes	35	5.1	79	3.7	95	3.5	120	3.0
Business costs of crime and violence	85	4.4	103	4.0	144	2.3	145	2.3

Source: World Economic Forum, Global Competitiveness Index 2013-14.

In a business environment in which macroeconomic challenges and susceptibility to external shocks already increase uncertainty, strong institutions are needed as a countervailing force. Although the Jamaican government has made progress in improving some of its institutions, the best-performing institutions are still not world leaders, and, more importantly, the worst-performing are particularly poorly rated and impede private-sector development. In this respect, the government has much work to do in improving public perception and trust of politicians and public officials. More fundamentally, greater progress is needed in reducing public-sector wastefulness, corruption, crime and burdensome regulation.

Components of the productive sector

Overview of the sector

This section addresses the current state of the private sector in Jamaica, and provides a broad overview of major trends and the private sector's primary components. A later section will discuss potential emerging growth sectors.

In the overall context of slow economic growth, it is not surprising that very few sectors have achieved outstanding rates of growth over the past decade. The shift from agriculture and industry to services is reflected in the fact that three of the five sectors in the former category have recorded declining real value added over the past decade, in contrast to the growth in real value added seen in all services sectors. Only the hotel and restaurant sector has distinguished itself by virtue of a relatively high rate of growth, while the mining sector has shown a particularly rapid rate of decline. The precipitous fall in mining output is almost entirely explained by the fallout from the global crisis, as between 2000 and 2007 mining maintained a consistent share of GDP of about 4%; by 2010, the figure had fallen to 1.2%. The manufacturing industry has been heavily impacted by the dramatic decline of the apparel industry in the late 1990s. Jamaica's main agricultural exports (as well as its exports of textiles) have been significantly adversely affected by the erosion of trade preferences⁴.

⁴ World Bank (2011).

Jamaica is a highly entrepreneurial society, with a relatively large private sector and a fairly high level of early-stage entrepreneurial activity. The private sector employs almost 90% of the country's working labour force, and approximately 82% of the working labour force employed by the private sector works in micro, small and medium-sized enterprises (MSMEs). The retailing of merchandise (with little, if any, transformation) and small-scale farming are the types of low-value-added activities in which many own-account workers (who make up one-half of all workers in MSMEs) and microenterprises are involved.

An important feature of the private sector in Jamaica is the high rate of failure of firms. Although Jamaica is ranked highly in the Global Entrepreneurship Monitor 2011 Global Report for the prevalence of early-stage entrepreneurial activity, it is ascribed a low ranking (in the bottom 20 countries) for the established-business ownership rate. In Jamaica, only 5.1% of persons who currently own or manage a business have done so for more than 42 months. This is critical, because whereas early-stage entrepreneurs can provide dynamism in an economy, established businesses are needed to provide stability and employment. The level of established-business ownership is used to indicate the sustainability of entrepreneurship in a society. In the case of Jamaica, the result indicates a harsh business environment and weak institutions, which increase uncertainty and reduce the planning horizon for firms.

Table 2: Shares of total labour force, July 2014

(%)	
Agriculture, forestry and fishing	16.4%
Manufacturing	6.0%
Construction	8.3%
Wholesale and retail	18.8%
Hotel and restaurant services	7.9%
Transport, storage and communications	6.3%

Source: Statistical Institute of Jamaica.

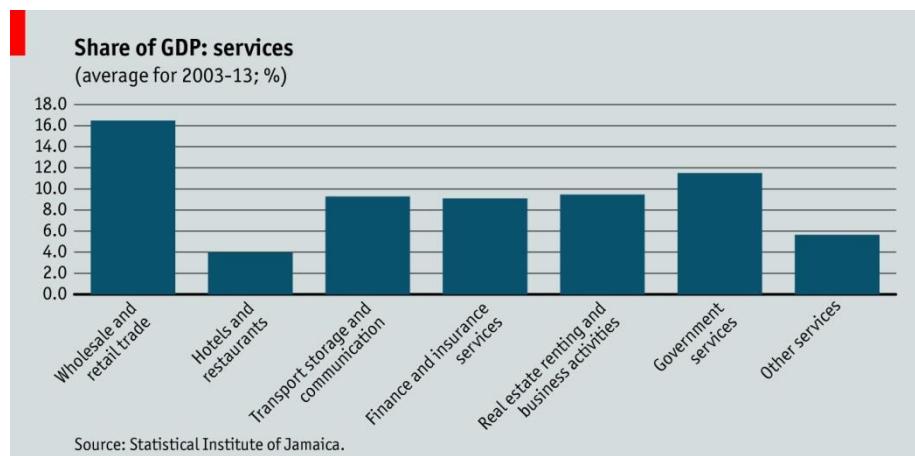
Agricultural activities are an important source of employment for men, providing work for one-quarter of working males. For own-account workers, this tends to involve small-scale farming. Whereas in some countries such small-scale farming is viewed as a viable livelihood, particularly if niche markets such as organic farm products are targeted, this tends not to be the case in Jamaica, where educated young people tend to shy away from farming and rural poverty is greater than that in urban areas.

The other sectors of importance to male members of the workforce are the construction; transportation, storage and communications; manufacturing; and real-estate, rent and business activities sectors. These sectors tend to have a wider distribution of firm sizes, and include some medium-sized and large firms. Outside wholesale and retail trade, women tend to be involved in education, working as household helpers, in hotel and restaurant services, agriculture, and other community, social and personal services.

The overall productive structure of Jamaica is a source of concern. The high level of concentration of output and markets is particularly problematic. This is because "the actual exportable products are few, and producing new products requires knowledge and technologies that the country cannot easily derive from the production of its existing goods... In Latin America and the Caribbean, only Trinidad and Tobago has a lower potential than Jamaica for producing new goods for export." (World Bank, 2011). Even in areas of apparent comparative advantage, such as tourism, Jamaica has lagged behind international competitors.

Services The Jamaican economy is heavily dominated by services sectors. Many of the services provided are concentrated in the travel sector, and are thus associated with tourism. The hotel and restaurant subsector has grown fastest over the past decade, with a compound average growth rate (CAGR) of 3.1%. Only the finance and insurance services sector has recorded a comparable rate of growth, at 2.1%; this, however, largely represents recovery from the financial sector crisis of the mid- to late 1990s. Services sectors, such as wholesale and retail trade; transportation, storage and communications; real-estate, rent and business activities; and finance and insurance, all contributed larger shares of GDP than the manufacturing, construction, agricultural or mining sectors. The potential of the tourism sector to create business for other service providers should also not be overlooked.

Figure 7



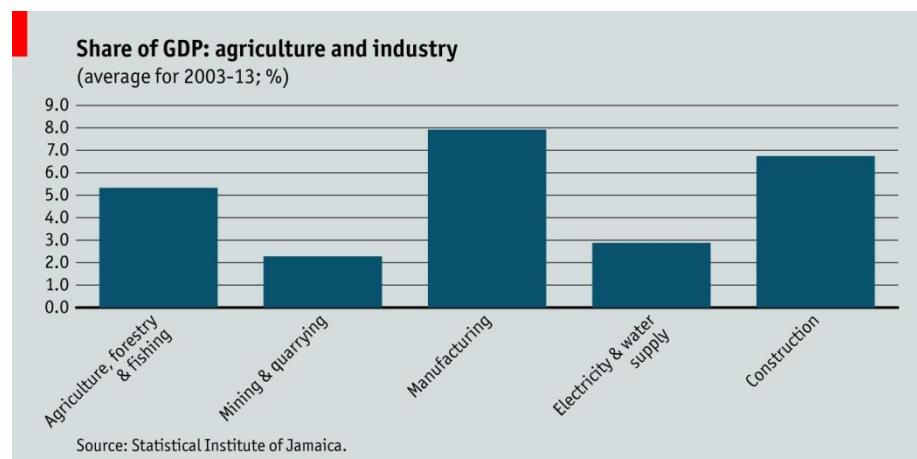
The World Bank (2011) further notes that even the rapidly growing services sectors in Jamaica are beset by challenges that could impede the country's development prospects. The tourism sector is relatively significant, but "intersectoral linkages from Jamaica's tourism industry are weak and have been exacerbated by the promotion policies aimed at the sector... The dominant model of all-inclusive resorts promoted by generous tax incentives favours large, isolated hotels that lack linkages to the rest of the economy... While Jamaica's tourism sector includes many small and medium enterprises in hotels and restaurants, most of the investment and expansion in accommodations over the past five years has come in the form of larger and all-inclusive hotels... Given the predominance of large, foreign-owned hotels, most tourism earnings

do not stay in Jamaica." Similar problems have been observed in the information and communications technology (ICT) sector, which has been promoted through tax incentives. The World Bank (2011) notes that "some of these benefits are included in the Export Free Zone Act, an arrangement that could prevent the development of strong links between firms located in these zones and other sectors or enterprises".

Industry and agriculture

Over the period from 2003 to 2013, of the sectors classified under agriculture and industry, the manufacturing, construction and agricultural sectors accounted for the largest shares of GDP, at 7.9%, 6.7% and 5.3% respectively (see Figure 8). These sectors also had the largest shares of total employment in Jamaica for 2011, with the agricultural sector dominating (with 17.5% of employment), followed at a distance by the construction and manufacturing sectors (with 8.3% and 6.8% respectively). The shares of GDP accounted for by the various sectors of the economy were fairly stable over the decade, with only the mining sector experiencing a precipitous decline because of the global crisis. It is thus difficult to identify a fast-growing sector from among this subset of sectors, as the highest CAGR over the decade was a very modest 1.55%, achieved by the electricity and water supply sector. The only other sector in this group to have grown over the decade was construction, with a CAGR of 0.56%.

Figure 8



II. Key challenges for private sector development

Jamaica is ranked 58th out of 189 economies on aggregate in the World Bank's Ease of Doing Business index for 2015, the highest ranking in the Caribbean region. The historic leap from its 2014 ranking (85 out of 189 economies) can be mainly attributed to the country establishing two new credit bureaus and adopting a new secured transactions law that broadened the range of assets that can be used as collateral. The requirements for starting a business were also streamlined and the cost of getting an electricity connection was reduced. Given the testament to the significant results that have been accomplished and the time lag for changes to permeate to the private sector, more can be done to continue improvements. Several components of the business environment in Jamaica inhibit private-sector development; they include, but are not limited to, crime, corruption, energy costs and reliability, and infrastructure. In a 2013 firm-level survey funded by Compete Caribbean, firms identified tax rates, electricity, and crime, theft and disorder as the main constraints in the Jamaican business environment.

Figure 9

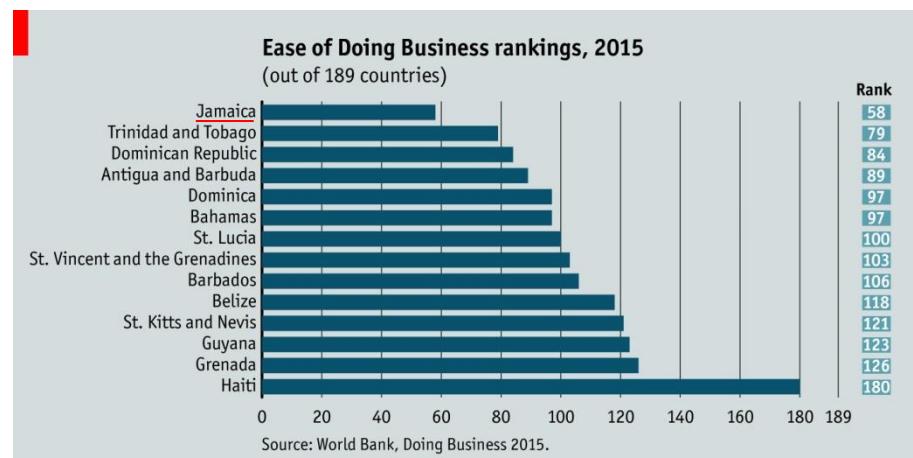


Table 3: Top business environment constraints as identified by firms
(%)

Tax rates	33.1
Electricity	18.6
Crime, theft and disorder	13.2
Tax administration	9.9
Practices of competitors in the informal sector	7.9
Access to finance	4.6
Corruption	2.9
Inadequately educated workforce	2.5
Cost of finance	2.5
Access to land for expansion / relocation	1.7
Customs and trade regulations	1.2

Source: 2013 firm-level survey funded by Compete Caribbean.

Any one of these problems can be viewed as a major obstacle to private-sector development and thus a problem requiring attention. It is therefore not surprising that Jamaican businesses face significant hurdles in being productive. They face challenges not only from the above-mentioned characteristics of the business environment, but also from a stagnating economy with an uncertain medium-term outlook, susceptibility to external shocks, and a severe lack of diversification both in the types of goods exported and the countries to which they are exported.

Table 4: Getting credit: global rankings

(out of 189 countries)

	Rank
Jamaica	12
Trinidad and Tobago	36
Dominican Republic	89
Barbados	116
Bahamas	131
Dominica	131
Grenada	131
Antigua and Barbuda	151
St. Kitts and Nevis	151
St. Lucia	151
St. Vincent and the Grenadines	151
Belize	160
Guyana	165
Haiti	171
Suriname	171

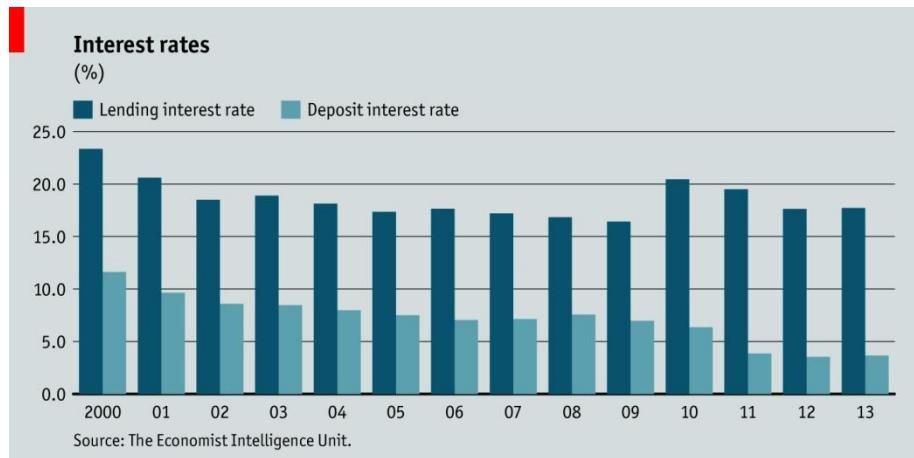
Source: World Bank, Doing Business 2015.

Access to finance

Jamaica is ranked 12th (out of 189 countries) in the World Bank's 2015 Doing Business report for ease of getting credit, yet around 30% of firms identify access to finance as a major constraint, according to the 2013 country-wide, firm-level survey funded by the Compete Caribbean Program. The interest-rate spread of Jamaican banks in 2010 was the second-highest among the comparator

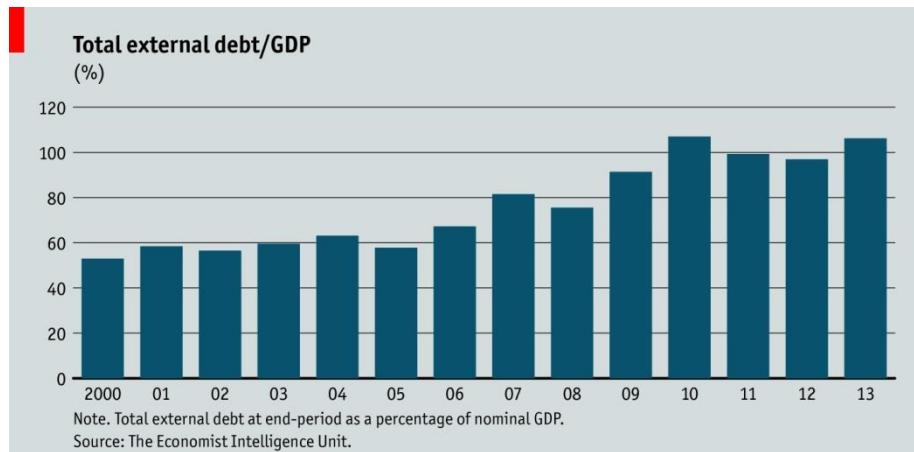
countries, being exceeded only by that in Haiti. Since peaking during the crisis and immediate post-crisis periods, spreads have been trending downwards.

Figure 10



The overall below-average performance of Jamaican financial institutions in mobilizing and intermediating domestic savings increases the importance of the availability of international funding. At 0.79%, Jamaica has a high ratio of international debt issues to GDP compared with other countries in the region, suggesting that international bond issues are relatively heavily relied on as a source of financing by the country. However, to the extent that such international bonds are issued by private firms, they are used almost exclusively by large corporations. MSMEs do not rely on international bond issues as a source of financing. Such firms are also less likely to receive credit from overseas banks.

Figure 11

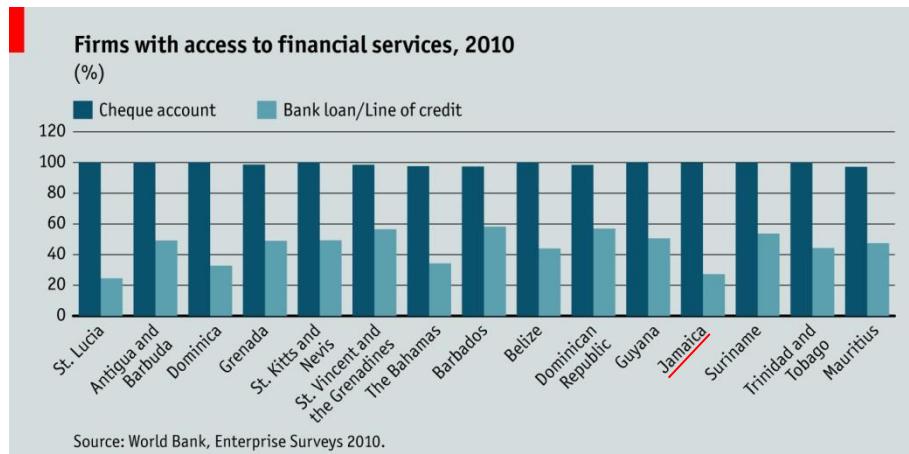


Institutions that serve to reduce information asymmetries, such as credit bureaus, are relatively new in Jamaica. With assistance provided under the Jamaica Competitiveness Enhancement Program, the Credit Reporting Act was passed in October 2010, and the Credit Reporting Regulations that operationalize the act were approved by parliament in January 2011. To date,

the Bank of Jamaica (the central bank) has licensed two credit bureaus to operate, and just one is currently operational.

In the absence of good credit information, banks and other financial institutions protect themselves through high collateral requirements. For MSMEs, the difficulty of gaining access to credit is compounded by a shortage of collateral. Only 27% of Jamaican firms had a bank loan in 2010. Among the comparator countries, only Namibia and St. Lucia had smaller proportions of firms accessing credit from banks. If Jamaican firms had easy access to international sources of credit or to other domestic funding sources, this would not be a major constraint.

Figure 12

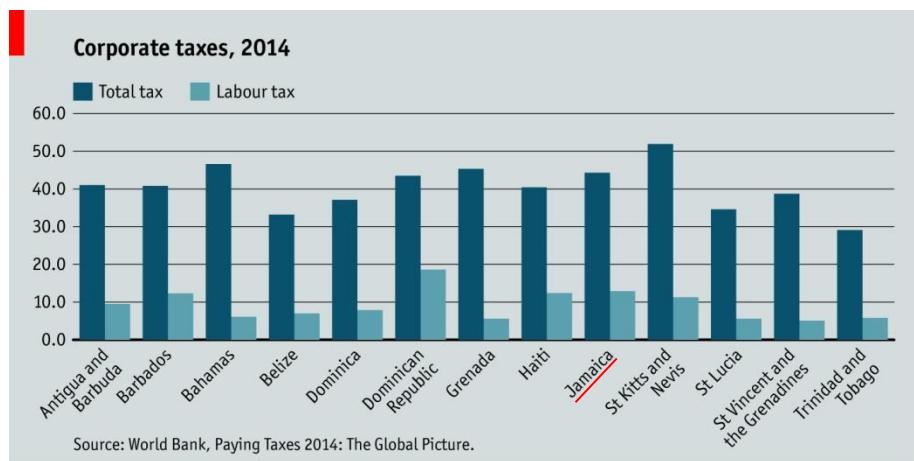


In 2013 Jamaica passed a law governing the creation of security interests in personal property, as one of several new pieces of legislation introduced to satisfy structural benchmarks under the four-year Extended Fund Facility approved for the country by the IMF. Since the law was passed, both a public and a private moveable-collateral registry have been launched, with strong uptake from individuals and financial sector firms. It is expected that these registries will help to expand credit to micro-level firms and will extend services to both lenders and borrowers, nationally and regionally⁵.

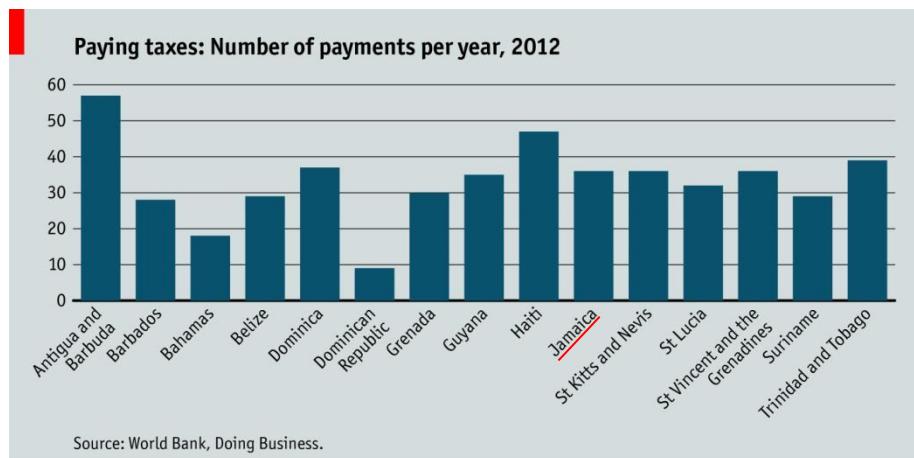
Corporate taxation

High corporate taxes are a cost of doing business in any country, and reduce the international competitiveness of firms. Inconsistent and complex tax policies further lower investment productivity. Jamaica performs exceptionally poorly on both the tax rates charged and the administration of taxes. Among comparator countries, Jamaica has the third-highest total tax rate as a percentage of profits. The country's total tax rate stands at 44.3%, above that in all of the regional comparator countries except for the Bahamas and St. Kitts and Nevis.

⁵ Compete Caribbean supported both the drafting of the Secured Transactions legislation and the implementation of the public collateral registry at the Office of the Registrar of Companies in Jamaica.

Figure 13

The country's performance in the administration of taxes was even worse. Jamaican firms are required to make the largest number of tax payments per year (36), obliging firms to spend 368 hours per year transacting with tax agencies. Based on these indicators, it is not surprising that Jamaica has one of the worst rankings for paying taxes in the 2014 Doing Business report, at 168th out of 189 countries. In 2015, this ranking only improved slightly to 147 out of 189 countries. Also as expected, it has one of the largest proportions of firms identifying tax rates and tax administration as major constraints on their operations, at 58% and 42% respectively, according to the 2013 firm-level survey commissioned by the Compete Caribbean Program.

Figure 14

**Table 5: Paying taxes: global rankings
(out of 189 countries)**

	Rank
Bahamas	31
Belarus	60
Belize	61
St. Lucia	69
Dominican Republic	80
Belgium	81
Barbados	92
St. Vincent and the Grenadines	93
Dominica	94
Grenada	106
Trinidad and Tobago	113
Guyana	115
St. Kitts and Nevis	137
Haiti	142
Jamaica	147
Antigua and Barbuda	159

Source: World Bank, Doing Business 2015.

Crime and corruption

Table 6 presents data on corruption from the World Bank's Enterprise Surveys (2010), and it is clear that Jamaica performs worse than the averages for the rest of the Latin America and Caribbean (LAC) region and also for the world on most of the indicators. A considerably higher percentage of firms in Jamaica than the LAC and world averages are expected to give gifts to obtain operating licences, import licences, construction permits and water connections. It is not surprising, then, that bribery depth (the percentage of public transactions in which a gift or informal payment is requested) was greater in Jamaica (at 17.9%) than the averages for LAC (6.5%) and the world (15%). Also as expected, a significantly larger proportion of firms in Jamaica (46%) than in LAC (39.9%) and the world (36%) identified corruption as a major constraint on their operations. Noteworthy is the fact that, for a number of key indicators of corruption, small firms were more severely affected than medium-sized or large ones.

Table 6: Selected indicators of corruption, 2010

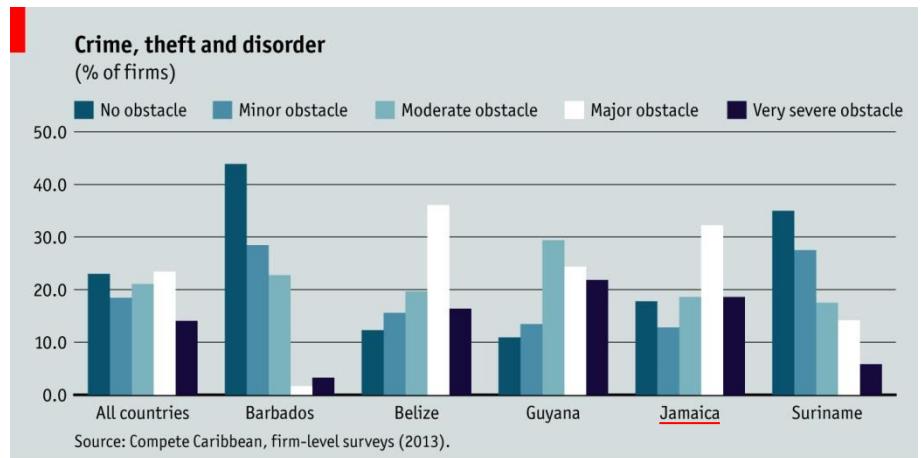
Indicators	Jamaica	LAC	World
Bribery depth (% of public transactions where gift/informal payment requested)	17.9	6.5	15.0
% of firms experiencing at least one bribe payment request	19.3	9.6	19.3
% of firms identifying corruption as a major constraint	46.0	39.9	36.0
% of firms identifying the court system as a major constraint	11.3	25.0	19.0

Source: <http://www.enterprisesurveys.org/Data>

Crime also affects Jamaican businesses more severely than competitors in LAC and the rest of the world, with a higher percentage of Jamaican firms being forced to pay for security (at 65.9%) than the averages for LAC (62.1%) and the world (57.2%). Of particular concern is the greater extent to which exporting

firms are impacted by crime, with 96.8% of such firms stating that they pay for security, compared with 63.8% of non-exporting firms. Crime, theft and disorder are identified as major constraints on business operations by a considerably larger proportion of businesses in Jamaica (46.1%) than in LAC (34.3%) and the world (26.4%).

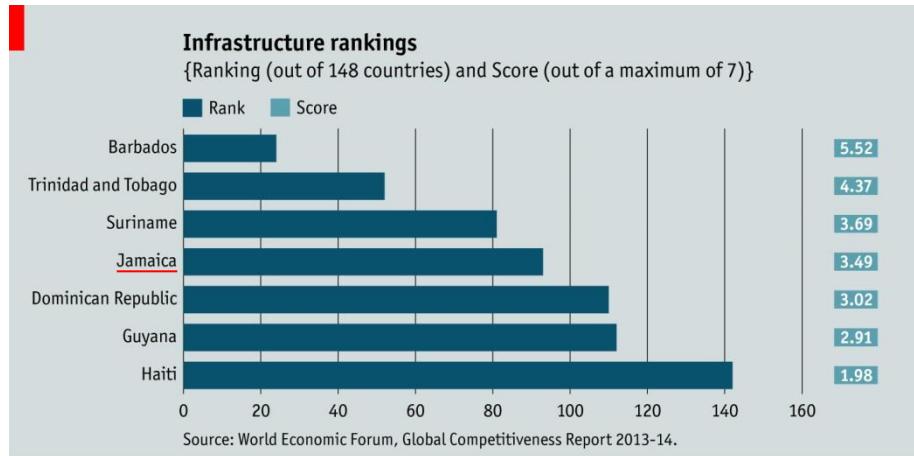
Figure 15



Key inputs and infrastructure

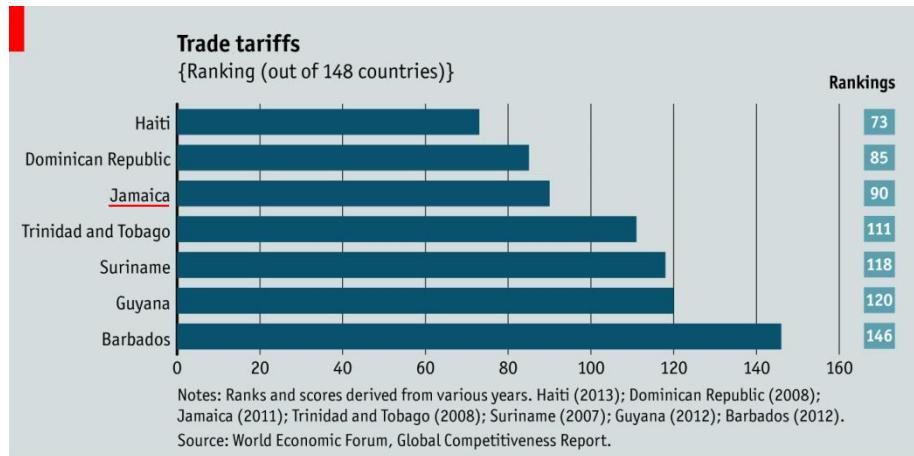
A firm's ability to produce competitively is contingent on the regular availability and affordability of all its key inputs. For most firms electricity, water, transportation and communications technologies are key inputs. The cost of energy is relatively high in Jamaica, putting the private sector at a competitive disadvantage. Around 40% of the Jamaican firms surveyed in the 2013 firm-level survey commissioned by the Compete Caribbean Program identified electricity as a major or very severe obstacle to doing business. Although Jamaica has one of the highest average numbers of electrical outages in a typical month, the figure is not significantly higher than in most of the comparator countries and so does not translate into higher losses as a percentage of annual sales. Despite this, the WEF's Global Competitiveness Index for 2013-14 ranks Jamaica 86th for quality of electricity supply, placing it significantly below Barbados (26th) and Trinidad (50th) (see Table 7).

Finally, regarding infrastructure, Jamaica has fairly high-quality port infrastructure and air transport infrastructure, and has a relatively large number of airline seats available. However, the country has comparatively poor-quality roads and railway infrastructure. Jamaica is thus ranked 77th for the overall quality of its infrastructure, below both Barbados (24th) and Trinidad and Tobago (53rd). Notwithstanding this, only 11.8% of Jamaican firms identify transportation as a major constraint on their operations.

Figure 16**Table 7: Infrastructure rankings**

	Barbados		Guyana		Jamaica		Trinidad and Tobago	
	Ranking	Score	Ranking	Score	Ranking	Score	Ranking	Score
Quality of overall infrastructure	24	5.6	83	4.0	77	4.2	57	4.7
Quality of railroad infrastructure	-	-	79	2.4	116	1.3	-	-
Quality of port infrastructure	18	5.6	113	3.4	39	5.1	75	4.1
Quality of air transport infrastructure	15	6.0	100	3.9	45	5.3	51	5.0
Quality of electricity supply	26	6.3	121	2.7	86	4.4	50	5.4

Source: World Economic Forum, Global Competitiveness Index 2013-14.

Figure 17

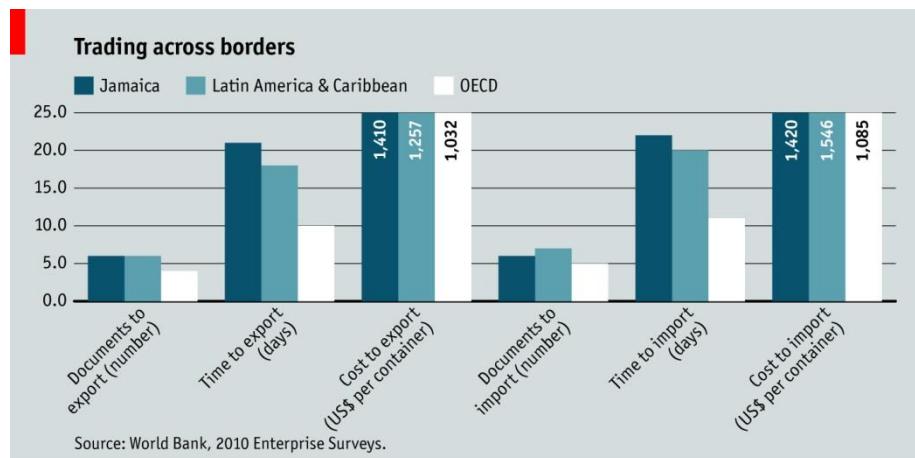
Trade and FDI policies

Among the Caribbean countries studied, Jamaica applies the lowest average tariffs to all products generally (at 8.22%) and to industrial products (6.23%), and the second-lowest average tariffs to agricultural products (19.01%)⁶. However, this represents a below-average ranking for trade tariffs in the Global

⁶ It should be noted that, for many goods, Jamaica must adhere to the Common External Tariff agreed through the Caribbean Community and Common Market (CARICOM).

Competitiveness Index, at 90th. Firms seeking to export from Jamaica are at a competitive disadvantage. It takes Jamaican firms 13.1 days to clear direct exports through customs—longer than in any of the comparator countries. By contrast, it is relatively easy to import goods, with the time taken and costs associated with importing being close to the median. The tendency of Jamaican firms to specialize in the distributive trades and to neglect the production of goods for export is thus not surprising.

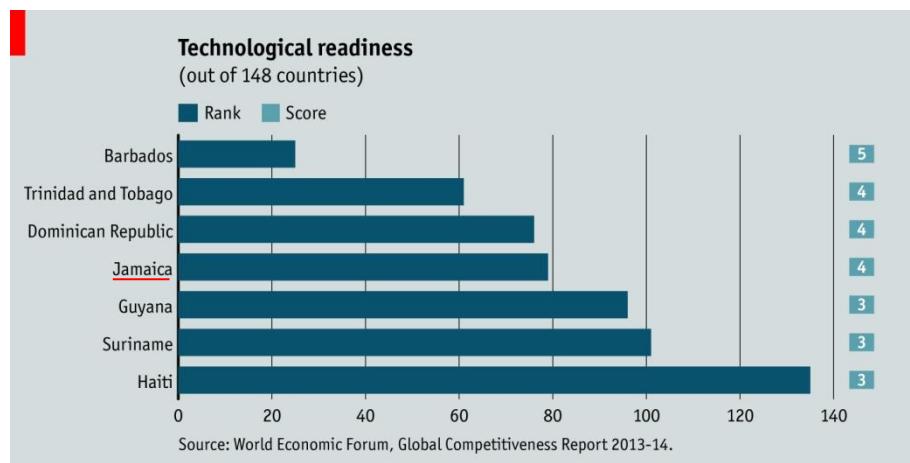
Figure 18



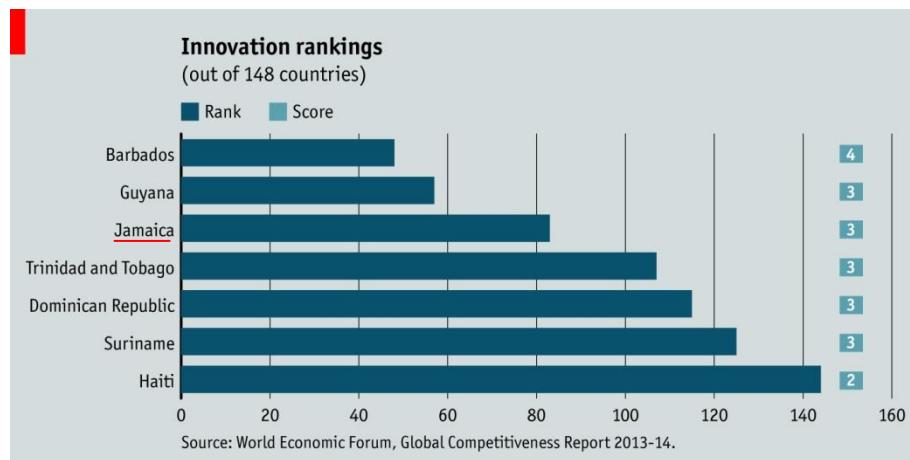
The government of Jamaica has a strong commitment to attracting foreign investment, describing the country as having a "liberal trade regime" with "no restrictions on the movement of capital, profits and dividends", "virtually no exchange controls" and "no approval required to repatriate profits and dividends". Nevertheless, Jamaica ranks 84th for the business impact of rules on foreign direct investment (FDI). This ranking places Jamaica behind its primary regional competitors—the Dominican Republic (80th), Barbados (34th) and Trinidad (57th). Also important, however, are the concerns raised by the World Bank in 2011 that the inducements to attract FDI into Jamaica (particularly tax incentives and export free zone arrangements) could prevent the development of strong links between foreign-invested companies and other sectors or enterprises.

Lack of innovation

To be competitive regionally and internationally, Jamaican businesses must strive for higher levels of productivity, which can be attained through innovation and the utilization of technology. With a ranking of 79th out of 142 countries for technological readiness in the Global Competitiveness Index, Jamaica is significantly outperformed in this area by Barbados (25th), Trinidad and Tobago (61st) and the Dominican Republic (76th).

Figure 19

Jamaica receives a below-average ranking overall for the innovation category (at 83rd) in the Global Competitiveness Index, being outperformed by the extra-regional comparators as well as by Barbados. This is in spite of the fact that Jamaica has an above-average ranking for the quality of scientific research institutes, at 48th (see Table 8). The low level of innovation is therefore likely to be due to the fact that the country receives a poor ranking for the availability of scientists and engineers, at 103rd, and is significantly outperformed by Barbados in the extent to which there is collaboration between universities and industry in research and development (R&D) (see Table 8).

Figure 20

Furthermore, Jamaican companies are ranked very low for the amount of money spent on R&D (at 87th), and the Jamaican government has an even lower ranking for the extent to which it procures advanced technological products (128th). Despite this, there is hope for improvement, as the country's capacity for innovation is ranked 60th, the second-highest in the region after Guyana's (38th).

Table 8: Innovation rankings

	Barbados		Guyana		Jamaica		Trinidad and Tobago	
	Ranking	Score	Ranking	Score	Ranking	Score	Ranking	Score
Capacity for innovation	81	3.4	38	4.0	60	3.6	123	2.9
Quality of scientific research institutions	45	4.2	83	3.5	48	4.1	100	3.3
Company spending on R&D	78	3.0	31	3.8	87	2.9	117	2.7
University-industry collaboration in R&D	39	4.3	62	3.7	68	3.6	102	3.2
Gov't procurement of advanced technology products	54	3.6	39	3.8	128	2.7	130	2.7
Availability of scientists and engineers	63	4.3	71	4.1	103	3.6	48	4.4

Source: World Economic Forum, Global Competitiveness Report 2013-14.

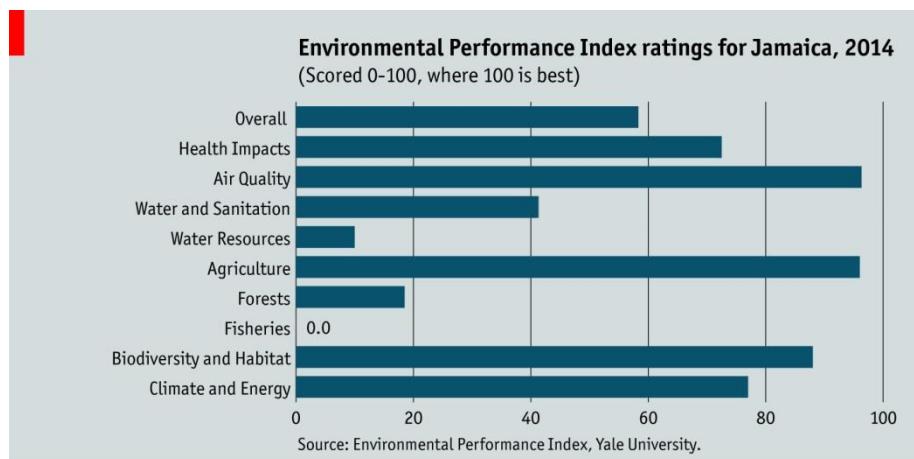
Environment

The National Environment and Planning Agency (NEPA) published a State of the Environment report in 2010. The report noted that "Jamaica's social and economic well-being is dependent on the country's biodiversity. Ecosystems provide many essential services such as the provision of clean water and air, prevention of soil erosion, provision of medicinal plants, nutrient cycling, [and the] provision of food and shelter... Large portions of the country's economy are heavily dependent on biodiversity, including tourism..."

There are, however, numerous longstanding threats to Jamaica's biodiversity. These include deforestation, wetland destruction, removal of sea grass and coral reef degradation. Population growth, coupled with agricultural, industrial and commercial expansion, has resulted in intense competition for land, leading to encroachment on and fragmentation of natural habitats. The country's biodiversity also is impacted by natural processes and events such as erosion and hurricanes, the effects of which are often exacerbated by human activities and practices⁷. The State of the Environment report notes that climate change is likely to increase the negative effects of these natural events.

The Jamaican government has sought to address these challenges through the development of policies and programmes to protect the country's biological resources. NEPA notes that these include a permit and licensing system to regulate developments and activities that affect the natural environment, protected-area management plans and species management plans.

⁷ NEPA, 2010.

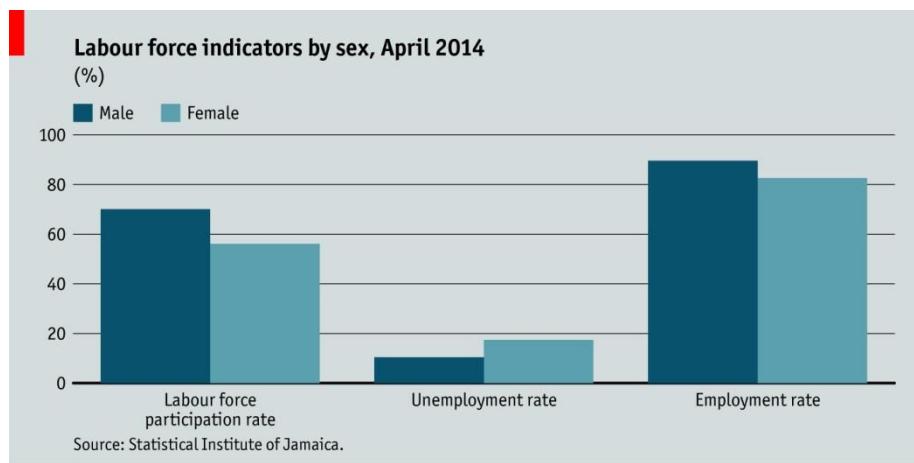
Figure 21

Jamaica was ranked 55th out of 178 countries in the 2014 Environmental Performance Index, performing significantly better than the Dominican Republic (75th) and Trinidad and Tobago (79th). The country is ranked joint first in the agriculture category, and receives above-average rankings for air quality, biodiversity and habitat, and climate and energy. However, below-average performances are recorded in the areas of water and sanitation, water resources, forests, and fisheries.

Gender

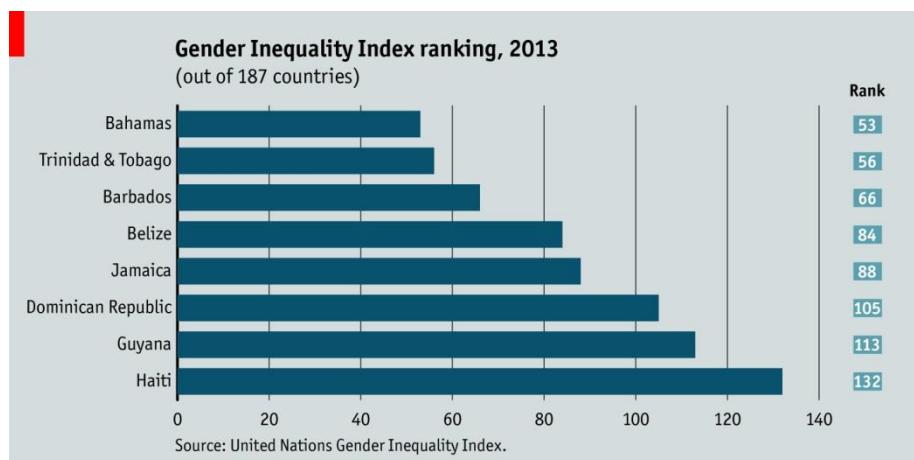
This section draws on research from Jamaica's National Policy for Gender Equality (2010) and on the Scoping Study of Gender and Enterprise Development in the Caribbean carried out in 2009 by the UK Department for International Development (DFID). The situation regarding gender equality in Jamaica is not dissimilar from that in the rest of the Caribbean. DFID's report notes that "the situation of gender in the Caribbean is one characterized by low levels of labour market participation by women, and, where activity is seen, it is mostly as employees and concentrated in low-growth, low-status, low-paying sectors. The reason proffered for this occurrence is a high level of gender stereotyping across the Caribbean which has led to women being segregated educationally and consequently [also] occupationally and sectorally; this is despite women dominating tertiary [education] enrolment across the region. Added to this ideological constraint...is a low level of social valuation of entrepreneurship for both men and women. The result of these factors has led women's enterprises to be constrained to low-growth sectors. The effect of this concentration...is a constraint in access to productive resources (physical and human capital), precluding the exploitation of opportunities for innovation and enhanced competitiveness."

The labour force participation rate is considerably higher for men than for women, while the unemployment rate is higher among women. Other than the hotel and restaurant industry and the education sector, many of the employment activities that women tend to be involved in are in smaller-scale and often informal firms.

Figure 22

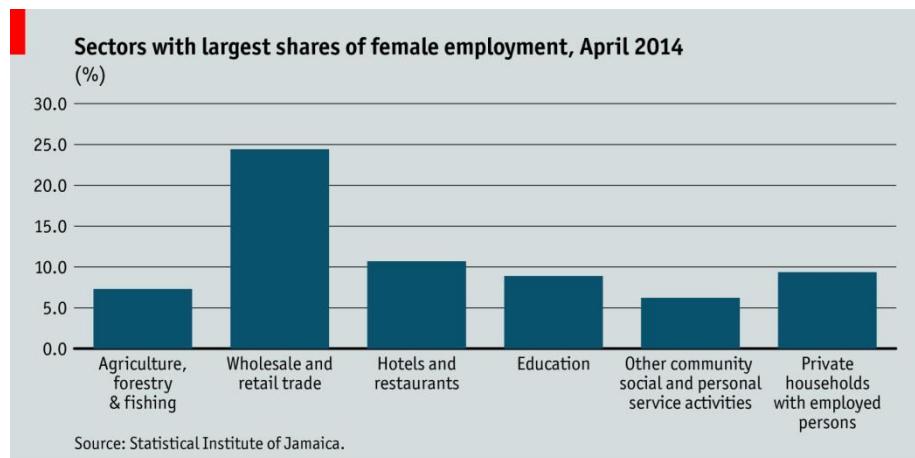
Jamaica's performance relative to the comparator countries in achieving gender equity has been only moderate. The country's overall ranking of 47th (out of 136 countries) in the WEF's Global Gender Gap Index for 2013 put it close to the median of the comparator countries, although it performed worse than Trinidad (36th), the Bahamas (40th) and Barbados (29th). This was despite the fact that Jamaica received high rankings for economic participation and opportunity (at 36th) and health and survival (1st). Low rankings were received for political empowerment (74th) and educational attainment (80th).

Similar trends are evident in the rankings and indicator values in the UN Development Programme's 2013 Gender Inequality Index. With a ranking of (88th), Jamaica is outperformed by the Bahamas (53rd), Trinidad and Tobago (56th), Barbados (66th) and Belize (84th). Jamaica has a relatively high proportion of females with at least secondary-level education, and its female labour force participation rate is higher than that of any of the other regional comparator country except for Barbados and the Bahamas. However, Jamaica performed relatively poorly with regard to the share of seats held by women in parliament and its high adolescent fertility rate.

Figure 23

According to the 2013 Global Gender Gap Index, 38% of Jamaican firms are owned by women or have female participation in their ownership. This is a low proportion relative to most of the Caribbean comparators, with countries such as Barbados (43.5%), Trinidad (45%), the Bahamas (58%) and Guyana (58%) having significantly larger percentages of firms with female ownership. However, a significant proportion of Jamaican firms, at 24%, have women as top managers—a fairly high level by the standards of the comparator group. Women dominate in the retail sector, with 53.8% of retail firms being owned by women and 39.6% of such firms having female top managers. Firms in the retail sector also employ more female than male full-time employees. However, other services sectors, and also the manufacturing sector, tend to be dominated by male employees.

Figure 24



There is a need for gender equity to be improved as efforts to foster private-sector development continue. There are, however, barriers to such equality that need to be addressed. The obstacles listed below have been extracted from DFID's Scoping Study of Gender and Enterprise Development in the Caribbean and Jamaica's National Policy for Gender Equity.

1. Gender stereotyping affects all areas, from education and health to the labour market. Women are underrepresented at the highest levels of business and society due to entrenched gender ideologies and concepts of leadership.
2. There is resistance to considering gender as a national development indicator.
3. There is a deficit in the sex-disaggregated data that is available nationally to support policymaking and the drafting and implementation of legislation to promote gender equality.
4. Poor access to finance for women is a major barrier, due to:
 - Women's lack of the collateral required to allow them to access credit from commercial banks.

- A lack of the business skills needed by female entrepreneurs to enable them to communicate with finance providers or deal with such providers' bureaucratic requirements (hence the overreliance on more informal financing sources).
- A lack of initiatives facilitating graduation from informal to formal financing institutions, thereby keeping businesses stuck at the small or micro stage of development.
- Women's businesses being considered too small-scale by finance providers, and a view of women as not being entrepreneurial.
- A lack of graduation by female-led businesses from welfare-oriented support programmes to more market-led support.

These challenges must be addressed if gender equality is to be advanced as part of Jamaica's efforts to encourage private-sector development. Noteworthy initiatives include: continued efforts to reduce gender stereotyping through education; the use of gender as a national development indicator, and continued efforts to alter the negative perceptions associated with a gender-balanced development approach; collection and use of data broken down by gender to assist in public education and policymaking; and enhanced support for associations such as Women Business Owners and the Jamaica Network of Rural Women Producers to enable them to provide the training and assistance needed to enhance women's access to finance and opportunities for business growth.

Analytical remarks

In this environment, opportunities for future growth do not abound. The World Bank (2011) notes that even the fast-growing services sectors in Jamaica are beset by challenges that could impede the country's development prospects, and that the overall productive structure of Jamaica is a source of concern. In the LAC region, only Trinidad and Tobago has less potential than Jamaica for the production of new types of goods for export. Even in areas of apparent comparative advantage, such as tourism, Jamaica has lagged behind its international competitors. There is no avoiding the conclusion that significant reforms to the business environment, along with sustained efforts to improve macroeconomic stability and fiscal discipline, are needed if private-sector development is to progress.

III. Emerging sectors

Because the product space map for Jamaica does not indicate any obvious candidates for large and fast-growing sectors, the identification of such sectors is based on an analysis of each sector's contribution to GDP and growth in real value added over the past decade. This section provides an overview of four growth sectors: tourism, information and communications technology (ICT), food-processing, and culture/ creative and sports industries⁸. Moreover, the Private Sector Assessment Report (PSAR) has identified technology and innovation policy as priority areas to drive economic growth and development of the private sector, and these are discussed in this section.

Tourism Tourism is one of Jamaica's most important sectors, accounting for about 42% of total foreign-exchange earnings by the productive sectors (World Bank 2011). Although hotels and restaurants accounted for only 4.2% of GDP in 2010, the tourism industry was estimated by the Statistical Institute of Jamaica to have made a direct contribution of 7.1% to GDP. Hotels and restaurants were the fourth-largest providers of employment for both sexes in 2011 and were particularly important in terms of female employment, providing jobs for just under 10% of working women. The hotel and restaurant sector has been the fastest-growing sector in the Jamaican economy over the past decade, with a compound average growth rate (CAGR) of 3.1%. Although tourism has been growing in Jamaica, the country has lost market share worldwide and regionally, as the local industry's growth rate over the past two decades has lagged behind that of Jamaica's Caribbean competitors in tourism.

These challenges notwithstanding, Jamaica's tourism sector has the potential to grow, provided that it seeks to diversify both its product offerings and target market. This is because of both its natural assets and its policy-based positioning. The World Bank (2011) highlights as natural advantages the country's warm weather, association with romance, rich culture, fauna and flora, heritage assets and geographical location. The World Economic Forum's 2013 Travel & Tourism Competitiveness Index ranks Jamaica highly in the following areas: terrestrial biome protection (for which it is ranked first), government expenditure on travel and tourism (fourth) and prioritization of travel and tourism (seventh).

Information and communications technology (ICT) The transport, storage and communications sector has been the second-largest non-government contributor to GDP over the past decade, with an average share of 10.8%, behind only wholesale and retail trade. It is also the sixth-largest employer of Jamaicans, with a 6.5% share of total employment in 2011, and is significantly more important to male employment than to female jobs, with

⁸ The PSAR covers other sectors, such as wholesale and retail trade, manufacturing, business services and culture/creative and sports industries. The wholesale and retail trade sector has consistently contributed the largest share of Jamaica's GDP, at 18.4% on average between 2001 and 2010, and accounted for the largest share of total employment in 2011 (at 20.8%). Despite economic turbulence, the sector's share of GDP fluctuated only mildly between 2001 and 2010, and the sector grew marginally over the period, with a CAGR of 0.23%. However, due to its strong links to the domestic economy and almost complete lack of links to the international economy, this sector is unlikely to be a driver of economic growth for Jamaica's small economy in the near future.

shares of total male and female employment of 9.1% and 2.9% respectively. Although the ICT subsector did not grow significantly between 2001 and 2010 (when it posted a CAGR of 0.94%), it is highlighted as being highly dynamic and increasingly competitive.

Since liberalization in 2000, the ICT subsector has been able to attract significant amounts of foreign investment. Foreign direct investment (FDI) inflows to the sector averaged 11% of total FDI inflows to Jamaica in 2001-05,⁹ and as of 2010 the transport, storage and communications sector had the third-largest number of foreign affiliates operating in the country. The ICT subsector also demonstrated considerable dynamism in this area, achieving the largest number of new foreign affiliates established since 2000¹⁰. Part of the reason for the country's success in attracting foreign investment to this sector is that this area has been targeted by the government as a strategic fast-growth sector and has been promoted through tax incentives. The World Bank (2011), however, notes that some of "these benefits are included in the Export Free Zone Act, an arrangement that could prevent the development of strong links between firms located in these zones and other sectors or enterprises".

The major players operating in this sector are foreign (primarily US) firms involved in business-process outsourcing, large overseas telecommunications providers and a few local software-development companies. In addition to the tax incentives offered, the advantages for firms operating in this sector in Jamaica include proximity to the US, an English-speaking, trainable workforce, competitive costs and recent improvements to the country's telecoms infrastructure.

Food processing

The food-processing sector is a major producer of manufactured commodities, with animal feeds, flour, sugar and poultry meats being among the largest outputs. The World Bank (2011) highlights food-processing, and specifically the sauces and spices subsector, as an area of potential growth, noting that "the industry has potential for extensive and intensive export growth—that is, growth in new, more dynamic market destinations and growth within already established markets. It can do this by taking advantage of the growth in such niche markets as organic and ethnic foods, or by expanding into mainstream ones." The Bank argues, however, that such growth is predicated on strengthening a number of links in the food-processing value chain. Reliable supplies of raw materials are needed, and efforts to strengthen links between agricultural producers and the food-processing industry should therefore be intensified.

Culture/creative and sports industries

The cultural/creative and sports industries are included in this section because, even though they are not independently measured in the national accounts, there is sufficient reason to believe that they have the potential to be of economic importance if properly harnessed. The range of cultural/creative industries includes "printing, publishing and multimedia, audio-visual, phonographic and cinematographic productions, crafts and design, and may be

⁹ Vision 2030 Jamaica—National Development Plan.

¹⁰ Investment Map website.

extended to include architecture, visual and performing arts, sports, manufacturing of musical instruments, advertising and cultural tourism".¹¹ There are very few data available on these industries, but in a study conducted in 2007 it was found that the copyright industries contributed about 4.8% to the country's GDP and accounted for 3% of employment.¹²

However, the potential exists for the contribution to be greater, as:

- "Cultural and creative industries are among the fastest-growing aspects of the global economy—they represent up to 7% of the world's GDP, with growth forecast at 10% per annum, driven in part by the convergence of media and the digital economy";¹³ and
- Jamaica has garnered worldwide acclaim for its culture (particularly music) and sporting prowess (particularly in athletics), suggesting that there may be competitive advantages to be reaped.

¹¹ Vision 2030 Jamaica—Services Sector Plan (2009-30).

¹² James (2007), as quoted in Vision 2030 Jamaica—Services Sector Plan (2009-30).

¹³ Vision 2030 Jamaica—Services Sector Plan (2009-30).

IV. Priority areas and action plan

The Jamaica Private Sector Assessment Report (PSAR) identifies a number of key challenges to private-sector development and several sectors that may drive growth in the future. The PSAR emphasizes the importance of innovation policy and technology in overcoming Jamaica's low productivity.

Background Caribbean firms need to innovate in order to survive in increasingly competitive markets, but are finding it difficult to do so because of the numerous challenges that they face, including small size and high labour costs. Increasing productivity through innovation and technology use are typically the most feasible ways of meeting such challenges. A strong case can therefore be made for the provision of policy support to foster increased innovation by Caribbean firms. This is particularly so because of the systemic challenges to innovation that such firms face, including the misperception that small, services-oriented firms do not or cannot engage in technology-driven innovation as such activities require them to be at the world frontier of science and technology and to implement radical innovations. There is insufficient recognition of the numerous different types of incremental improvement that constitute innovation in practice.¹⁴

It is thus clear that in small Caribbean economies, with predominantly small firms that have relatively minuscule R&D budgets, innovation will not be driven solely by forward-thinking entrepreneurs. Innovation and technological progress will result only from effective interaction between a complex set of actors producing, distributing and applying various kinds of knowledge. The innovative performance of such countries depends to a large extent on how these actors relate to each other.¹⁵ Because most small firms are unable to conduct R&D internally, their innovative performance is particularly dependent on the effective functioning of the national innovation system.

The government's *Vision 2030 Jamaica National Development Plan* highlights making Jamaica a technologically enabled society as one of its critical outcomes. The national strategies outlined to achieve this outcome include: integrating science and technology into all areas of development; and establishing a dynamic and responsive NIS.

Assessment of the national innovation system in Jamaica

The policy and co-ordination function of the national innovation system is critical, and in Jamaica's case must bear some criticism. The *Vision 2030 Jamaica National Development Plan* notes that "linkages between key players in the innovation process are weak or, in some cases, non-existent when compared to innovation processes in the developed world and rapidly developing economies... Without effective linkages among key stakeholders,

¹⁴ Contemporary studies highlight four categories of innovation: Product innovation—changes in the things (products/services) that an organization offers; Process innovation—changes in the ways in which things (products/services) are created and delivered; Position innovation—changes in the context in which the products/services are introduced, for example by repositioning the perception of an established product or process in a particular user context; and Paradigm innovation—changes in the underlying mental models which frame what the organization does (Bessant, J. and Tidd, J., *Innovation and Entrepreneurship*, Wiley, 2007).

¹⁵ OECD (1997).

diffusion of science, technology and innovation (STI) into our economy will remain a challenge." One of the reasons for the persistence of this challenge in Jamaica, as highlighted in the Vision 2030 plan, is the fact that the government has neither outlined a specific agenda for STI development nor proposed specific approaches on how STI can advance a broader national vision.

Although the Jamaican government has an above-average ranking (at 55th) for the priority given to ICT,¹⁶ this prioritization does not seem to have influenced a number of factors that are critical to the success of a growth strategy based on technological innovation. Internet access in Jamaican schools is ranked significantly lower, at 75th, than that in Barbados (38th) or Trinidad and Tobago (57th), as is the overall quality of the education system (with Jamaica, Barbados and Trinidad ranked 66th, 6th and 45th respectively on this measure). The quality of mathematics and science education provides a particularly important foundation for technological innovation. In this area Jamaica receives one of the lowest rankings globally (115th), and is comprehensively outperformed by Barbados (ninth) and Trinidad (36th).

A country's advancement through technological innovation depends not only on its human resources, but also on the availability of appropriate financial resources. Entrepreneurs desirous of improving production and management techniques and output through technological advances quickly recognize that they must spend money in the short term in order to either save or make money in the future. Entrepreneurs' ability to access externally sourced funds for innovation purposes is severely constrained in Jamaica. The country has among the lowest global rankings for ease of access to loans (128th) and venture-capital availability (130th). Regional comparators Barbados and Trinidad are ranked 89th and 93rd respectively for ease of access to loans and 98th and 111th for venture-capital availability.

It must be noted, however, that the problems with Jamaica's national innovation system not only involve co-ordination and knowledge-flow issues, but are also rooted in a dearth of knowledge creation, particularly in areas that could be useful to local businesses. The country's private sector either lacks the capacity or does not have the inclination to invest substantial sums of money in research and development (R&D). Jamaica is ranked 87th out of 144 countries for companies' spending on R&D. The country's cash-strapped government is thus required to propel efforts in this area. As mentioned in Section II of this report, one factor exacerbating the situation is that Jamaica underperforms relative to both Barbados and Trinidad with respect to collaboration between universities and industry in R&D. In a country where highly qualified scientists and engineers are relatively scarce, such collaborations are critical to utilizing effectively the limited resources that are available.

The policy framework for technology and innovation in Jamaica must seek to capitalize on the innate creativity of the Jamaican entrepreneur while addressing weaknesses in the national innovation system. The ultimate objective should be to enhance the competitiveness of Jamaican businesses by enabling them to improve their efficiency and the quality of their output

¹⁶ World Economic Forum's Global Information Technology Report 2012-13.

through the use of more advanced technology. Any policies that are implemented must thus seek to address the varying innovation and technological needs of different types of firm,¹⁷ and to improve the creation and flow of usable knowledge throughout the national innovation system. Policy initiatives should seek to address the specific needs of three categories of key stakeholders:

1. Businesses that come under the category of technology followers—that is, firms that may not see a need to innovate or may not realize the potential in R&D and technological advancement for product and process innovation.
2. Businesses that are technology developers or leading technology users, and may be aware of—or are searching for—applicable technologies to aid innovation but which need support in acquiring and adapting such technologies.
3. Research institutes, universities and agencies that offer STI and ICT support to businesses.

Policy suggestions

Tennant (2009) developed a comprehensive and detailed set of policy suggestions for the Jamaican government aimed specifically at enhancing technological innovation through each of these three sets of stakeholders. These suggestions were derived from an investigation of the characteristics and perspectives of Jamaican micro, small and medium-sized enterprises (MSMEs), an assessment of local initiatives in the area of technology and innovation, a review of international best practices and consultations with stakeholders. A summary of the most critical policy suggestions provided in that document is set out below:¹⁸

1. Policies for technology followers—efforts to increase firms' awareness of and demand for innovative and technologically driven business practices

The proposed policy initiatives seek to address technology followers' deficiency of demand for innovative and technologically driven business practices (ITBPs) by educating entrepreneurs as to the need for ITBPs and enticing them by highlighting the value of such practices. Specific suggestions that have been made in this area include:

- A. Developing a public education campaign to highlight the need for and value of ITBPs and the available support-service providers.
- B. Highlighting to firms the value of ITBPs by disseminating to them the results of market research that identify profit-making opportunities, highlight technological/ research requirements and identify appropriate support-service providers; and encouraging the formation of networks and clusters through which knowledge of innovation opportunities can be diffused.

¹⁷ The OECD (2001) classifies micro, small and medium-sized enterprises (MSMEs) into three groups:

- technology developers, which are usually high-technology, potentially high-growth firms and research-oriented consultancies;
- leading technology users; and
- technology followers.

¹⁸ Readers are encouraged to peruse Tennant (2009) for the full slate of policy suggestions.

2. More effective support for firms that are technology developers and leading technology users

A. Filling service gaps in the private financial sector, such as "business angels" and venture-capital funds.

High-technology firms have particular problems that require tailored financial solutions. Their needs arise from the relatively high cost of R&D and its associated risks, which makes such companies unattractive to conservative or risk-averse lending institutions. High-tech businesses can also have the potential for fast growth, which means that the need for finance will be even greater.

Tennant (2011) studied these sources of financing—business angels and venture-capital funds—in the Jamaican context and found that the venture-capital market, while understood by most stakeholders, remains highly underdeveloped.¹⁹ According to the Global Entrepreneurship Monitor Jamaica 2010 Report, 83% of business respondents in 2009 were of the view that there was insufficient venture-capital funding available for new and growing firms. By contrast, in developed countries venture capital is often an important source of funds used in the formation and expansion of small high-technology, cutting-edge firms, which are often leaders and innovators in key industries.²⁰

Tennant (2011) made a number of suggestions to international donor agencies as to how they could support the Jamaican government in its attempt to fill these gaps in funding. These suggestions are extracted below:

- Assessing the suitability of the legal and regulatory environment
- Expanding public knowledge of venture and angel investing, and promoting the visibility of entrepreneurs to investors and of investors to entrepreneurs
- Creating investment capital to build an angel and venture-capital industry

B. Providing government financial support for potential innovators

The financing gap that confronts small firms in the early stages of innovation will not be completely filled by the private sector. As noted by Tennant (2009), specific initiatives that can be undertaken by the Jamaican government include:

¹⁹ Venture capitalists typically invest in enterprises that may not have access to credit or the stockmarket due to their size, age and/or risk profile. Such investments can be high-risk and, in many countries, often include hands-on involvement in the firm by the venture capitalist. Venture-capital firms can afford to take substantial risks because of the large returns gained from a few of their investments; interest payments on conventional loans do not provide a comparable level of returns. Small and medium-sized businesses benefit from such investments because the funds and management expertise that venture capitalists provide can aid their growth and development and can foster the creation of new products and the use of new technologies.

²⁰ Sources of funds for venture-capital firms include: foundations; government funds (either provided as loans to capitalize venture capital or as funds for direct investment in firms); individual investors; banks; and institutional investors (for example, pension funds) (Heard and Sibert 2000). "In the USA, the pool of money managed by venture-capital firms grew dramatically over the past 20 years as pension funds became active investors... In fact, pension funds became the single largest supplier of new funds. During the entire 1990-2002 period, pension funds supplied about 44% of all new capital. Endowments and foundations were the second-largest source, supplying 17% of committed capital, followed closely by financial and insurance companies at 16%."

- Improving MSMEs' access to the government's Technology Investment Fund (TIF)²¹
- Improving MSMEs' access to R&D tax incentives

R&D tax breaks are used in many countries as a means to attract more resources into innovation by reducing the marginal cost of R&D activity.²² Through the R&D Tax Incentives Scheme, the government allows approved R&D projects to qualify for an exemption from the General Consumption Tax and customs duties on equipment and materials. Most of the issues with the TIF also constrain firms'—and particularly MSMEs'—effective use of the R&D Tax Incentive Scheme. Particularly important is the fact that there is no clear focus on MSMEs and no special provisions for them. Measures similar to those suggested above could be implemented to improve MSMEs' access to this scheme.

C. Ensuring enhanced access to intellectual property rights protection.

3. *Efforts to increase the relevance, effectiveness and transfer of research and technological solutions developed in research institutes, universities and MSME support agencies*

The success of national innovation systems does not depend only on the individual capacity of each component, but also on the way that the components interact with and support each other. Efforts are therefore needed to ensure that these institutions connect with the rest of the economy in a range of collaborative activities. The specific policy initiatives suggested in this area are aimed at reorienting universities and research institutes to the needs of firms (and particularly MSMEs) through:

- A. Implementation of a comprehensive technology-foresight programme. (Foresight activities have been defined as "a systematic means of assessing those scientific and technological developments which could have a strong impact on industrial competitiveness, wealth creation and the quality of life".)
- B. Empowering and mandating the National Commission on Science and Technology (NCST) to propel effective industry-science relations

Conclusions

If the Jamaican government is going to implement effectively any or all of the policy suggestions highlighted above, it must address the weaknesses identified in its policy and co-ordination function for innovation and technology. A high-level champion for innovation and technology (preferably at the ministerial level) must emerge from either the Ministry of Science, Technology, Energy and Mining or the Ministry of Industry, Investment and Commerce. Importantly,

²¹ The TIF has been established to finance investment in commercial activities that involve new or substantial technological improvements and which would not qualify for funding based on the criteria used by commercial and development banks. It also provides funding for R&D activities to enhance competitiveness in existing commercial enterprises. Funds are provided in the form of loans, grants, equity or a combination of the three. The PSAR identifies three problems relating to the TIF: (1) the website is not user-friendly, (2) there is no clear focus on, or special provisions for, MSMEs and (3) if there is an increase in the number of firms accessing the fund, additional money will have to be sourced for it.

²² Metcalfe (2003).

this champion must be given the requisite institutional, financial and legal support to drive far-reaching innovation and technology policy reforms.

It is not sufficient for the government to continue speaking about the need for innovation and technological advancement. The emphasis placed on this area in the country's Vision 2030 Jamaica National Development Plan must be quickly acted on. If primary responsibility for co-ordination and policy-based activities in the area of science, technology and innovation continues to lie with the NCST, this body must be given the necessary staff and clout to co-ordinate effectively the large number of science and technology institutions and to drive policymaking efforts in this area. Its mandate should also be extended to empower it to deal effectively with the fundamental problems affecting innovation and technology in Jamaica, and particularly those relating to the education sector.

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