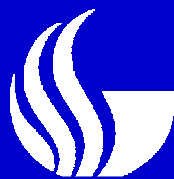


# International Studies Program

Working Paper 04-29  
December 2004

## **Taxation Issues in The Jamaican External Trade Sector**

Felix K. Rioja  
Keith E. Maskus



Georgia State  
University

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Andrew Young  
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# *Taxation Issues in The Jamaican External Trade Sector*

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## **Abstract**

This report is concerned with issues of the efficiency and revenue aspects of the current Jamaican taxes on trade, including tariffs, other charges, customs valuation questions, and incentives. It also considers revenue implications of further Jamaican tariff liberalization through the World Trade Organization (WTO) as a member of the Caribbean Community (CARICOM) and through the proposed Free Trade Agreement of the Americas (FTAA). Finally, it comments on the scope for integrating tariff reform with reforms in domestic taxes in order to recoup potential revenue losses and increase the efficiency of the tax system.

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## **Executive Summary**

This report is concerned with issues of the efficiency and revenue aspects of the current Jamaican taxes on trade, including tariffs, other charges, customs valuation questions, and incentives. It also considers revenue implications of further Jamaican tariff liberalization through the World Trade Organization (WTO) as a member of the Caribbean Community (CARICOM) and through the proposed Free Trade Agreement of the Americas (FTAA). Finally, it comments on the scope for integrating tariff reform with reforms in domestic taxes in order to recoup potential revenue losses and increase the efficiency of the tax system.

The Jamaican economy faces a number of challenges associated with the external trade sector over the medium term. First, after an extensive period of trade liberalization the country has relatively low tariffs (except in agriculture), although the variability in tariff rates and exemptions makes the system disperse and inefficient. Further, Jamaica is a small island economy endemically subject to various forms of trade-tax evasion, a situation that supports significant mismanagement in tax assessment and collection. Thus, an initial challenge is to improve the efficiency and equity of the system.

Second, as a member of the WTO Jamaica is bound to undertake certain obligations as regards its border measures affecting trade. Most prominently Jamaica is phasing in a new customs valuation process, which must rely heavily on voluntary revelation of prices by importing firms. The system restrains Jamaica's administrative abilities to challenge these prices and may have implications for revenue collections. However, there are additional issues related to other border measures, incentives, and standards that need to be addressed.

Third, Jamaica's government generates a substantial share of its central revenue from taxes and charges on imports. These revenues are seen as critical in the light of a structural fiscal deficit. However, additional prospective tariff cuts or elimination through regional and multilateral trade agreements could significantly reduce revenues generated from imports, though there would be some natural offsets to these reductions. The next challenge, therefore, is to integrate tariff cuts with additional tax reforms in order to offset the revenue shortfalls that could ensue.

Finally, Jamaica faces difficult problems in increasing the global competitiveness of many of its merchandise export sectors. This is reflected in the significant structural trade deficit and the stagnation in export performance. However, as a small open economy (SOE), Jamaica's growth prospects are tied closely to its abilities to improve productivity and enhance exports. While prospective trade agreements could offer additional market access for this purpose, much of the task must be accomplished through improvements in the macroeconomic environment, along with investments in infrastructure, innovation, and cost reduction.

Taken together, these issues pose a challenging environment for policymakers over the next few years. It will be important to think broadly and strategically about how various reforms may be combined both to improve the revenue situation and to set the country on a firmer path toward sustained growth.

The report has the following findings and conclusions:

- The Jamaican tariff system, in conjunction with its additional taxes on trade, is inefficient at raising revenues. This is largely the result of excessive limitations, exemptions, remission, and weak customs enforcement, but the variable nature of the tariff structure itself contributes to the problem.

- There is scope for unifying tariff rates without reducing tariff revenues collected. The ability to raise revenues would be markedly enhanced by unifying the non-tariff components of taxing imports.
- The need for effective integration of trade taxes with general fiscal reforms is evident. As Jamaica heads further toward unilateral and, especially, multilateral reductions in trade barriers its tariffs will generate declining revenues, both absolutely and relatively. Developing efficient and broad-based taxes to offset this problem is imperative.
- While the customs valuation system prior to adopting the WTO rules was not very effective, the new system places real constraints on Jamaican Customs authorities in their ability to determine reasonable import values, with a need to rely basically on declared import values. Given this restriction, it is incumbent on Customs authorities to continue modernizing their facilities and improving their abilities to monitor and inspect shipments. Developing cooperative arrangements regarding information flows and average cif or fob prices with Customs officials in major trading partners is important.
- In theory, the Jamaican government could consider shifting some of their *ad valorem* tariffs, which are responsible for much of the evasion due to misclassification and under-invoicing problems, to specific tariffs or compound tariffs. However, this option is essentially blocked by membership in CARICOM and by the general need to place domestic taxes on imports according to their value. Thus, more attention needs to be paid to developing incentives for reducing fraudulent goods classification.
- Jamaica's export incentive system is a mix of tax incentives and holidays that is probably not efficient and should be rationalized. Given the ongoing exercise to move toward harmonization of taxation incentives in CARICOM as part of the CSME, there is an opportunity to undertake such an examination.
- With respect to WTO rules, the forgiveness of capital taxes specific to exporters is problematic and may need to be abandoned or modified.
- Partial tariff unification within the bounds of CET, with no change in non-tariff tax rates or tax collection rates, could lose revenue of approximately –J\$2.1 billion. The source of any real gains here would be a better attempt to collect the available revenues by reducing exemptions and remissions.
- Partial tariff unification within the bounds of the CET, combined with partial rationalization of the non-tariff taxes on trade, bears the potential to increase revenues by perhaps J\$3 billion to J\$4 billion, even at current levels of collection. Larger revenues would ensue from reducing exemptions and remissions.

- Partial tariff unification within the bounds of the CET, combined with partial rationalization of the non-tariff taxes on trade, bears the potential to increase revenues by perhaps J\$6.7 billion, even at current levels of collection. The additional revenue gain would come from an automatic reduction in tax evasion associated with lower average collected tax rates.
- Combining the last two points our "best guess" about the maximum revenue-enhancing potential from feasible tariff and tax reform is around J\$5 billion to J\$6 billion. However, these gains come from reforming the tax system in combination with tariffs. Partial reform of tariffs alone is likely to reduce revenues.
- Any revenue gains mentioned above could be increased by reductions in exemptions and emissions (raising collection rates) and by improving tax enforcement to reduce evasion.

## **Taxation Issues in the Jamaican External Trade Sector**

### **Introduction**

This report is concerned with issues of the efficiency and revenue aspects of the current Jamaican taxes on trade, including tariffs, other charges, customs valuation questions, and incentives. It also considers revenue implications of further Jamaican tariff liberalization through the World Trade Organization (WTO) as a member of the Caribbean Community (CARICOM) and through the proposed Free Trade Agreement of the Americas (FTAA). Finally, it comments on the scope for integrating tariff reform with reforms in domestic taxes in order to recoup potential revenue losses and increase the efficiency of the tax system.

The Jamaican economy faces a number of challenges associated with the external trade sector over the medium term. First, after an extensive period of trade liberalization the country has relatively low tariffs (except in agriculture), although the variability in tariff rates and exemptions makes the system disperse and inefficient. Further, Jamaica is a small island economy endemically subject to various forms of trade-tax evasion, a situation that supports significant mismanagement in tax assessment and collection. Thus, an initial challenge is to improve the efficiency and equity of the system.

Second, as a member of the WTO Jamaica is bound to undertake certain obligations as regards its border measures affecting trade. Most prominently Jamaica is phasing in a new customs valuation process, which must rely heavily on voluntary revelation of prices by importing firms. The system restrains Jamaica's administrative abilities to challenge these prices and may have implications for revenue collections.

However, there are additional issues related to other border measures, incentives, and standards that need to be addressed.

Third, Jamaica's government generates a substantial share of its central revenue from taxes and charges on imports. These revenues are seen as critical in the light of a structural fiscal deficit. However, additional prospective tariff cuts or elimination through regional and multilateral trade agreements could significantly reduce revenues generated from imports, though there would be some natural offsets to these reductions. The next challenge, therefore, is to integrate tariff cuts with additional tax reforms in order to offset the revenue shortfalls that could ensue.

Finally, Jamaica faces difficult problems in increasing the global competitiveness of many of its merchandise export sectors. This is reflected in the significant structural trade deficit and the stagnation in export performance. However, as a small open economy (SOE), Jamaica's growth prospects are tied closely to its abilities to improve productivity and enhance exports. While prospective trade agreements could offer additional market access for this purpose, much of the task must be accomplished through improvements in the macroeconomic environment, along with investments in infrastructure, innovation, and cost reduction.

Taken together, these issues pose a challenging environment for policymakers over the next few years. It will be important to think broadly and strategically about how various reforms may be combined both to improve the revenue situation and to set the country on a firmer path toward sustained growth.

The report is organized as follows. Section 2 offers an overview of the current external trade picture in Jamaica, both in terms of trade flows and the aggregate trade

imbalance. Section 3 considers problems in Jamaica's export competitiveness. Section 4 discusses general issues involved in constructing trade policy, ranging from designing an efficient tariff structure to deepening Jamaica's membership in key trade agreements, including CARICOM, FTAA, and especially the WTO. Section 5 analyzes the current Jamaican tariff structure, in terms of its levels, dispersion, effective tax rates, and incentives. Computations are made of the revenue yields from this tax system. It also considers relationships with other charges on traded goods and discusses customs valuation issues. Section 6 briefly overviews other relevant Jamaican trade policies. Section 7 presents some calculations of the potential revenue implications of various trade-policy scenarios, including unilateral tariff unification, expansion of CARICOM, and implementation of the FTAA. The discussion notes several theoretical and empirical ambiguities and discusses some policy suggestions. Section 8, which remains to be written, undertakes similar analysis by integrating the trade data with a computational general equilibrium model. Finally, the report offers concluding remarks in Section 9.

### **The Current Trade Picture**

In this section an overview of Jamaica's international trade situation is presented, both in the aggregate and in terms of sectoral and regional trade flows.

### **External Imbalances**

As a small open island economy, Jamaica is dependent on international trade, both on the production side for exports and especially in terms of the share of

consumption generated by imports. The ratio of exports plus imports to GDP (measured in Jamaican dollars) was approximately 60-65 percent in recent years.<sup>1</sup>

Information on Jamaica's balance of trade and current account is provided in Table 1. It may be seen that, measured in US dollars, the value of imports rose from \$2.57 billion to \$2.76 billion, or by 7.4 percent, from 2001-2003. However, the value of exports fell from \$1.23 billion to \$1.13 billion, or by -8.1 percent. The net effect was to generate a rising deficit in merchandise trade, reaching -\$1.63 billion in 2003. These figures reflect the significant structural trade deficit faced by the Jamaican economy, as exports have stagnated since the mid-1990s (see Chart 1a below), while imports have risen slowly but steadily.<sup>2</sup>

To some extent this trade imbalance is offset by a surplus in service transactions, as noted in Table 1. The positive services balance overwhelmingly reflects the contribution of the tourism sector to the balance of payments. A yet more significant offset is the large inward flows of net transfers, the bulk of which reflects incoming remittances from Jamaican workers abroad. Many of these workers are highly skilled and their foreign incomes generate significant transfers for their Jamaican families. Finally, Jamaica sustains a net deficit on investment income, reflecting its status as a net recipient of foreign direct investment and the openness of its policies toward investment, which permit essentially unrestricted repatriation of profits. Overall, these categories combine to generate a current-account deficit of around \$800 million at the current time.

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<sup>1</sup> Sources: IFS database and Bank of Jamaica.

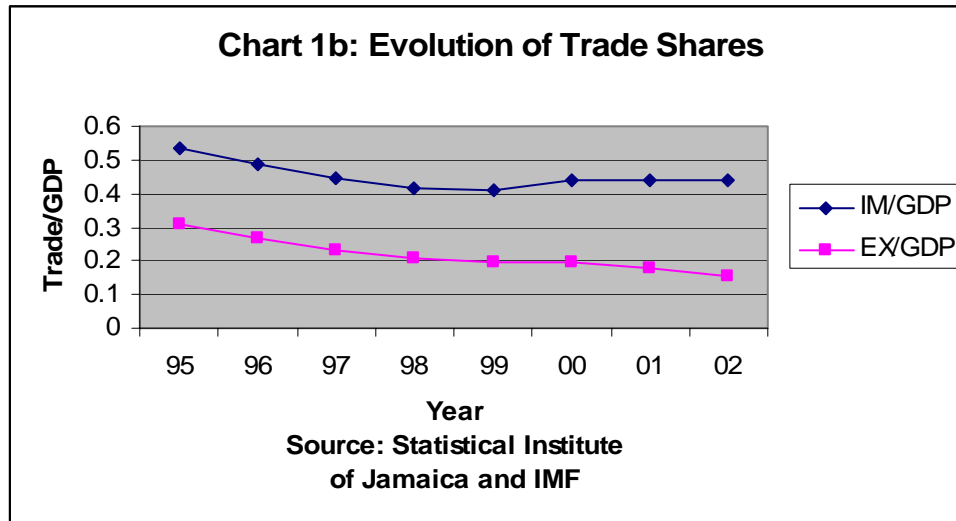
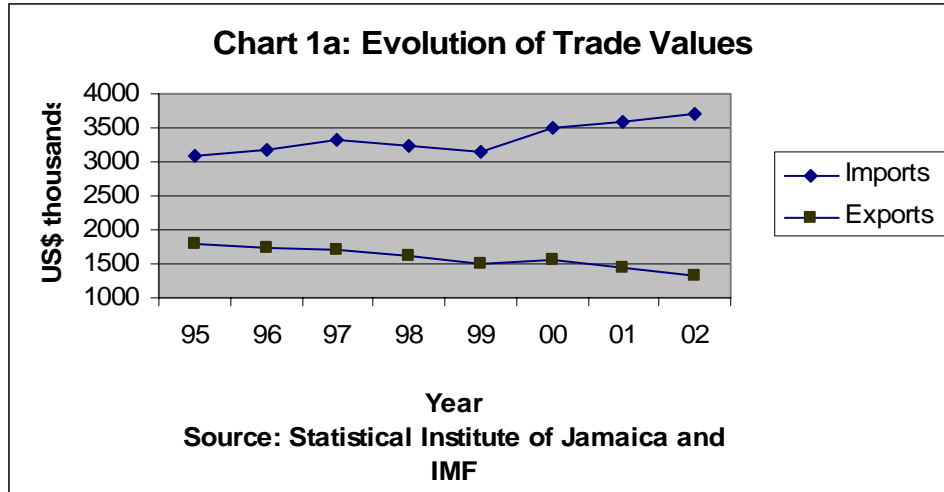
<sup>2</sup> These figures are in US dollars and may be misleading as regards trade flow changes in Jamaican dollars. However, according to IMF data, over the period 2000-2002, the value of exports in Jamaican dollars fell by 3.1 percent while the value of imports rose by 20.6 percent, so the broad characterization is correct.

**Table 1: Jamaica's Aggregate External Trade in Goods and Services**  
(US\$ million)

Year	Merchandise Imports, cif	Merchandise Exports, fob	Trade Balance	Services Balance	Income Balance	Current Transfers	Current Account Balance
2001	2,572.8	1,234.0	-1,338.8	338.8	-346.4	704.8	-641.6
2002	2,634.9	1,110.5	-1,524.4	195.4	-476.3	907.6	-897.7
2003	2,761.2	1,132.1	-1,629.1	350.3	-489.3	917.8	-850.3

Note: these data are reported according to IMF conventions for national account statistics. Source: Bank of Jamaica, *Statistical Digest*.

The fact that Jamaica's export performance has stagnated for some time may be seen in Chart 1a, which plots the movement from 1995-2002 of the country's nominal exports (fob) and imports (cif) in thousands of US dollars. Over this period merchandise imports rose at a rate of 2.7 percent per year, while merchandise exports declined by 3.9 percent per year. Relative to the experience of faster-growing developing economies, the increase in imports must be considered quite small, while the negative growth in exports is highly unusual over this period. Note in Chart 1b that imports declined as a share of GDP over this period, though it has been stable at around 43 percent since 2000. Exports as a share of GDP have suffered a secular decline over this period, falling from about 31 percent of GDP in 1995 to 16 percent in 2002. These figures reflect both relatively slow import-demand growth in the Jamaican economy and the emergence of structural competitiveness problems on the export side. The latter problem will be the subject of Section 7 of this report.



### Country and Sectoral Breakdown

For thinking about tariff revenues generated by the trade taxation system it is important to look at the composition of Jamaica's commodity trade as it occurs with major trading partners. Table 2 lists figures on exports to, imports from, and bilateral trade balances with, several countries and regions in 2002.<sup>3</sup> It is apparent that Jamaica's merchandise exports overwhelmingly go to developed countries, including primarily the

European Union, the United States, and Canada. Together these regions take 73.3 percent of Jamaica's exports. The relatively large export share in the EU reflects the influence of trade preferences under the (former) Lome Convention. Specifically, bananas and other tropical products have received preferential quotas in the UK in particular and the EU more generally, while Jamaica has enjoyed preferential quotas in textiles and apparel as well. One concern for the government is that these preferences are slotted to disappear over the next few years.

**Table 2: Breakdown of 2002 Jamaican Trade Flows by Major Partner**

(US \$million and percentages)

Partner	Exports (in percent)	Imports (in percent)	Balance
United States	313.4 (28.0)	1,554.0 (43.5)	-1,240.6
Canada	157.1 (14.1)	112.1 (3.1)	45.0
CARICOM	48.7 (4.4)	398.6 (11.2)	-349.9
Latin America	14.7 (1.3)	438.3 (12.3)	-423.6
European Union	348.2 (31.2)	375.8 (10.5)	-27.6
Other	235.1 (21.0)	691.7 (19.4)	-456.6
<b>TOTAL</b>	<b>1,117.3 (100.0)</b>	<b>3,570.5 (100.0)</b>	<b>-2453.2</b>

Source: The Statistical Institute of Jamaica.

It is noteworthy that CARICOM and Latin America together account for less than six percent of Jamaica's exports. This may seem especially surprising on the part of CARICOM, given Jamaica's membership in that agreement and its close cooperation with other members. However, Jamaica's export products are generally close substitutes

<sup>3</sup> The fact that these totals are larger than the corresponding ones in Table 1 reflects different reporting systems for balance of payments data (Table 1) and total trade (Table 2).

for those within CARICOM and much of Latin America, limiting the potential for these countries to be significant demand sources.

Jamaica's largest source of imports is the United States, with 43.5 percent of trade. Much of this trade is in food, machinery, motor vehicles, industrial inputs, and materials for assembly and exports. Jamaica also imports substantial amounts from the EU and other countries. However, its import pattern is more balanced as regards nearby economies, with 11.2 percent coming from CARICOM members and 12.3 percent from Latin American partners. In both cases Jamaica runs a sizeable bilateral trade deficit.

Further perspective is available from Table 3, where figures on the composition of exports and imports by major (1-digit) SITC sector are provided for 2002. It is immediately evident that Jamaica's export structure is heavily concentrated in a few products. Crude materials, primarily metals (bauxite and aluminum goods), dominate with 52.4 percent of exports. Also important are foods (largely unprocessed or slightly refined, including sugar, bananas, coffee, and cocoa), which amount to 20 percent of exports. Other important export sectors include beverages and tobacco (largely rum) and chemicals. Note that 11.5 percent of exports are classified as "Free Zone" goods, which are generally products that are lightly processed from imported inputs in one of Jamaica's free zones (see below) and then re-exported. The main products made in this fashion include apparel and some electronics.

There is considerably more balance across commodity groups in Jamaica's import structure. The largest category is machinery and transport equipment, which includes motor vehicles, at 29.7 percent of imports. Other important categories include mineral fuels (petroleum products), food, manufactured goods, and chemicals. It is evident that

Jamaica imports significant amounts of raw materials and industrial inputs, which is not surprising for a small developing economy with limited energy resources.

**Table 3: The 2002 Sectoral Composition of Jamaica's Merchandise Trade**

Sector or Type	Percent Share of Exports	Percent Share of Imports
Total Goods	100.0	100.0
General Merchandise	86.3	96.1
0. Food	20.0	14.0
1. Beverages & Tobacco	4.4	1.1
2. Crude Materials	52.4	1.5
3. Mineral Fuels	1.5	14.7
4. Animal & Vegetable Oils	0.0	0.6
5. Chemicals	4.0	10.5
6. Manufactured Goods	0.7	12.4
7. Machinery & Transport Equipment	0.7	29.7
8. Miscellaneous Manufactures	2.6	10.0
9. Miscellaneous Commodities	0.0	1.6
<b>Free Zone Goods</b>	<b>11.5</b>	<b>2.8</b>
<b>Goods Procured in Ports</b>	<b>2.2</b>	<b>1.1</b>

Source: The Statistical Institute of Jamaica

While this information is useful and will help guide thinking about the implications of preferential tariff cuts, the sectoral decomposition is insufficiently detailed for the calculations of greatest interest. Thus, in Sections 4 and 5 of the paper there will be more breakdowns of trade flows into detailed commodity categories for purposes of considering the efficiency of the tariff system.

At this point, however, it is of some interest to comment on whether additional tariff liberalization is likely to improve or worsen the aggregate trade deficit. A recent study by the Bank of Jamaica investigated this issue with aggregate data on real imports, real exports, and the real trade imbalance for the period 1996-2002 (Hudson, 2003). The author computed changes in the average tariff rates, defined as tariff and tax collections relative to the value of imports. She found that increases in an inclusive measure of the average tariff rate tended to decrease real imports but had no impact on Jamaican real

exports. Put together, tariff reductions tended to increase the real trade deficit marginally in the short run. She concluded that anticipated reductions in import taxes over the next several years would expand imports and exacerbate the trade imbalance.

While this result is important, it should be kept in perspective. Changes in trade policy should have relatively little impact in the long run on the current account, which depends on the economy's net financing requirement, and therefore on its private and public net savings behavior. This issue is explained in Box One. Thus, if tariff cuts are combined with appropriate fiscal reforms that tend to increase net savings (whether private or public or both) in the economy, the current account imbalance should not be affected, or even could improve. Furthermore, because the trade deficit is the main component of the current account, a similar conclusion would pertain to that imbalance. This analysis underscores the need to think broadly about taxation policy in the presence of tariff liberalization.

### **Box One: Trade Policy and the Long-Run Current Account**

An economy's current-account balance is the difference between receipts from current external transactions less payments for current external transactions. Receipts are earned from exports of good and services, income on assets owned abroad, labor remittances sent home from Jamaican workers abroad, and unilateral transfers from foreign governments, development agencies, and charitable organizations. Payments are made for imports of goods and services, income earned and repatriated by foreign owners of assets in Jamaica, labor income paid to foreigners working in Jamaica, and unilateral transfers made to foreign entities. In principle, it is a measure of income earned on external transactions less payments made to foreigners.

At the same time, an economy's current-account balance is its net external financing requirement, because the difference between income and payments must be financed through capital inflows. Simple national-income accounting can demonstrate this relationship. Let the variable  $Y$  indicate an economy's GNP (gross national product, or total national income; GNP is GDP plus net external earnings on labor and capital income). GNP (income) is allocated on the expenditure side to consumption ( $C$ ), private commercial and household investment ( $I$ ), government expenditures ( $G$ ), and net exports of goods and services, or the current account ( $EX - IM$ ). That is

$$Y = C + I + G + (EX - IM).$$

At the same time, total income must be allocated among consumption, private household and commercial savings ( $S$ ), and tax payments ( $T$ ). That is

$$Y = C + S + T.$$

Equating these two equations immediately yields this relationship

$$(EX - IM) = (S - I) + (T - G).$$

Thus, the current-account balance is equal to the sum of private net savings (savings less investment) and public net savings (taxes less government spending). That is, if the private and public sectors spend more than they save, the economy would have a current-account deficit, reflecting the need to borrow the difference. Defined correctly, this relationship is an identity, implying that the current-account balance is identically equal to the economy's net external financing requirement. Readers should be cautious in thinking that changes in any one variable in this equation "cause" changes in the others, because all of these items are determined in the broader economy.

Changes in trade policy affect the current account in the long run only to the effect that they also influence variables on the right-hand side of this equation. That is, tariff cuts, by themselves, should expand imports directly and therefore increase the current account deficit. But unless there were an offsetting decrease in private savings ( $S$ ) and/or public savings ( $T$ ), or a rise in investment ( $I$ ) or government spending ( $G$ ), the current account could not be affected in the long run because the borrowing requirement would not change. In the case of tariff cuts, if no other variables changed the offsetting impact would be a corresponding increase in exports.

In Jamaica's case, significant tariff reductions would reduce taxes  $T$  directly, thereby expanding the borrowing requirement and the current-account deficit. In that context, to sustain (or reduce) a current-account deficit in the presence of tariff cuts the government would need to affect a fiscal reform to increase other components of  $T$  (or cut expenditures). It should be kept in mind, of course, that the current-account imbalance generally is not the appropriate measure of economic welfare for policy purposes.

It is possible, of course, that cuts in tariffs could increase incentives for additional investment (through better investment opportunities or access to better technology), which would be a source of growth from trade liberalization. Whether such growth would be sustainable in the long run is questionable.

*Trade Agreements*

Jamaica is a party to two major trade agreements (the WTO and CARICOM) and potentially a third (the FTAA), which are the focus of attention in this report. There are several less comprehensive agreements, which are mentioned at the end of this section. At this point it is useful to describe briefly the three major accords.

*The World Trade Organization*

Jamaica became a contracting party to the General Agreement on Tariffs and Trade (GATT) in 1963. The GATT was supplanted by the WTO in 1995 and Jamaica acceded to the WTO in March of that year. In part because of its membership in the GATT and WTO, Jamaica has undertaken an extensive program of trade liberalization beginning in 1985 and continuing today. This program is described in Section 4.

The WTO is a multilateral agreement on principles and rules that bind governments in the formation and implementation of trade policies and some regulatory policies. The major components of the WTO are the GATT articles themselves (relating largely to regulating trade in goods, including tariffs, customs procedures, subsidies and countervailing measures, antidumping, and safeguards), the General Agreement on Trade in Services (GATS), the Agreement on Trade-Related Intellectual Property Rights (TRIPS), the Dispute Settlement Understanding, and a number of other undertakings involving technical regulations, sanitary and phytosanitary standards, investment measures, and government procurement.

The primary obligation that governments accept is to act in a non-discriminatory fashion, which essentially embodies two principles. First, the most-favored nation (MFN) principle requires that trade policies not discriminate among export suppliers and

investors from other WTO member countries. That is, the same tariffs and regulations must apply to all external members. Obviously any regional trade preferences (lower tariffs or better access conditions) run counter to this principle and must be approved by the WTO under procedures in GATT Article 24. CARICOM is an example of such preferences.

While the MFN principle states that any border measures cannot discriminate among external suppliers, tariffs do favor domestic producers over foreign firms. However, the second non-discrimination principle is national treatment (NT), which states that once foreign products have cleared border measures, there can be no regulatory or support conditions that favor domestic firms over foreign goods. Thus, intellectual property rights (IPRs), investment subsidies, tax advantages, environmental regulations, sanitary requirements, and the like are supposed to apply to home and foreign firms without discrimination. The majority of disputes at the WTO involve allegations of such behind-the-border discriminatory practices.

WTO members agree in periodic trade negotiations to reduce their tariff bindings, or levels above which tariffs cannot be raised. Most developed countries and higher-income developing countries bind the majority of their tariffs (except in agriculture) at the same levels as their applied rates. Developing countries, including Jamaica and the other CARICOM members, tend to have bound rates that are considerably in excess of their legislated rates in order to provide room for additional charges. Jamaica's tariff structure and related measures will be discussed in Section 4.

As this brief discussion suggests, WTO membership places restraints on Jamaica's trade and industrial policies. Because these restraints are important they will be the subject of Section 3b.

#### *CARICOM and CSME*

The Caribbean Community and Common Market came into being in 1973 with the Treaty of Chaguaramas. It now has 15 member states and five associate members. CARICOM is, in principle, a customs union among its members, meaning that it sets a common external tariff (CET) schedule that is supposed to be adopted by all participants. This schedule is agreed jointly and is the result of negotiations at the WTO; indeed, reductions in the average CET are a major form of trade liberalization for Jamaica. The CET applies to imports from non-members, while trade among members takes place at zero tariffs. However, as will be detailed in Section 4, CARICOM permits its member states to impose additional charges on extra- and intra-regional trade, while customs procedures have yet to be harmonized. Accordingly, there is not fully free trade within the region.

Befitting its designation as a Common Market, CARICOM members are moving forward with the intended implementation of the Caribbean Single Market Economy (CSME), which moves beyond coordination of trade policy to permitting free movement of goods, services, capital, and skilled labor, and ultimately to coordination and harmonization of general economic policies (Inter-American Development Bank, 2002). Several protocols to achieve some of these goals have been adopted and Jamaica is faced with the need to implement them. One example is Protocol II (1998), calling for rights of

establishment (and therefore free movement of capital and services) for CARICOM nationals. It also aims to liberalize work permits to establish free mobility of university graduates, artists, and service providers. Another is Protocol IV, which is supposed to eliminate all duties and charges on traded goods of CSME origin and define rule of origin. It is fair to say that significant political challenges face the implementation of such protocols in many CARICOM members. Indeed, the impending requirement that there be no charges on intra-CARICOM trade poses some risk of declining trade tax revenues for the Jamaican government.

#### *Free Trade Agreement of the Americas*

The FTAA would establish zero tariffs on most goods traded among all members of the Western Hemisphere, except for Cuba. Clearly, this would represent a major expansion of the zone of countries with which Jamaica (through CARICOM) would not be able to collect tariff revenues. As noted earlier, nearly 60 percent of Jamaica's merchandise imports come from potential FTAA members.

The FTAA has been under negotiation for nearly 10 years and, in principle, those discussions are supposed to be completed in 2005. However, given the fact that many of the components of the agreement are highly controversial in several countries, it seems unlikely that a comprehensive accord can be reached by that time. Nevertheless, such an agreement could emerge within the medium term and it is prudent for Jamaica to prepare for its terms.

In addition to tariff cuts, the FTAA has additional chapters involving intellectual property rights (IPRs), investment, dispute settlement, subsidies, and the remaining panoply of rules existing at the WTO. In some cases the FTAA rules could be stricter

than the WTO standards in these areas and Jamaica's negotiators should think carefully about the country's economic interests in moving forward.

For purposes of this report, however, it will be sufficient to review only those WTO regulations relevant to Jamaica's border tax collections, which is done in the next section. The principles involved may be applied to FTAA provisions also.

### *Other Trade Agreements*

Jamaica is party to several other trade agreements, the main import of which for this report is that the preferences involved are slated to disappear or may be eroded by entry into the FTAA. They are simply listed here.

- The US-Jamaica bilateral textile agreement gives Jamaica guaranteed access via quotas in certain textile and apparel categories. However, much of the export success in this area has already ended, in part by virtue of freer access for Mexican firms to the US market, and Jamaica rarely fills these quotas. The quotas are due to be phased out in 2005.
- The Canada-Jamaica bilateral textile agreement is similar.
- CARIBCAN offers duty-free access to the Canadian market for goods from the Commonwealth Caribbean countries, subject to strict rules of origin.
- The US Caribbean Basin Economic Recovery Act (CBI 2) and the Enterprise for the Americas Initiative allows for duty-free access for some Jamaican products to the American market, again subject to rules of origin. However, several categories of potential importance to Jamaican exporters are excluded.
- The Lome Convention allows for duty-free access to the EU market for some agricultural goods exported from member states of the Africa-Caribbean-Pacific (ACP) countries, which are former colonies. Special protocols exist in bananas, sugar (Jamaica also has quota-based access in sugar to the US market), and rum. Because the EC lost the banana case at the WTO, it is planning to phase out these preferential quotas in bananas over the next few years, replacing them with tariffs. This is likely to damage the Jamaican banana sector in the long run unless it can compete with efficient Central American producers.

- CARICOM-Venezuela Agreement offers some CARICOM goods preferential treatment in Venezuela.
- CARICOM-Colombia Agreement is similar.
- The Generalized System of Preferences (GSP) is a legal derogation from MFN at the WTO, under which developed countries are permitted to offer lower tariff rates to exports from developing countries than from developed countries. Jamaica is the beneficiary of some GSP rules in Canada, but these will become less meaningful with the implementation of FTAA. The GSP is not particularly meaningful in any case because the preferences are small and not generally offered on labor-intensive or agricultural goods.
- Bilateral Investment Treaties (BITs) are agreements between Jamaica and a number of other countries from which foreign direct investment tends to come. These agreements offer protection from expropriation, some legal recourse to investors, rules on IPRs, and mutual taxation agreements.

Overall, Jamaica has a remarkable set of existing and prospective preferential trade agreements in place. This overview suggests that such agreements may have helped generate more external market access in particular commodities (e.g., textiles, apparel and primary goods) but those preferences are rapidly eroding. There may be continuing benefits to Jamaica mainly through gains to consumers and input users from greater import variety and lower prices. This outcome is most likely to be the case with respect to WTO membership, for it is not clear whether the preference margins accorded CARICOM members achieve such an outcome.

### **Building Competitiveness**

The World Economic Forum compiles country data to measure and compare competitiveness around the world. They publish a yearly Global Competitiveness Report. An index called Growth Competitiveness Index (GCI) is constructed for each country. The GCI has three broad components: Macroeconomic Environment, Institutions, and Technology. First, the Macroeconomic Environment component is determined by

variables like the country's inflation rate, budget deficit, real exchange rate, interest rate spread, credit rating, and the like. Stability in the macroeconomic environment is widely recognized as a requirement for sustained growth performance. Second, the Institutions component measures the quality of public institutions in the country including contract and law variables as well as corruption variables. Third, the Technology component considers information and communication technology available in the country as well as transfers of technology to the country.

Table 4 presents country rankings for the 2003-2004 Growth Competitiveness Index and its components for Jamaica and some of its neighboring countries. Because these are rankings, more competitive economies have lower numbers. Jamaica's overall GCI ranking worsened from 57 (in 2002) to 63 (in 2003) among the same 80 countries ranked. This decrease mostly came from a fall by 10 places in the ranking of quality of institutions. Specifically, the corruption and organized crime sub-components recorded a large decline. Among the three components of the GCI, Jamaica's best placement in 2003 was in Technology (51<sup>st</sup> of 80); that is, the country achieved its best ranking as far as availability of information and communication technology is concerned. Conversely, Jamaica's worst ranking is in Macroeconomic Environment (71<sup>st</sup> of 80).

**Table 4: Competitiveness Rankings**

	Jamaica			Trinidad and Tob.			Dominican Rep.			Costa Rica		
	2002	2003	Diff	2002	2003	Diff	2002	2003	Diff	2002	2003	Diff
Growth												
Competitiveness												
Index (GCI)	57	63	-6	42	47	-5	56	58	-2	49	49	0
-Macro Env.	66	71	-5	41	44	-3	60	61	-1	59	57	2
-Institutions	51	61	-10	43	52	-9	60	58	2	46	45	1
-Technology	46	51	-5	43	45	-2	48	50	-2	37	44	-7

Notes: Lower numbers indicate more competitive economies in terms of this ranking. The figures under the columns labeled "Diff" simply indicate the change in rankings between 2002 and 2003 among a group of 80 countries. Thus, Jamaica's ranking worsened in all categories. Source: World Economic Forum, Global Competitiveness Report 2003-2004

Compared to the neighboring countries of Trinidad and Tobago, Dominican Republic, and Costa Rica, Jamaica is ranked lower in overall competitiveness as described by the GCI. Jamaica also experienced the largest decrease in its ranking from 2002 to 2003 compared to these countries. Regarding the components of GCI, Jamaica is most comparable to the other three countries in the Technology component, and it lags behind the most on Macroeconomic Environment. Specifically, the stability of the macroeconomic environment is a cause of concern.

A detailed analysis of the macroeconomic instability is beyond the scope of this report, but the main potential problems arise in the high level of government debt, the large current account deficit, and the vulnerability to external shocks.<sup>4</sup> Jamaica's public debt as a share of GDP is one of the highest in the world at a staggering 150 percent of GDP.

This implies that a large part of government expenditures must go to interest payments. Hence, Jamaica must keep a sizable primary surplus.<sup>5</sup> In addition, any exchange rate depreciation will raise the level of debt as foreign-currency denominated debt rises. In addition, the economy is vulnerable to real shocks like hurricanes or changes in the terms of trade. For example, world oil prices in 2004 have been rising steadily and can have significant adverse effects on the economy.

This section proceeds to analyze some of the major issues of concern for export competitiveness like interest rates, foreign investment, utilities costs, transportation costs, and security costs.

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<sup>4</sup> These factors are mentioned also by the World Bank (2003) in its recent country report.

<sup>5</sup> The government's primary surplus refers to the balance on of tax revenues over expenditures, excluding interest payments on government debt.

### *Interest Rates*

It is widely recognized that private investment is one of the keys to growth. One of the crucial determinants of borrowing funds to finance capital investment is the real interest rate. Jamaican real interest rates have been high (see Table 5). The average nominal lending rate to businesses, the sector that receives some of the best rates, is about 15 percent. Even with a projected inflation rate of 7 percent, which would be lower than the 14.1 percent inflation rate in 2003, the average *real* lending rate would be 8 percent. Focusing solely on commercial credit, the real interest rate would be 7 percent (15-8). The high cost of borrowing is a deterrent to private investment, potential export growth, and GDP growth.

**Table 5: Interest Rates and Inflation in Jamaica**

Year	Loan Rate Commercial Credit (in J\$)	Annual Inflation Rate	Loan Rate Commercial Credit (in US\$)
2002	16.10	7.30	13.10
2003	18.18	14.1	8.84
2004	15.16	7.00*	8.44

Source: Bank of Jamaica. (\*) indicates an estimated annual inflation rate based on the monthly inflation rate reported from January 2004 to April 2004.

The origins of such high rates partly arise from the financial crisis of 1996-97. In absorbing the non-performing assets of financial institutions, government debt expanded to a total of 150 percent of GDP by 2003. Interest payments on this debt are enormous, which means that the government is a large player in the market for loanable funds, which leads to high interest rates and crowding out of private investment.

In addition, the Bank of Jamaica was forced to raise short-maturity interest rates in order to counteract the depreciation of the exchange rate and attract external capital to the economy. A recent example came during the unstable period in March-May 2003.

Short rates were subsequently reduced later, but there is a perception that if interest rates are reduced “too much” people go to holding foreign assets rather than Jamaican. There is a high risk-premium on the J\$ that must be paid to investors to hold J\$ assets.

Medium to large-scale exporters like telecommunication and tourism companies may not be as adversely affected by these high rates. Exporters that earn foreign exchange, can borrow in US\$ in Jamaica. Nevertheless, the US\$ lending rate for businesses in March 2004 was 8.23 percent, which is still somewhat high. A World Bank (2003) report states that some businesses have gone offshore to obtain short term borrowing, but presumably these are again well-established businesses.

What are the prospects for reducing interest rates further? As stated above, gradual reduction of public debt would diminish the crowding out effect in loanable funds markets. In addition, the World Bank report suggests government involvement in developing “credit registries” which would allow financial sector to distinguish “good” from “bad” borrowers. This would help small firms in particular. It would also increase competition in the financial sector for those good borrowers which can reduce lending rates.

### *Foreign Direct Investment*

Foreign Direct Investment (FDI) is widely recognized as beneficial to countries as it not only brings in funds to develop or expand productive activities, but also has spillover effects from technology and knowledge transfers that can be subsequently used in the economy even outside of the firm that originated the transfer. Jamaica’s strategic location, natural beauty, English speaking population, and preferential trade agreement under the Caribbean Basin Initiative with the U.S. make the country an attractive FDI

destination. In the 1990s decade, FDI averaged 5 percent of GDP, which was twice as large as in the 1970s and five times as large as in the 1980s (Bloom et al., 2001). In recent years, FDI into Jamaica has been concentrated in some of the largest sectors: tourism, bauxite mining, and telecommunications. These sectors are well established and in the case of tourism and mining are some of the largest export sectors. According to Harris et al. (2003), FDI in the telecommunications sector has successfully improved one of the constraints which in the past made the business environment more difficult. There has also been growing FDI in information and communications technology (ICT) in recent years (e.g., call centers, software development services).

Some of the increase in FDI can be explained by government policy eliminating barriers against foreign investors which existed in the 1980s. According to Mugione and Castillo (2001), privatization has also played a key role contributing to about one-third of all FDI inflows in 1999. This occurred in the telecommunications, insurance, banking, tourism, and manufacturing sectors.

The establishment of free zones like the Kingston Free Zone (44 acres) and the Montego Bay Free Zone (95 acres) has also been successful in attracting FDI. In the mid-1990s there was a heavy presence of the garment industry, but this has declined. Both of these free zones have been adding space to attract information technology businesses. They offer advantages such as: no tax on profits; duty exemption on imports and exports; minimal customs procedures; wide market access through international trade agreements; and an English speaking workforce (Jamaica's Free Zones website).

Jamaica faces challenges to keeping or increasing FDI. These are best characterized by a US Department of Commerce (1998) survey of potential investors.

The investors main concerns are that infrastructure services, crime and security, and labor issues be improved. The sections below discuss the first two of these issues. It is clear that Jamaica cannot afford reduction in FDI and that increasing FDI can play a big role in stabilizing the economy. Given that the current account has a deficit of 13 percent of GDP, this can only be sustainable by having a large surplus in the financial and capital accounts where FDI is a major component.

### *Public Infrastructure*

A survey of 100 Jamaican exporting firms conducted by Harris (1997) identifies and describes some of their biggest concerns. According to this survey, the high cost of utilities such as energy, water and telecommunications ranks as the second major obstacle to increase exports. Furthermore, the supply of these utilities is not very reliable. A World Bank survey in 2001 found companies investing in their own stand-by energy generators for cases when service is interrupted. In addition, some of these companies attempted to change production processes to use as little energy as possible due to its high cost.

Public infrastructure in Jamaica has experienced some improvements in the areas of telecommunications and ports according to Erhardt et al. (2003). They find that port facilities have been operating fairly efficiently as a strategic development plan has been implemented over time.<sup>6</sup> Likewise, the privatization of telecommunications in 2000 has resulted in better access and coverage. Mobile phones are now owned at a rate of 50 out 100 Jamaicans. Conversely, Erhardt et al. find that water, power and roads have lagged.

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<sup>6</sup> Airport infrastructure, conversely, is below international standards according to Erhardt et al. (2003) and needs to be updated.

Power is generated by an aging steam system that uses imported oil as its basic energy source. Hence, the costs of electricity generation depend on world oil prices, which have been rising in 2004. Replacing the system with a modern diesel plant may reduce fuel costs by up to 40 percent, but this has not been done. The Jamaican Public Sector Service Company the supplier of most power in the country was privatized in 2001. After privatization, Erhardt et al. report that generating capacity has increased, but reliability has not improved much.

Water and sewage infrastructure has not been adequate. Water losses from the network are estimated at a very high 65 percent. In fact, the inability to provide water and sewage has put at risk potential developments in real estate, tourism, and manufacturing. Unfortunately, according to Erhardt et al. (2003), the investment required to adequately provide existing demand is very large: about US\$1.5 billion.

Jamaica's road infrastructure has also been an area of concern as it affects transportation costs. Erhardt et al. (2003) report that while there is an extensive network of roads (about 5,000 Km. of main roads and 11,000 Km. of parochial roads), these are often in bad condition and need maintenance. The sectors that are most affected are agriculture, manufacturing, and tourism. There have been recent efforts in this direction like the construction of "Highway 2000" which will eventually link Kingston and Montego Bay (Caribbean Rim Investment Initiative, 2004). It is reported that some private participation to operate toll roads has been encouraged by the government in what is called "Build-Own-Operate" concessions programs. In 2002, the French company ASF which develops and operates toll roads bought a one-third stake in TransJamaica Highway (Caribbean Rim Investment Initiative, 2004).

*Crime and Security Costs*

Crime has become one of the deterrents to private business and to economic growth of the country. According to a World Bank report (2003) on Jamaica, crime has “negative effects on the development of human capital, creates incentives for migration, introduces inefficiencies into the economy, undermines the work ethic, and diverts resources from investment to crime management.” (p.25). Jamaica has a high incidence of violent crime, especially homicide where the rate is 44 per 100,000 inhabitants, the third highest in the world. Clearly, this has a direct effect on the country’s human capital as most of the perpetrators and victims are young males. The potential workforce is reduced by having so many youths being murdered or incarcerated. The business environment is also affected by widespread violent crime as well as by extortion, fraud, and theft. Harriott et al. (2003) surveyed many Jamaican businesses on this issue. In manufacturing and processing, about 6 percent of revenue was lost due to extortion, fraud, and theft. More than half of these businesses felt that the increased costs of security were significant. In addition, about 40 percent of businesses stated that due to the high crime incidence, their plans of business expansion and additional investments had been negatively affected. Expenditures on private security employed by these firms averaged 2 percent of annual revenue, ranging from 17 percent for small enterprises to 0.7 for large firms.

Harriott et al. (2003) report that government expenditure to fight crime (police, justice, and correctional services) is about 3 percent of GDP. Health costs and lost production because of injury and death amounts to another 0.6 percent of GDP. Clearly, the direct cost of crime is very high. Different options have been discussed to address the

issue. One option is to increase the expected punishment of crime. Another option is to raise expenditures on law enforcement, but this is difficult due to its already high share of GDP and budget concerns. Many firms surveyed by Harriot et al. (2003) indicated their willingness to fund a collective effort targeted to reduce crime that directly affects their businesses. One structural option is to improve educational outcomes such as reducing drop out rates so that more youths have the qualifications for jobs in the legal sector of the economy.

### **General Trade Policy Issues**

Before analyzing Jamaica's tariff structure, it is important to set out some general comments to guide thinking. The first set of issues relates to the design of an efficient tariff structure and related taxes. The second set of questions surround WTO rules on both tariffs and related border measures. Both areas are directly relevant for considering further Jamaican tariff reform.

### **Efficient Tariff Systems**

It is useful to begin with basic tariff theory and work through essential complications in order to describe a "good" structure for trade taxes.

#### *Tariff Theory Basics*

It must be noted, that as with the analysis of any tax system, tariffs exist in a complex, second-best (distortion-ridden) world and simple answers to optimal policy are not readily made (Markusen, et al 1994; Vousden 1990). However, it is important to begin with basics for they set the framework for sensible policy.

A tariff is a tax on imports, levied at the border. Because it is levied on imports and not on domestic competing goods, it is discriminatory. Tariffs can be defined as a percentage of cif import value or price (called *ad valorem* tariffs), in terms of Jamaican dollar amount per physical unit imported (called *specific* tariffs), or a mixture of the two (called *compound* tariffs). Jamaica's tariffs under the CET are almost entirely *ad valorem* in nature. *Ad valorem* tariffs tend to be more transparent than specific charges and are preferable on that ground. However, in theory specific tariffs have the advantage that it is not necessary for customs officials to ascertain the true value of imported goods in order to impose accurate import taxes.<sup>7</sup>

In general, tariffs may be levied for four reasons. First, they raise revenue for the central government. Second, they provide a discriminatory barrier on behalf of domestic firms, thereby serving a protective function. Third, tariffs may be used to offset some market failure or to achieve some non-economic objective, such as an environmental goal met through limiting import demand. Finally, countries that are large enough to affect international prices through trade policy may exploit an incentive to alter world terms of trade in their favor through import taxes or non-tariff barriers. An obvious example is that both the United States has tight quota restrictions on imports of raw and processed cotton. The result is both a higher domestic cotton price in the United States (to protect cotton farmers there) but also a lower global price of cotton in international trade. Because it is this lower price that matters for national imports (with the difference going to U.S. importers and farmers), there is some prospect for economic gain through such

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<sup>7</sup> In Jamaica's case this statement is misleading because the goods and services tax (GST) is levied on the value of imports plus tariff. With this taxation structure it remains necessary for Customs to have accurate information on import values. Also, because Jamaica's tariff policy is set by its membership in CARICOM, it could only adopt this route through mutual consensus among member states.

restrictions.<sup>8</sup> Another might be U.S. tariffs imposed on imported steel (now being phased out), which force foreign exporters to accept lower global prices, while the United States earned the tariff revenues.

These price effects can exist also on the export side, as large exporting countries restrict their supplies on the global markets in order to raise the prices they receive. The obvious example here is the operation of OPEC, the members of which agree to coordinate production cuts in oil in order to sustain elevated international energy prices.

It should be noted that an essential purpose of the WTO is to diminish incentives to act strategically under the fourth objective (Hoekman and Kostecki, 2001). Anyway, Jamaica is a small economy and cannot readily affect international prices. It might be thought that Jamaica has significant market power to set prices in tourism, one of its major export sectors. It would do so, in principle, by restricting inward tourism and/or charging high taxes on tourism services. It is extremely unlikely however, that Jamaica could gain in welfare terms from such a policy. The country's tourism services compete with similar providers in the Caribbean-Central American region for the same tourist pool. Only if most of those tourists were unusually attached to Jamaica as a destination (meaning that they would still come despite an increase in the relative costs of a holiday there -- or, in economic terms, if demand for Jamaican tourism services were highly inelastic), could such a policy generate more revenues. A more likely outcome would be tourists choosing to travel elsewhere.

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<sup>8</sup> Another potential example is the U.S. quotas on imported sugar. Under U.S. policy, the higher domestic prices are passed on to exporting countries through transfer payments, so the intent here is not to gain from a lower world price. Nonetheless, the policy (in combination with similar restraints in the European Union and Japan) greatly reduces the prices sugar exporters receive on the open international market.

An important implication of the fact that Jamaica is a small economy is that it has little scope for benefiting from differentiated tariffs across imported goods (or exported goods and services), in the way that domestic excise taxes might be imposed on the basis of differential supply elasticities. Basic tariff theory therefore generally argues for uniform taxes on trade across sectors, rather a system in which taxes are relatively higher on products with captive (inelastic) import supplies -- simply because virtually any product that Jamaica imports (or exports) could easily find other markets.<sup>9</sup> In any event, the fourth objective is irrelevant for Jamaica and will not be further addressed here.

Developing countries use tariffs largely for the first two purposes: revenue generation and protection of domestic industry. Jamaica is no exception. Its revenues generated from trade taxes in fiscal year 2002/03 amounted to J\$ 28.2 billion, which was approximately 27 percent of total central government tax revenues. This is a remarkably high figure in relation to other countries at Jamaica's income level. However, it is somewhat misleading, for J\$ 11.1 billion of this amount was raised by the General Consumption Tax on imports, a tax that would remain even in the absence of tariffs. A further J\$ 4.5 billion came from the Special Consumption Tax on imports, which arguably would remain as well. Thus, traditional taxes on trade (custom duties, stamp duties, and travel taxes) came to 12.2 percent of government revenue, which is somewhat more normal for similar countries. It should also be noted that the relative importance of

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<sup>9</sup> One standard policy claim within a closed economy (one without international trade) is that excise taxes should be levied on the basis of a so-called "Ramsey Rule", whereby taxes are highest on goods with the most inelastic domestic supplies and lowest on those with elastic supplies. The reason is that both taxes generate revenues but in the former case the supplier accepts much of the burden of the tax by having to accept a lower net price for his goods. In the latter case the buyer accepts much of the burden because producers need not reduce their prices, but because the tax is small the consumer burden is also low. In a small open economy, essentially all import-supply elasticities are very high (infinite) and this rule would call for no import tariffs at all. However, for those economies that must raise revenue from import tariffs, the appropriate approach generally is low and uniform tariff rates across product categories.

trade taxes in government revenues has remained essentially constant since 1989/90, which is also unusual in that this revenue share generally would be expected to decline with income growth and trade liberalization.

That protection is an element of Jamaica's tariff system may be seen from its graduated structure, which is discussed more fully in the next section. Essentially the CET permits free entry of raw materials and some machinery but imposes high tariffs on final goods. Bound tariffs on many agricultural products are yet higher. The evident reason is an attempt to encourage local development of value-added production in consumer goods and to protect domestic farmers.

Jamaica is a small economy, implying that any tariff (and other charges) it imposes on imports gets passed through to higher domestic prices. If domestic competing goods were perfect substitutes with imports, their prices would rise by the same amount. These price increases would expand domestic production, leading to higher market shares on behalf of protected domestic producers. Thus, a tariff is equivalent to a tax on consumption combined with a subsidy to domestic production. Indeed, a tax on imports injects two deadweight losses into an economy. First, marginal consumers are forced to cut back on purchases of the imported commodity, implying that the economy foregoes the net benefits that those consumers could have enjoyed by purchasing at the free-trade price. Second, domestic firms expand production of the good, implying that resources are used inefficiently in the output of goods that must be produced at higher resource costs at the margin than the costs at which importable goods are available from the rest of the world.

It follows from this analysis that import tariffs are particularly inefficient means of protecting the economy and raising revenues. They are more costly in welfare terms than either a consumption tax or a direct output subsidy. In this context, if a tariff truly is imposed in order to offset a market failure, a better policy would be to intervene directly at the source of that failure with an appropriate non-discriminatory tax or subsidy.

Three additional comments follow from this analysis. First, if a good is only imported and there is no domestic production, an import tax is essentially equivalent to a domestic consumption tax. Thus, in many cases the Jamaican tariff and GCT together form a consumption tax.

Second, domestic goods and imported goods may not be perfect substitutes. Rather, they may be differentiated in quality, performance, or other characteristics. In such cases what governs the price impacts of the tariff is how easily consumers and industrial users shift their consumption between imports and domestic goods, in conjunction with domestic supply elasticity.<sup>10</sup> This demand-side substitution is an important factor in considering the revenue-loss implications of both unilateral cuts in the CET and in preferential tariff cuts within the FTAA, as will be discussed later in the report.

Third, there are important general-equilibrium impacts of import tariffs that are often neglected. Specifically, a tariff raises the price of domestic import-competing goods relative to prices of export goods and non-tradable goods.<sup>11</sup> Thus, tariffs draw

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<sup>10</sup> The ease with which consumers and users may switch their expenditures between imported goods and domestically produced goods is termed the "elasticity of substitution" in demand. Technically, it is the percentage change in consumption volume of the home good, given a one-percent rise in the price of import goods. In practical terms it simply refers to how much the demand for the home good rises as a result of an increase in the price of imported goods caused by a tariff increase.

<sup>11</sup> A "non-tradable good" is any good or, more likely service, that is not likely to be involved in international trade because it is infeasible or too costly to trade it. Classic examples include haircuts,

resources out of those sectors into the production of import-competing goods, thereby acting as implicit taxes on output elsewhere in the economy. Indeed, an economy with high tariffs on manufactured final goods in fact penalizes the more-efficient export sectors, which may well be agriculture and tourism or other sectors. Note that, to the extent there are unemployed resources this impact could be mitigated in the short run as those factors could be brought into production of protected import goods if they have the appropriate skills. However, as discussed in Box One earlier, import tariffs do not increase aggregate demand in an economy in the long run and are most unlikely to serve as a means of reducing unemployment.

Bringing these thoughts together, the basics of tariff analysis for a small open economy claim that the optimal policy is free trade, or the absence of taxes on trade. Import tariffs are inefficient means of generating revenue or dealing with distortions relative to broader domestic taxes because they generate double deadweight losses in the economy and implicitly generate disincentives for production in export sectors. For economies with some reliance on import tariffs as revenue sources, a low and uniform set of tariff rates are most effective.

### *Important Complications*

A first, and central, complication is that some goods are raw materials and intermediate inputs rather than final goods. As a result, governments may be tempted to set different tax rates, depending on the stage of processing. Again, this is evident in the CET structure, which generally has a zero tariff for raw materials and capital goods, a tariff of 15-25 percent for final goods that compete with home production, and yet higher

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restaurant meals, and public services. While economists often think of services as "non-tradable", clearly

tariffs for some goods that do not compete with home output (such as motor vehicles). This form of tariff escalation is common in most countries but is particularly pronounced in the CET.

Tariff escalation bears two forms of inefficiency. First, it can imply high rates of effective protection to value added in final goods. The concept of "effective protection" refers to the joint impact of an entire set of tariffs on inputs and outputs on value added within a sector. For example, suppose that a can of tomato paste has a 25-percent tariff, while tomatoes are imported freely, and the share of raw tomatoes in manufacturing tomato paste is 0.8. Then the effective rate of protection to value added in tomato paste is actually 125 percent, far higher than the published tariff rate.<sup>12</sup> In contrast, if the tariff rate on tomatoes were also 25 percent, the effective protection to tomato paste would be 25 percent, equal to its published rate. In the first case the processed foods industry would expand more than in the second case, implying even greater inefficiency of the implicit tax on other goods.

Second, it raises uncertainty about the full package of incentives in an economy. When there are many imported inputs, all coming in at various tariff rates, the effects on effective protection and resource pulls would require more information to calculate, increasing the uncertainty facing firms in various sectors. An additional uncertainty arises whenever goods may be misclassified, which often happens in a tariff system where tax rates vary considerably across similar product categories, and where official

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many services, such as tourism, are extensively involved in international trade.

<sup>12</sup> For this calculation, units were chosen so that the world price of both tomatoes and tomato paste are unity (one J\$). To make such calculations, define the effective rate of protection (ERP) as the percentage difference in value added in domestic production (DVA) when there are no tariffs on either item and when there are tariffs on one or both items. With no tariffs, DVA in tomato paste is  $(1J\$ - 0.8*1J\$) = 0.2 J\$$ . With a 25-percent tariff on tomato paste and no tariff on tomatoes, DVA is  $(1.25J\$ - 0.8*1J\$) = 0.45 J\$$ .

classifications are subject to frequent changes. Further, calculations of effective protection should be adjusted for impacts of other policies on goods prices and quality, including subsidies, incentives, and exchange-rate misalignments. The net result is that the system becomes increasingly non-transparent to firms and investors as tariff rates vary across sectors at different stages of processing.

A second difficulty is that tariffs on intermediate goods and capital inputs also raise costs for exported goods. Such tariffs essentially generate a "secondary tax" on exports, where the first came from the implicit tax on resources associated with high tariffs on import-competing final goods. In general, countries with high tariffs on final goods and medium-level tariffs on intermediate goods exact a significant tax on production of exports.

In this regard, it is common in developing countries to offset at least the secondary tax by permitting export firms not to pay tariffs on their inputs or to claim duty drawbacks and rebates on those tariffs. Jamaica has this system in place, which helps restore some efficiency to the economic system. Duty drawbacks are consistent with GATT/WTO rules so long as they are available without discrimination to both domestic firms and foreign-owned firms. However, an obvious problem with having taxes on intermediate and machinery imports, with permissible rebates, is that firms have an incentive to overstate the amount of taxes paid or to classify their imports as intermediates. There may also be high transactions costs simply in documenting eligibility and claiming rebates. Again, the system of graduated tariff rates contributes to non-transparency in incentives.

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Thus, the ERP is  $(0.45 - 0.2)/0.2 = 125\%$ . With 25% tariffs on both, DVA is  $(1.25 \text{ J\$} - 0.8 * 1.25 \text{ J\$}) = 0.25 \text{ J\$}$ . Then the ERP is  $(0.25 - 0.2)/0.2 = 25\%$ .

The observation that tariff rates vary at different levels of processing raises a third fundamental inefficiency: tariff dispersion. For example, Jamaica's system (the CET) has 10 basic tariff rates, ranging from zero to 100 percent. Tariff dispersion is not solely a problem of tariff escalation, for goods at similar levels of processing may face radically different tariffs in practice. The first reason is that similar goods may have different legislated tariff rates. A second is that importers and firms that employ imported inputs have a strong incentive to lobby the government for exemptions from published tariff rates. Such exemptions may arise from specific amendments to the tariff schedule, preferred access for particular users (eg, government purchasers or large firms), and the like. Further, there may be implicit exemptions due to a failure of customs authorities to apply the appropriate tariff, an ability of firms to undervalue their imported products or to misclassify them, or the willingness of higher authorities simply to excuse taxes or overturn a customs valuation decision.

In Jamaica effective tariff dispersion is quite significant, as will be discussed in the next section. The problem is exacerbated by similar exceptions to the additional charges on imports, such as the GCT, the SCT, and additional stamp duties. In fact, there can be an enormous difference in taxes levied on imports of goods of quite similar classifications, which is self-evidently inefficient.

The major problems with significant tariff dispersion are the following. First, there is considerable uncertainty in the actual impact of the tariff structure on economic incentives, providing reasons for investors to hesitate about entering particular markets or expanding production. Second, dispersion and non-transparencies in actual taxes collected raise transactions costs for legitimate traders. Third, it sets up strong incentives

for firms and importers to lobby for lower rates, particular exemptions, and tax forgiveness. The impacts include considerable amounts of corruption and non-transparency in the operation of the trade-tax system. Moreover, the system contributes to extensive tax evasion, import smuggling, and trade activities in the informal economy. Fourth, differential tax rates create an incentive to misclassify goods, raising considerable transactions costs for customs and port authorities.

Ultimately, perhaps the most significant problem is that the system is likely to be inefficient at raising revenues from trade. The tax evasion and numerous exemptions from taxes imply that, per dollar of imports, collections are likely to be far lower than anticipated at scheduled tariff rates. Indeed, this is the case for Jamaica as will be seen later in the report.

A fourth complication requiring comment is that Jamaica may have high tariffs (and taxes) on so-called "sin goods" or other commodities for which social policy calls for restricting consumption. In such cases, including taxes on automobiles (to reduce congestion), oil (to limit driving), alcohol and tobacco products, high consumption taxes are, in principle, appropriate means of limiting consumption. As noted earlier, for goods in which there is little or no domestic production, an import tariff is essentially the same as a consumption tax, so tariffs follow this general prescription. Still, it must be noted that for such regimes to be effective there cannot be means of evading taxes, whether through misclassifying goods, having these taxes vary across similar goods, or extensive exemptions for favored purposes. Even if such purposes (e.g., permitting tax-free imports of trucks for farmers) are socially acceptable, the differences in treatment across products and users set up incentives for evading taxes.

*Designing a "Good" Tariff System*

In theory, a small open economy should forego taxes on trade altogether and finance its public goods through broader domestic taxes. However, governments in developing economies may need to earn some revenues from trade taxes because of an inability to broaden the general tax base. Further, they may wish to use trade interventions for non-economic reasons, despite the evident inefficiencies in doing so. Given these constraints on policy, what would a sensible system look like?

- A sensible goal is to attempt to unify tariff rates at a low level in order to reduce the misallocation effects and broaden the tax base. It is quite possible in a distorted economy for tariff unification to raise revenues from tariffs, permitting yet lower domestic tax rates (Eby Konan and Maskus, 2000). An important component of this unification is the elimination, to the extent possible, of exemptions and opportunities to have tax liabilities overturned administratively.
- If tariff escalation is seen as a means of promoting industrialization, the number of tariff levels should be minimized and the differences in rates at those levels as small as possible.
- If there are additional charges on imports, these should be uniformly applied across goods as well.
- Notwithstanding the gains from unification of rates, it is good policy to permit exporters to draw rebates for their taxes paid on imported inputs as an effective antidote to some of the implicit costs imposed on them by positive tariff rates.
- Tariffs imposed for purposes of addressing market failures or achieving social goals are highly liable to political capture and should be avoided to the extent possible. If imposed, the underlying objectives should be extensively scrutinized and critiqued. Policymakers should keep in mind that such objectives are more efficiently addressed through direct interventions than via indirect tariffs.
- It is acceptable to charge modest customs fees to cover the costs of customs operations (which is a common international practice) but these charges need to be transparent, non-discriminatory, and commensurate with the cost of services rendered.

*Principles for Regional Trade Agreements*

Jamaica is a member of CARICOM and a prospective member of the FTAA. Regional trade agreements (RTAs) are effectively another form of discrimination in tariff rates and raise their own inefficiencies, even as they might promise other benefits. The potential gains from joining an RTA may be characterized as follows. First, to the extent that relative costs and comparative advantages differ within the region, considerable amounts of new and more efficient trade can be generated. It is doubtful that CARICOM has this effect within its members to any great degree, but the FTAA could offer competitive gains to Jamaica. Second, an expanded market size can provide at least a one-time impetus to additional investment in the region, coming largely from foreign direct investment (FDI). CARICOM may have had a small positive impact in this regard for Jamaica, though a large share of the anticipated FDI may have gone to other member states. Similar comments should apply to the FTAA.

Third, membership in an RTA can credibly lock in reforms in trade and investment policy, making it more difficult for later governments to abandon a country's commitments. This impact may well have significant incentives for FDI in the region, especially as a result of the FTAA. Fourth, a customs union such as CARICOM has more joint power to negotiate international trade agreements than would any individual member country. Finally, there may be economies of scale in coordinating customs and tax policies within a common market. Such coordination can reduce transactions costs on the part of firms engaged in intra-market trade and also reduce their costs of determining location decisions for production facilities.

While these various gains may operate in Jamaica, there are losses that need to be set against them. First, because the regional trade and investment preferences are discriminatory, trade can be dampened with external countries, a factor that can raise costs overall. Second, significant tariff cuts (especially if rates are set at zero) on intra-RTA trade can markedly reduce tariff revenues, both directly because of zero taxes on intra-member trade and indirectly because of diminished imports from outside the region. This impact could be large for Jamaica within the FTAA because of the substantial import shares coming from member nations, which shares should expand with the implementation of the agreement.<sup>13</sup> This theory is explicated further in a later section of the report. Third, RTAs require the specification of rules of origin, which may be so rigorous as to restrict trade overall.

Whether Jamaica might gain from deepening of CARICOM or entry into the FTAA is not the main focus of this report. However, in thinking about its options in this regard, some basic principles also guide the formation of efficient RTAs.

- Net efficiency gains are likely to be larger for large RTAs among members at different levels of development and relative costs.
- Net efficiency gains are likely to be larger the greater are the tariff cuts within the region.
- Small RTAs with high external tariffs are unlikely to enhance efficiency, except perhaps in one or two countries where production activity locates.
- RTAs among "natural" trading partners (that is, countries with large initial bilateral trade shares) are likely to generate net efficiency gains but lose substantial amounts of tariff revenues. In the face of the latter problem it becomes important for governments in developing countries to integrate tax reform with RTA-induced changes in preferential tariffs.

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<sup>13</sup> Calculations of tariff revenue impacts from prospective entry into the FTAA are made later in the report.

## WTO Rules

Membership in the WTO is definitive as far as some forms of trade regulation that Jamaica (or CARICOM) can undertake. The WTO agreements are comprehensive and it would go far beyond the scope of this report to describe them in detail. However, several issues pertain directly to import tariffs and customs procedures, requiring an overview here. For additional perspective, Table 6 lists the major GATT Articles related to trade in goods.

**Table 6: Major GATT/WTO Provisions Related to Trade in Goods**

GATT Article	Description
1	General MFN requirement.
2	Tariff schedule bindings.
3	National treatment.
6	Permits anti-dumping and countervailing duties. Replaced by GATT 1994 Agreement on Antidumping and Agreement on Subsidies and Countervailing Measures.
7	Requires that customs valuation be based on actual values. Superseded by GATT 1994 Agreement on Implementation of Article VII.
8	Fees and formalities related to trade.
10	Obligation to publish trade laws and regulations.
11	Requires elimination of quantitative barriers to trade.
16	Rules on subsidies; complemented by Agreement on Subsidies and Countervailing Measures.
18	Permits developing countries to restrict trade to promote infant industries and protect the balance of payments.
19	Permits safeguard tariffs; complemented by WTO Agreement on Safeguards.
20	General exceptions for non-economic objectives
23	Dispute settlement procedures, complemented by WTO Dispute Settlement Understanding.
24	Establishes conditions under which free trade areas are allowed.
28	Allows for renegotiation of tariff concessions.
Part 4	Favorable and differential treatment of developing countries.

Sources: [www.wto.org](http://www.wto.org), Hoekman and Kostecki (2001).

### *Tariffs and Charges*

As noted earlier, the main restriction on tariffs is that they be applied on an MFN basis to all WTO members, unless tariff preferences are part of an RTA that was

approved by the WTO membership under Article 24. The basic structure of CARICOM's common external tariff is applied on an MFN basis, while CARICOM itself long has been recognized as a permissible RTA. Thus Jamaica's tariff schedule is consistent with this rule.

A second main restriction is that countries may not raise their tariffs above bound levels negotiated at the WTO (Article 2). The CET has a set of bound tariffs that are well in excess of applied tariff rates, leaving room for raising the latter without re-negotiation at the WTO. However, if a country raises its rates beyond bound levels it violates its WTO obligation and other countries can complain. Not only tariff rates are bound. Governments also agree on maximum bindings for other border measures, such as additional charges on imports (Jamaica's additional stamp duty is an example). Thus, there are two degrees of policy freedom in this context. First, tariffs may be raised from their applied levels to any level within the maximum bound rates. Second, import surcharges may range from zero to maximum bound rates.

Article 2 has no bearing on additional taxes that are imposed on both imports and domestic goods. Thus, in Jamaica the GCT and SCT on imports are not limited by WTO rules. Neither is the recently imposed environmental levy of \$2.00 per kilogram on containers imported, manufactured, or distributed in Jamaica, since this tax is not formally discriminatory, nor is the health excise tax on cigarettes.<sup>14</sup>

The provisions in Article 2 do permit additional charges specific to imports, which provides the foundation for Jamaica's basic stamp duty and additional stamp duty

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<sup>14</sup> There are a number of WTO cases in which special charges or regulations were overturned that seemed non-discriminatory on paper but were shown to have a *de facto* discriminatory intent and effect. Thus, if

(ASD). As discussed above, these are also bound at maximum levels. Indeed, it is the ability to charge such stamp duties that permits Jamaica to differentiate its tariff policy from the CET in particular areas. An additional two percent import surcharge, called the "cess" was imposed in May 2003 but has since expired (Hudson,2003). However, Article 8 places limits on the imposition of user charges for imports. Such service fees must be limited to the approximate cost of services rendered and cannot serve as protection devices or trade taxes for fiscal purposes. In this regard, Jamaica must be careful that its customs user fee (2 percent) and standard compliance fee (0.3 percent) meet WTO expectations. Relative to many other developing countries, however, these fees are low and unlikely to attract the attention of other WTO members. Overall, Jamaica's structure of additional import charges is consistent with WTO rules, so long as the tariffs are within their bindings and the stamp duty and ASD do not sum to a level in excess of bindings on additional charges for any tariff line. This issue will be assessed quantitatively in the next section, where we argue that Jamaica is not violating any WTO obligations on tariff bindings.

### *Fiscal Rules*

More commentary is in order regarding the SCT and the GCT. First, the SCT is simply a consumption tax applied to particular commodities (petroleum products, alcoholic beverages, and tobacco products), regardless of source. It was introduced in 1991 to replace certain excise taxes. Because the SCT is applied on a national-treatment basis (even though most of the relevant products are imported) it should not run afoul of any WTO fiscal rules. It should be noted that the SCT is levied on imports inclusive of

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the environmental levy could be shown to be technically discriminatory against imports in some

tariffs, stamp duties, and charges, implying that a given percentage tax imposes a higher dollar burden on imports than on domestic goods.<sup>15</sup> It is not inconceivable that foreign governments could make a case that this taxation approach amounts to *de facto* discrimination but WTO rulings to this point have not made this finding with respect to excise taxes.

The GCT is essentially a value added tax, also applied to domestic and imported products without discrimination. It was imposed in 1991 to replace a number of individual taxes in order to broaden the tax base. It is applied after tariffs, stamp duties and charges, and any SCT, and therefore faces the same (unlikely) risk that a WTO partner could make a case for effective discrimination. However, value added taxes imposed on imports (including tariffs) are common in the world (this is explicit policy in the EU and Japan, for example) and Jamaica's system is not problematic under WTO rules. The WTO's view in this regard is that a consumption tax cannot be levied on goods that are exported (and therefore not domestically consumed).

Moreover, the fact that some goods, such as certain foodstuffs, milk, and certain services, are exempt while others, such as health-related products, some foodstuffs, books, and government procurement goods, are zero-rated is within the purview of Jamaican policy. The WTO does not restrict policy-related exceptions to domestic consumption taxes.

Nevertheless, it is important to address the fact that Jamaica's incentives programs offer exemptions from the GCT. Thus, certain items (generally capital goods and materials) imported under the Export Industry Encouragement Act, the Foreign Sales

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commercially meaningful sense it could be problematic under WTO rules.

Corporation Act, the Jamaican Export Free Zones Act, and the Modernization of Industry Program, are exempt from GCT for firms that qualify for these programs. Generally speaking, a basic WTO fiscal rule is that it is acceptable to excuse exporters from value-added taxes (under which the GCT would fall), even though those taxes are imposed on imports (Hufbauer and Grieco, 2004).<sup>16</sup> In this context, the treatment of GCT under these incentive programs is consistent with the WTO.

There are three areas where some care should be exercised, however. First, any exemption from the GCT should not discriminate among exporters. So long as there is no discrimination among domestic and foreign firms in terms of eligibility for these incentive programs, Jamaican policy seems permissible. Second, some of these incentive programs seem to discriminate between export markets. For example, the Jamaican Foreign Sales Corporation Act provides tax benefits for exports to the United States. Another example is that benefits under the Export Industry Encouragement Act are available only for exports that earn hard currencies. The former policy seems to target the US market and could be considered a specific subsidy that would be questionable under WTO rules if the United States were to object. The latter policy is largely an effort to avoid making the export benefits available for trade with CARICOM, though it could have wider application. In our view these policies could be questionable under WTO non-discrimination rules, though of course an affected foreign government would have to raise the issue formally, which may be unlikely.

More significantly, the recent WTO ruling against the US Foreign Sales Corporation Act interpreted elimination of corporate income taxes tied to export activities

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<sup>15</sup> In fact, the SCT may be *ad valorem*, specific, or a combination of the two depending on the product, which means that this statement needs to be assessed in each case.

to constitute illegal export subsidies. Jamaica provides such exemptions from corporate income taxes under the Export Industry Encouragement Act and the Jamaica Export Free Zone Act. It is possible, therefore, that such exemptions could be deemed illegal in a future WTO case.

Additional analysis of Jamaica incentives tied to trade will be offered in the following section. The discussion here related solely to legality of the Jamaican system under WTO rules.

### *Customs Valuation*

Article 7 of the original GATT (1947) agreement set out procedures under which customs authorities could assess the valuation of imports in order to avoid under-invoicing and tariff evasion. The provisions were not very precise, requiring essentially that goods be valued on the basis of their actual value. In the Tokyo Round (1970s) the major developed countries established a Customs Valuation Code that essentially outlawed reference pricing systems, under which import values are established on the basis of the selling price of domestic goods or prices in other countries.<sup>16</sup> Participation in this code was voluntary and few developing countries signed it. Thus, for example, Jamaica remained free to operate its system based partly on established (though frequently updated) reference prices, but mainly on inspection of invoices.

With the adoption of the WTO, this Code became the so-called Agreement on the Implementation of Article 7 and became binding for all WTO members. In addition to rules on customs valuation, the Agreement sets out disciplines on pre-shipment

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<sup>16</sup> It is also acceptable to excuse import tariffs on those purchases, as noted earlier.

<sup>17</sup> This was done to overturn the US valuation system based on the "American Selling Price".

inspection (in which Jamaica does not engage) and rules of origin. However, the main issues involve restraints on the means by which customs authorities can assess the value of goods for purposes of classifying goods and levying tariffs. As a developing country, Jamaica was given five years (until 2000) to adopt legislation consistent with the WTO rules. It has done so, as of June 2002, so but is still implementing some procedures. Thus, the full impact of compliance with the Code is yet to be felt.

Before discussing the WTO rules, it is important to set out why such an agreement is important. Without restraints on the ability of governments to set valuations arbitrarily, any concessions made on tariff bindings (and the associated applied tariffs) could be made meaningless. Customs procedures could become non-tariff barriers and an invitation for domestic companies to lobby the customs authorities to harass importers. Most fundamentally, without rules on classification and valuation, independent operation could largely nullify the gains from tariff cuts.

Regarding tariff classification, until recently Jamaica had classified import goods on the basis of the Brussels Definition of Value. However, the country has shifted to the use of the Harmonized System (HS) for commodity description and coding, which is identical among all participating countries through the first six digits. The HS is the global standard for classification and its adoption removes this issue from WTO concern.<sup>18</sup>

The new Customs Valuation (CV) rules at the WTO are supposed to establish transparent, fair, and uniform standards among all countries and to preclude the use of arbitrary customs values by government authorities. Because this is a complex

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<sup>18</sup> This does not mean Jamaica has solved its own problems with importers misclassifying goods, as discussed in the next section.

agreement and places real restraints on government action, it is worth reviewing in some detail.

The essential principle of the CV Agreement (Article 1) is that import values should be the actual transaction value paid for the goods by the importer, so long as the seller does not impose any unusual conditions on the disposal or use of the goods, the price is not contingent upon some condition for which a value cannot be determined, no part of the proceeds from sale accrue to the exporter, and that the buyer and seller are not related or, if related, set an acceptable transactions value. An "acceptable transactions value" is one in which the relationship does not influence the price. The customs authority can argue that such an influence exists but must offer written grounds for so thinking and permit opportunity for response. In this case the importer's declared value must be accepted if the importer can demonstrate that its price is (1) close to those charged for identical or similar goods to unrelated buyers; (2) approximate the customs value of identical or similar goods computed under Article 5 below; or (3) approximates the customs value of identical or similar goods computed under Article 6 below.

While the general principle of accepting the declared customs value is the foundation of the CV Agreement, there are bound to be cases where customs authorities have reasons (which must be based on evidence) to believe that a transaction value is inaccurate. In such cases the authorities must proceed through a hierarchical set of valuation options, as follows.

The first option (Article 2) is that "...the customs value shall be the transaction value of identical goods sold for export to the same country of importation and exported at or about the same time as the goods being valued." In doing so, adjustments may be

made for differences in volume (as there may be quantity discount), subject to an evidentiary standard, and for distance and transport costs. In choosing among different values for identical goods, authorities are bound to choose the *lowest* such value.

The second option (Article 3) repeats Article 2, except it uses the phrase "similar goods" in place of "identical goods".

If it is impossible to determine customs value under any of the first three options, either a "deductive method" or a "computed value method" must be used, though the importing firm is permitted to choose the order in which these techniques are applied. In essence, the first method subtracts costs from sales value and the second accumulates costs from processing forward. Again, the importer gets to choose which method will be applied first.

The deductive method (Article 5) states that import value shall be based on the unit price at which imported goods of identical or similar value are sold in the greatest aggregate quantity in the importing nation to unrelated persons, subject to deductions for commissions or profits and sales expenses, transport and insurance costs (subject to national legislation), and customs duties and other taxes payable on imports or sales, and value added if the goods were further processed. The computed value method (Article 6) sets the customs value at the sum of: (1) the cost of materials, fabrication, and processing of imported goods; (2) an amount for profit and general expenses for similar goods; and (3), the cost of all other expenses mentioned in Article 5.

Finally, if none of the methods above can determine the customs value, it may be set using reasonable means on the basis of available data. However, there are a number of restrictions on how such values can be structured. First, it cannot be based on the

selling price of locally produced goods. Second, it cannot be based on a rule requiring that the higher of two values be chosen. Third, it cannot be based on the price of goods in the domestic market of the exporting country. Fourth, it cannot use a constructed value method other than the one in Article 6. Fifth, it cannot be based on the price of goods for exports to other destination countries. Sixth, it cannot be based on minimum customs values or on arbitrary or fictitious values. Note that these conditions effectively end any recourse to reference price lists.

There are other important provisions. First, if currency values must be converted for valuation purposes, the exchange rate chosen should be the current and published value of such currency in commercial transactions. Next, there must be legislated rights of appeal for importing firms and such firms are entitled to written explanations of valuations chosen by customs. Further, if a valuation procedure needs to be delayed, the importer can withdraw his goods and place them into circulation subject to the posting of a surety or deposit to cover the eventual charges.

It is fair to say that this system was designed to restrain mischief by customs authorities in setting import values, a problem that many companies had reported in numerous countries prior to its adoption (Hoekman and Kostecki, 2001). Equally, however, it was designed by customs experts from the developed countries, the authorities in which already have access to extensive computerization and electronic databases on prices, costs, along with sophisticated risk-assessment models, with which to compute reasonable proxies for true invoice values. Because they have access to such technologies, the customs services of rich countries generally face few problems with private importers choosing to under-invoice their goods for purposes of avoiding tariffs.

Because of this situation, importers may be expected to report reliably their invoice prices.

The situation is quite different in many developing economies, including Jamaica. The CV Agreement places heavy demands on customs officials in determining whether declared values are reasonable. The evidentiary requirement itself involves high costs of looking for evidence of fraud, while the inability to tie invoice values to prices of domestic goods or prices in other countries also limits access to relatively simple benchmarks. It follows that, for this system to become effective, Jamaica will need to invest in computer-based systems (as it is doing),<sup>19</sup> sophisticated statistical programs, investigative and legal resources, better port infrastructure, and staff training. This is an expensive proposition.

The alternative under the WTO rules is simply to accept declared import values. However, as will be discussed in the next section, Jamaica already has a very substantial problem with under-invoicing, which reliance on the new rules may exacerbate. To put things in simple terms, the WTO CV agreement supplants one distortion (the ability of governments to act arbitrarily in setting fictitious or minimum values) while expanding the scope for another distortion (the ability of importers to undervalue their invoices with considerable impunity). In the long run Jamaica's only real recourse here will be to improve its customs inspection and evidence-gathering procedures in order to mitigate this problem. There are a few things it can do in the short run, as mentioned in Section 6.

### *Other WTO Issues*

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<sup>19</sup> Computerization offers many efficiency advantages to Customs Authorities, including ready access to prior import valuations of similar goods and the ability to consult international databases on customs valuation procedures.

It is worth mentioning briefly five other WTO agreements that directly affect border import procedures but that are not closely related to revenue generation. First, the WTO effectively has banned quantitative restrictions on trade in non-agricultural goods, such as import quotas or licensing and content restrictions. Jamaica does not employ such practices and has no reason for concern in that regard. Second, there is a WTO Agreement on Government Procurement, which essentially requires non-discrimination in treating imports and domestic affiliates of foreign firms equally to domestic firms for those products and services covered. However, Jamaica is not a member of this agreement and is not bound by it, though the government might choose to emulate it as a standard of best practices. It should be noted that CARICOM members are attempting to negotiate a government procurement protocol within the CSME, which might affect the imposition of tariff charges on intra-CARICOM trade in the future.

Third, as a WTO member Jamaica must meet the obligations of the Agreement on Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary Measures (SPS). Essentially these agreements set out rules designed to ensure that technical barriers and agricultural standards do not serve as disguised barriers to trade, are based upon recognized international norms, and are tied to scientific evidence and risk assessment (Maskus and Wilson, 2001). Such regulations must be applied on both an MFN and NT basis. Because these are not tariffs or other price-based charges, meeting the obligations of TBT and SPS presumably would have little impact on tax revenues. The main import of these agreements is to ensure that Jamaican exporters meet the standards imposed in their major export markets, a task that may involve assistance in technology adoption and in setting up certification and testing procedures. The Jamaican government might

benefit from working towards establishing mutual recognition agreements with its major trading partners.

Fourth, the WTO sets out framework conditions for countries to adopt and enforce laws on anti-dumping (AD) and countervailing duties (CVD). Tariffs may be imposed on dumped products from specific firms in named countries in order to offset dumping margins, where the act of dumping threatens to cause material injury to domestic producers. It should be noted that AD tariffs rarely serve as a significant source of revenue and, indeed, should not be viewed in that way for they are supposed to have the objective of sustaining competition.<sup>20</sup> Jamaica has adopted an AD law but to date has been an infrequent user; in the latest WTO report the country had only three definitive orders in place.<sup>21</sup> Countervailing duties are tariffs imposed against imports that had been unfairly subsidized by the exporting firm's government. The relevant WTO provisions are in the Agreement on Subsidies and Countervailing Measures (SCM). While Jamaica has provisions in place for employing such tariffs, to date it has evidently not done so. As of the year 2000 there were some questions as to whether the Jamaican AD and CVD law was consistent with WTO requirements, according to WTO documents.<sup>22</sup>

Finally, the WTO rules on safeguards (Article 19) govern the ability of a country to raise tariffs above bound rates. This may be done temporarily on the demonstration of serious injury, or the threat of serious injury, to domestic producers from import competition. In such cases the country raising its tariffs ordinarily would need to find some means of compensating the countries against whom the tariffs are increased. This

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<sup>20</sup> Reams of economic literature analyzing US and EU anti-dumping laws point out that in fact those laws are heavily protectionist in orientation and quite costly in welfare terms.

<sup>21</sup> WTO Report T/GADPN112JAM.doc, available at [www.wto.org](http://www.wto.org).

<sup>22</sup> WTO Report G/ADP/Q1/JAM/2. available at [www.wto.org](http://www.wto.org).

provision is of limited relevance to Jamaica because its bound tariffs are considerably higher than its applied tariffs, though any increases in the stamp duties would need to be assessed against this rule.

### **Analysis of Jamaica's Tariff Structure**

Jamaica began its period of trade liberalization in the early 1980s, partly in response to an IMF and World Bank structural adjustment program (Hudson 2003, World Bank 2003). Jamaica agreed not to introduce any new quantitative restrictions (QRS) on trade and to phase out some existing QRs by 1987, converting them to tariffs. The program also cut average tariffs to 15-18 percent per year, reduced the dispersion in legislated rates, and widened the import tax base somewhat. A second phase of liberalization ended in 1991, involving the establishment of several tariff "tiers" (depending on the stage of processing or final use) and further elimination of QRS.

Since 1990 additional tariff cuts have been coordinated with the CET in CARICOM.<sup>23</sup> By 1998 the highest CET rate was set at 20 percent for non-agricultural goods from a high of 35 percent in 1993. This third phase of liberalization also involved some cuts in additional stamp duties and a restriction in the number of tariff lines exempted from at least partial import taxation in order to expand the revenue base.

Despite these tariff cuts, Jamaica sustains a high degree of taxation on imports. The figures in Table 7 show the basic Jamaican tariff schedule by tier, with a list of many product types to which the tariff rates apply. Several conclusions may be drawn from this table.

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<sup>23</sup> CARICOM allows countries some ability to depart from the CET on particular goods of interest.

- Jamaica has 10 basic tariff rates, ranging from zero (which applies to the largest number of 10-digit tariff lines) to 100 percent.
- There is considerable escalation in the tariff structure. Most raw materials and machinery and equipment categories come in at a zero tariff rate, middle products (metal goods, cement, paints, etc) come in at 10 - 15 percent. Consumer goods tend to attract rates of 20-30 percent. Thus, one clear objective of the structure remains protection of final goods processing.
- Motor vehicles are taxed at quite different rates. "Completely knocked down" (CKD) kits for assembly have a five percent rate, buses and trucks a ten percent rate, and motor vehicles a 35 percent rate.
- Agricultural goods and food products also tend to have quite differentiated tariff rates. Live animals and grains are not taxed, processed meats and dairy are taxed at different levels, rice has a 25 percent tax, and poultry products attract the 100 percent tax rate. Again, these rates presumably exist for reasons of protecting domestic industrial and farming concerns.
- There are many exceptions to all of these observations and, within any broad category (eg, meat products) the actual rate at the 10-digit tariff line can vary considerably. Despite this fact, at least within industrial goods other than motor vehicles is a respectable degree of uniformity. There are not many deviations from the 20 percent tariff in cosmetics and appliances, for example.

**Table 7: Tariff Rates and Examples of Covered Products**

Tariff Rate (in percent)	Products Covered
0.0	Live animals for breeding, vegetables for processing, spices, grains, raw materials, chemicals, medicines, some film, rubber products, furs, paper, print media, basic textiles, fabrics, glass, engines, machinery, electronic equipment, instruments
5.0	Some processed meats, some dairy, coal, CKD motor vehicles
10.0	Gasoline, fuel oils, agricultural products, raw sugar, basic metal products, buses, trucks, scientific equipment, musical instruments, athletic equipment
15.0	Metal products, produce, cement, some organic chemicals, medicines, paints, plastic products, wood products, stone products
20.0	Processed meats, food products, dairy, baked goods, coffee, cosmetics, film, leather products, some wood products, paper products, carpets, apparel, bottles, finished metal products, appliances, air compressors, some machinery, a/v tapes, motorcycles, cameras, toys
25.0	Rice, some lighting equipment, auto parts
30.0	Tobacco, alcoholic beverages, some tires, jewelry, compact disks, machine parts
35.0	Crude oil, live animals, some processed meats, live plants, processed vegetables, spices, flour, sugar, motor vehicles
40.0	Some meats, vegetables, fruits, crude oil, some small motor vehicles
100.0	Processed poultry

Source: compiled from Jamaican tariff files at the 10-digit tariff line.

*Tariff Revenue Collections, Average Tariff Rates, and Tariff Dispersion*

A central concern of this report is the efficiency of this tariff structure in generating tax revenue. It is not possible from this table to get a satisfactory idea of either the average height of these tariffs as they affect trade or of the revenues actually generated. A main reason is that there are many exceptions to these rates that apply to individual import transactions. Another is that simply computing average rates across tariff lines assigns equal weights to categories with low trade volumes and high trade volumes, which can be misleading.

To get a better idea about these issues, the authors compiled and analyzed data from the electronic files provided by the Jamaican government from the C-78 customs forms. These forms must be filled out by the importer or a broker for all but the smallest (less than US\$1,000) transactions. The C-78 declarations have detailed tariff lines identified. Included on the forms are the tariff rate that should be applied to the indicated tariff line, the amount of revenue that should be paid at this rate, and the actual revenue paid. The latter often is smaller than the former due to a number of exceptions and limitations.

The major exceptions (in terms of transactions number if not value) are listed in the first column of Table 8, though there are many others. These figures were taken from the C-78 forms as well. The second column indicates the number of forms on which these various exemptions were claimed. According to our analysis, there are 58,776 contracts that were exempted from paying tariffs. For comparison, overall there were 1,103,172 contracts in the database. Thus, approximately five percent of import transactions were exempted legally.

The greatest numbers of contracts subject to exemptions arise from imports from CARICOM, which is unsurprising because those goods carry a zero tariff. Perhaps surprisingly, the second most common category is "Remission by Minister". In Jamaica it is possible for importers to receive special orders from the Minister of Finance excusing them from paying the tariff. There are additional exemptions for imports by firms from specific industries, including aircraft, bauxite and alumina, hotels, and sports equipment. Further exceptions arise for use by the government, the university, hospitals, and so on. There are 59 "other categories", including such arcane exemptions as "wooden lead pencils," "boatbuilding materials," and "goods intended to assist the economic development of Jamaica." It should be emphasized again that these categories are explicitly allowed for in the tariff law, so the information in Table 8 is not about the problem of tariff and tax evasion through such devices as misclassifying goods.

**Table 8: Illustrative List of Exemptions from Tariff Collections, 2003**

Program or Incentive	No. of C-78 Forms	MFN Wtd. Avg. Tariff (in percent)	Wtd. Avg. Tariff Paid (in percent)	"Lost" Tariff Revenue (in million J\$)
CARICOM	9426	15.6	0.0	3489
Remission by Minister	8699	22.8	0.0	1350
Aircraft	7025	25.4	0.0	72
Bauxite and Alumina Industry	6763	10.5	0.0	987
Raw materials for specified manufacturing purpose	4751	21.2	0.0	1391
Warehousing - Duty Free Shops	3505	29.3	0.0	645
Special Containers	3050	15.0	0.0	471
Hotel Incentives	2615	17.0	0.0	90
General Remission / Waiver	2299	23.6	0.0	86
20 percent Import Duty Payable	1653	40.0	20.0	237
Sports Equipment	1369	17.8	0.0	78
Government	1270	17.4	5.0	47
University of West Indies	939	18.7	0.0	15
High Commission and Embassy, etc	630	33.6	0.0	33
Energy Conservation	573	20.0	5.0	12
Hospitals	519	11.4	0.0	14
Other categories	3690	21.6*	3.4	284
<b>Total</b>	<b>58776</b>	<b>21.5*</b>	<b>3.1*</b>	<b>9302</b>

Note: \* indicates simple average across indicated categories. Source: Electronic data files from Jamaica Customs.

The third column of Table 8 is the weighted-average (weighted by import values across all contracts) tariff rate that would be applied to these goods without the exemptions, computed from the tariff rate listed on the C-78 forms. The next column lists the weighted-average tariff actually paid (generally zero though some categories enjoy only a reduced tariff), taken also from those forms. Finally, in the last column are calculations of the implied "lost" tariff revenue associated with these legal exemptions. These computations are simply the difference between revenues that would have been collected on each C-78 form at MFN rates versus revenues actually collected. Note that these revenues are lost only in the sense that they would have been collected had the legislated rate prevailed and had there been no change in importer behavior. These assumptions are crude, for the CARICOM exceptions cannot be removed, for example, while actually collecting taxes at these rates would diminish imports.<sup>24</sup> Taken as a rough guide, and surely as an upper-bound estimate, this calculation suggests that perhaps as much as J\$9.3 billion was given up in legal exemptions and remissions to importers.<sup>25</sup>

For further perspective, Table 9 provides estimates, again developed from the C-78 forms for 2003, of weighted-average applied and collected tariff rates at the 3-digit HS level, averaged across all 173 categories.<sup>26</sup> Again, collected rates are simply revenues collected divided by the value of imports. It is shown that the average applied rate across all commodity categories is 10.16 percent (the simple average is 9.33 percent) but the actual collected rate (defined as tariffs paid over import values) is 5.28 percent. Again, assuming that such revenues are "lost" to Jamaica because they are not paid at the applied

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<sup>24</sup> We make an attempt to get at these issues in a later section of the report.

<sup>25</sup> Again, this calculation does not account for the revenues lost due to evasion of tariffs, which may be larger.

<sup>26</sup> Calculations are also available at the 4-digit level upon request.

rate, the revenues foregone amount to J\$10.023 billion, which is somewhat larger than the earlier figure. This figure may be compared to actual custom duty revenues generated of J\$10.189 billion (cumulated from the C-78 forms) or J\$10.206 billion in fiscal year 2002-03 (data from Ministry of Finance and Planning). It appears, therefore, that the various exemptions and remission programs cost the government nearly as much revenue as it actually collects.

**Table 9: Tariff Rates and “Lost” Tariff Revenue in Total and by Top 10 3-digit HS Category**

HS Code	Description	Weighted Avg. Applied Rate	Simple Avg. Applied Rate	Weighted Avg. Collections Rate	"Lost" Tariff Revenue (J\$m)
<b>All</b>		<b>10.16%</b>	<b>9.33%</b>	<b>5.28%</b>	<b>10023.09</b>
271	Petroleum Oils	9.16%	17.64%	1.37%	2265.53
870	Vehicles	29.66%	24.92%	22.20%	1193.73
170	Sugars and sugar confectionery	34.04%	31.27%	2.78%	789.84
392	Plastic plates, sheets, film	15.39%	16.69%	3.64%	745.01
030	Fish and Crustaceans	18.07%	30.86%	1.63%	372.92
711	Platinum	28.89%	29.56%	1.52%	365.12
150	Animal or vegetable fats	34.80%	31.01%	1.28%	312.74
220	Beverages, spirits, vinegar	22.66%	27.78%	8.73%	279.56
200	Preparations of vegetables, fruit	20.89%	20.50%	9.64%	242.9
481	Paper, paperboard coated	11.81%	15.10%	5.04%	226.37
	St. Dev.	9.50	10.14	6.29	
	CV	1.15	1.09	1.39	

Source: Compiled from C-78 forms.

Table 9 further shows the top 10 sectors (at the 3-digit HS level of aggregation) where the largest amount of tariff revenue was “lost”. Petroleum oils and vehicles stand out as the two sectors where the largest reduction in tariff revenues occurred. It is interesting that the weighted-average applied rate (9.16 percent) in petroleum oils is lower than the simple-average applied rate (17.64 percent). This indicates that import

volumes are considerably higher in petroleum categories with lower tariff rates. However, exemptions applied reduce the actual collected rate to 1.37 percent. In contrast, the collected rate (22.20 percent) in vehicles is not much below the simple average rate (24.92 percent), but the exemptions permitted reduced tariff revenue collections by J\$1.194 billion.

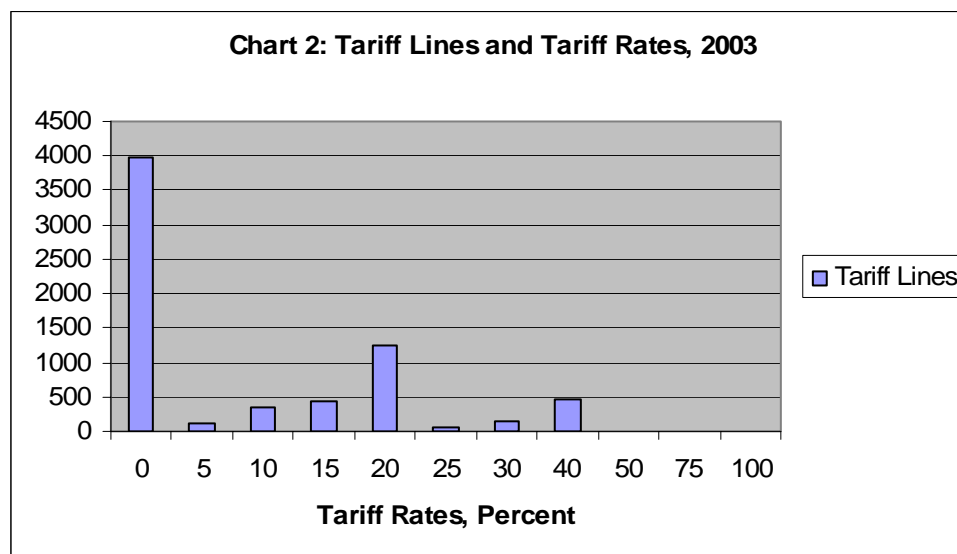
Beyond the displaced tariff revenue from this system, the Jamaican practice of differentiating tariff rates and offering extensive exemptions generates considerable dispersion in applied and collected tariff rates. Listed at the bottom of Table 9 are the standard deviations and coefficients of variation (defined as standard deviation divided by the mean) of the tariff rates across all 3-digit HS sectors. As may be seen, the standard deviations are higher than average rates by all three measures, so that the coefficients of variation exceed unity. This is a remarkably high degree of dispersion in the tariff structure and surely is a source of inefficiency as discussed in an earlier section.

Another way of looking at differences in tariff rates is to consider the applied MFN rates (those actually in the MFN tariff schedule) by detailed tariff line. Chart 2 provides information on the frequency of products subject to different tariff rates at the six-digit HS line. Jamaica has 6,865 tariff lines at this level, of which 3,987 face no import tariff. There are substantial numbers of tariff lines at 20 percent and 40 percent, but very few above those levels. Indeed, there are just 16 product categories with tariff rates at 50 percent or higher (though 11 of these at 100 percent), so in this sense Jamaica's schedule does not display significant numbers of "tariff peaks".<sup>27</sup> Nonetheless,

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<sup>27</sup> There are two categories listed with a 400 percent tariff, which may be a typographical error in the tariff file, and 45 categories that have no tariff rate listed.

461 categories face 40 percent tariffs, which is a high rate even among developing countries.



### *Additional Charges on Imports*

Simply looking at nominal collected tariff rates (that is, revenues collected divided by import values) might suggest that Jamaica's economy is reasonably open to imports, because these rates average only 5.28 percent. Even average applied rates are not large at 9.33 percent, because many detailed (10-digit) tariff lines have zero tariffs. However, there is significant variation in nominal tariff levels and numerous exemptions exist. Moreover, there are numerous other taxes and fees on imports that tend to vary across product categories and this situation has the effect of both raising protection markedly in some cases and increasing the dispersion of trade taxes. Consider a listing of these additional charges, beginning with import taxes.

All imports entering Jamaica are subject to a *basic stamp duty* of J\$5 on transactions less than J\$5,500 and of J\$100 on transactions greater than J\$5,500. These are specific charges that diminish in importance with the size of the import transaction and we do not consider them further here. It is evident that there may be significant incentives to value a transaction below the threshold level for the marginal tax rate increases from 0.9 percent to 1.8 percent at that level.

An *additional stamp duty* (ASD) is payable on certain items, such as chicken and most chicken parts, meats and some meat products, some aluminum products, alcoholic beverages, and tobacco products. Table 10 provides perspective on the ASD. Tobacco products (cigarettes, etc.) are subject to a 56 percent duty, while non-tobacco substitutes face no duty.<sup>28</sup> Presumably this decision reflects some policy preference to raise the cost of smoking. Alcoholic beverages are subject to a 34 percent duty, presumably for similar reasons. Keep in mind, however, that these are taxes imposed on imports only, so they do have a significant protective effect for domestic producers. Similarly, the 20-25 percent ASD on some metal products is designed to protect domestic aluminum production.

The remainder of the table shows that particular product lines within various categories have been selected for the imposition of an ASD. For example, most fruits and vegetables face no ASD but a selected set of goods are charged between 33 percent and 90 percent additional tax. Perhaps most famously, while most poultry parts come in with an 80 percent ASD (in addition to a 100 percent tariff), there is no ASD on chicken backs and necks (neither is there a tariff on these goods). The stated reason for this

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<sup>28</sup> It is not clear from the tariff schedules what products are "non-tobacco substitutes" but presumably these are tobacco-free items that smokers may choose to consume in order to satisfy their habits to some extent.

differentiation in treatment is that the 100 percent tariff exists to offset dumping of U.S. chicken and turkey parts (mainly chicken legs) in Jamaica, while the exemption of chicken backs and necks exists to keep the prices of those parts affordable to consumers. While the latter goal may be laudable, the system sets up obvious incentives to bring in poultry products (and other, non-poultry products) under the latter category. Indeed, "chicken backs" are generally described as a major source of tariff evasion as importers classify many other goods in this category.<sup>29</sup>

**Table 10: Additional Stamp Duty Rates by Product Category**

Product Category	ASD Rate (in percent)
Tobacco Products	56
Products with Tobacco Substitutes	0
Alcoholic Beverages	34
Crude Oil	18
Some Basic Metal Products	20-25
Some Meat Products	33 or 55-62
Some Vegetables and Fruits	33-36 or 86-90
Some Processed Fruits and Vegetables	55-62
Some Vegetable Oils	65
Some Fruit Juices	69
Some Grains and Meal	70
Some Poultry Parts	80
Poultry Backs and Necks	0

Source: Jamaica Tariff Files.

Next, Jamaica imposes a *customs user fee* (CUF) of 2.0 percent on all imports. As noted above, it is acceptable under WTO rules to have such fees in place as long as they are reasonable and designed solely to cover the true costs of providing customs services. This fee is not high in relation to other developing countries. Further, there is a *standards compliance fee* (SCF) of 0.3 percent on most (but not all) food products, tobacco products, chemicals, some textiles and apparel, and most basic industrial

<sup>29</sup> Interview with Jamaica Customs officials, 18 February 2004.

products. Again, so long as this fee is reasonable and covers the costs of legitimate standards-related services (eg, certification and testing) provided by the government, it is not problematic. Finally, there is a *processing fee* for the submission of certain documents that is additional to the CUF, and the same principle applies.<sup>30</sup>

Jamaica currently applies a US\$ 200 charge per container imported and exported in order to defray the country's costs of port modernization, in addition to a "port security fee" levied for similar purposes. Because these fees are earmarked for a much-needed improvement in facilities, inspection services, and security procedures, they are not likely to raise any issues at the WTO. It should be noted that the container charge tends to be relatively more costly for low-item goods and may affect import incentives across types of products.

#### *Applied and Bound Tariff Rates*

As explained earlier, Jamaica's obligation under the WTO is not to exceed its bound tariff rates that were negotiated by CARICOM on its behalf. For purposes of making such a calculation, the tariffs that would be included are the tariff itself and the ASD. The ASD appears to be an added to the tariff rate in order to generate a higher composite tariff (rather than being imposed on the CIF import value plus tariff).

When it joined the WTO, Jamaica bound its tariffs on industrial products at 50 percent. Its additional duties and charges in industrial goods were bound at 15 percent except for three tariff lines in aluminum products, where additional duties were bound at

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<sup>30</sup> Because these fees do not apply to domestic goods, they may be thought of as discriminatory in WTO terms. However, the CUF and processing fee directly relate to costs of customs services, which are not incurred for domestically produced goods and no real issue of discrimination arises. The SCF may be more problematic because domestic goods may also be subject to certification and testing costs.

80 percent.<sup>31</sup> Jamaica bound its agricultural tariffs at 100 percent and other duties at 15 percent, except for bindings of 80 percent on numerous products and of 200 percent on three sugar products. As can be seen in Table 10, the additional duties in metal products are within the 80 percent binding. Further, most products with high ASD rates are agricultural goods and food products and all fit within the 80-percent binding. Note that the highest tariffs are for poultry parts (and cabbages), which combine a 100-percent tariff with an 80-percent ASD, exactly at the maximum limit. Put briefly, Jamaica's tariffs and duties are consistent with their agreed bound rates at the WTO.

#### *Non-Tariff Charges on Imports*

Jamaica charges other taxes in addition to these various duties and fees, but they are imposed also on domestic production (if any). The most prominent is the *general consumption tax* (GCT), which is effectively a VAT. The standard rate is 15 percent but there are some exempted items and tax rates themselves vary from zero to 100 percent. In fact, there is not much variation in the GCT at the tariff-line level. Of the 6,865 tariff lines, 6,496 are taxed at 15 percent, 112 at zero percent and only 31 are exempt.

The most variable element in the GCT pertains to motor vehicles. It seems that buses, trucks, and automobiles imported by dealers attract the standard GCT rate of 15 percent. Trucks and tractors for agricultural use tend to face a 23 percent rate. However, motor vehicles imported in completely knocked down kits for domestic assembly and vehicles brought in by individuals and franchises are subject to a much higher tax, typically of 86 percent but ranging from 33 to 100 percent. This difference in treatment establishes a large range in effective taxes on imported motor vehicles. Thus, in the 161 product lines in HS categories 8702, 8703, and 8704 the average sum of the tariff and

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<sup>31</sup> WTO (1998). It is common for countries to issue their bindings at such extremely aggregated levels.

GCT is 61 percent, with a large standard deviation of 34 percent. It is not surprising, then, that motor vehicles are another source of major tax evasion within the customs system.<sup>32</sup>

Jamaica also imposes a *special consumption tax* (SCT) on imports of particular goods, the consumption of which the government wishes to limit. Again, the SCT is imposed on similar domestically produced goods and is best considered a consumption tax per se. Alcoholic beverages are taxed at rates ranging from 16 to 30 percent, some tobacco products at 12 percent, and cigarettes at 169 percent. Certain fuels have SCT rates ranging from one percent to 64 percent, though gasoline is taxed at 770 percent, according to the tariff file.

A final tax is an excise (health) tax of 23 percent on tobacco products, raising the total consumption tax on cigarettes to 227 percent beyond the 86-percent tariff. Clearly, the government of Jamaica prefers heavily to tax this product. In consequence, it is again not surprising to discover that cigarettes are a source of evasion and are commonly smuggled into the country.

### *Tax Revenues*

Just as with the tariffs, the applied tax rates are higher than collected tax rates (tax revenues collected divided by value of imports) because of numerous exemptions and remission programs. Thus, Table 11 presents a set of calculations similar to that in Table 9. It first lists the weighted-average tax rate (excluding the basic tariff), across all 3-digit goods, that should have been paid at full rates (according to C-78 forms), the weighted-average collected tax rate (based on amounts payable), and the implied "lost" tax revenue.

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<sup>32</sup> Interview with Jamaican Customs officials, 18 February 2004.

Again, it should be clarified that these revenues are lost only in the sense that, had the full tax rates been collected on an unchanged set of import transactions, the revenue would have materialized. But with full taxation presumably import flows would have been somewhat lower.

**Table 11: Tax Rates and “Lost” Tax revenue in Total and by Top 10 3-Digit HS Category**

HS Code	Description	Weighted	Weighted	"Lost" Tax Revenue (J\$m)
		Avg. Applied Rate	Avg. Collected Rate	
<b>All</b>		<b>20.67%</b>	<b>10.89%</b>	<b>20068.78</b>
880	Aircraft and parts	17.04%	0.02%	2505.07
870	Vehicles	30.93%	16.00%	2388.77
100	Cereals	35.64%	1.68%	1365.94
270	Mineral fuels, oils	16.65%	1.34%	1326.96
170	Sugars and sugar confectionary	44.12%	5.88%	966.48
271	Petroleum oils	24.76%	21.52%	943.34
392	Plastic plates, sheets, film	15.97%	6.15%	622.09
841	Hydraulic turbines, water wheels	17.69%	9.22%	418.49
200	Preparations of vegetables, fruits, nuts	33.14%	14.60%	400.38
040	Dairy produce, eggs	17.74%	3.33%	384.61
	<i>St. Dev.</i>	<i>8.08</i>	<i>6.65</i>	
	<i>CV</i>	<i>0.42</i>	<i>0.65</i>	

Source: Compiled from C-78 forms.

Across all categories, the weighted average tax rate was 20.7 percent but the collected rate was about half that at 10.9 percent. The figures cumulated from the C-78 forms suggest that actual taxes paid amounted to J\$22.3 billion, while J\$42.4 billion should have been collected, leaving a shortfall of J\$20.1 billion.<sup>33</sup> The remainder of Table 11 lists the 10 product categories in which these revenue impacts from tax exemptions were largest. The sectors where the largest amounts were not collected were aircraft and parts, vehicles and cereals. Note, for example, that the average applied rate in aircraft was 17.04 percent but the collected rate was only 0.02 percent. It appears again that the system is inefficient in raising tax revenues.

<sup>33</sup> It should be noted that figures from the Ministry of Finance and Planning of Jamaica indicate that revenues collected in fiscal year 2002-03 for stamp duty, GCT on imports and SCT on imports added to

### Application Methods

In order to set up the calculations in the following section it is useful to specify our understanding of the methods by which these taxes on imports are calculated by the customs authorities.

First, a product is imported and the importer declares a value of J\$M.

Second, the tariff, ASD and any additional import duties are added and charged to the declared value at an aggregated *ad valorem* rate. Let RATE = (tariff percent + ASD percent + CUF percent + SCF percent). At this point the taxable value becomes J\$M\*(1 + RATE).

Third, the special consumption tax is applied to the taxable value. Further, since it is an excise tax the health tax on cigarettes presumably is applied at this stage. Then there becomes a new taxable value of J\$M\*(1+RATE)\*(1+SCT+EXCISE).

Fourth, the general consumption tax is levied on this taxable value, implying that the full tax treatment on imports becomes:<sup>34</sup>

$$J\$TAX = J\$M*(1+RATE)*(1+SCT+EXCISE)*(1+GCT).$$

Table 12 presents such calculations, based on actual tariff and tax rates (not incorporating exemptions and remissions) for a variety of detailed product lines. Thus, the total nominal tax rate on J\$1m of imported cigarettes is 314 percent, while that in rum is 133 percent. These are among the most highly protected commodities. A considerable anomaly exists in poultry parts, where most categories face a combined tax of 224 percent but "chicken backs" just 17 percent, generating a huge incentive for misclassifying and undervaluing goods. Chemicals are indicative of the situation in industrial goods, especially intermediate materials, where the economy is quite open and the main tax is the GCT. Finally, there are large differences in overall tax rates for motor

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J\$16.5 billion. Thus, our calculation of \$22.3 billion payable from the customs forms is somewhat larger than the official figure, which may be due to the later time period involved.

<sup>34</sup> In fact the tax could be larger because we have not factored in the tax on containers.

vehicles, depending on the importer, the stage of importation, the type of the vehicle, and its size. This situation again invites considerable mischief.

**Table 12: Combined Tariff and Tax Rates for Selected Commodities, based on J\$ 1 million in cif Import Value**

Product	Tariff	ASD	CUF + SCF	New Taxable Value (in million J\$)	SCT + EXCISE	New Taxable Value (in million J\$)	GCT	Final Value (in million J\$)	Total Tax (in million J\$)	Tax Rate (in percent)
Cigarettes	0.3	0.56	0.023	1.88	1.915	3.60	0.15	4.14	3.14	314
Rum	0.3	0.34	0.023	1.66	0.22	2.03	0.15	2.33	1.33	133
Fresh Fruits	0.4	0.33	0.023	1.75	0.00	1.75	0.00	1.75	0.75	75
Poultry Parts	1.0	0.80	0.020	2.82	0.00	2.82	0.00	2.82	1.82	182
Chick. Back	0.0	0.00	0.020	1.02	0.00	1.02	0.00	1.02	0.02	2
Chemicals	0.0	0.00	0.023	1.023	0.00	1.023	0.15	1.18	0.18	18
Apparel	0.2	0.00	0.023	1.223	0.00	1.223	0.15	1.41	0.41	41
Some MVs MVs dealers	0.4	0.00	0.020	1.42	0.00	1.42	0.58	2.24	1.24	124
	0.4	0.00	0.020	1.42	0.00	1.42	0.15	1.63	0.63	63

Source: Calculated from Jamaica Tariff File.

Information on the distribution of these total tax rates across tariff lines is provided in Table 13. The items with taxes below 15 percent are exempt from GCT or have a zero-rate GCT. The largest number of tariff lines comes in the range 16-20 percent and these are mainly goods with only the GCT and CUF, coming in at a zero tariff. Another large group exists at 36-40 percent; these are goods with the GCT and a significant tariff rate. Finally, there are over 800 tariff lines with very high combined tax rates, which typically involve both the SCT and ASD.

**Table 13: Combined Tariff and Tax Rates Summary for all Tariff Lines**

	2-5%	6-15%	16- 20%	21- 25%	26- 29%	30- 35%	36- 40%	41- 99%	100%+
No. Lines	115	36	3804	124	274	379	1242	596	293

Source: Calculated from Jamaica Tariff File.

*The Question of Import Valuation*

Jamaican customs authorities are understandably concerned that the new WTO rules, described earlier, on customs valuation will constrain their scope of action. While this concern is valid it should be noted that, according to customs officials themselves there were significant problems under the old system as well, leading to considerable reductions in available revenue. Officials decry a Jamaican "culture" of permissiveness under which importers could write fraudulent invoices. Despite the fact that authorities could revalue customs invoices for tax purposes under the old system there still was a significant revenue drain. Their rough estimate of tariff revenues lost in 1993 was J\$700 million, or approximately 15 percent of trade-tax revenues in FY 1992/93 (9 percent of trade-tax revenues in FY 1993/94).<sup>35</sup>

Jamaica implemented its new customs valuation law, to be consistent with the WTO agreement, in June 2002, though it delayed implementation for motor vehicles until March 2003. Officials claim the situation has become worse since that time for a number of reasons. First, they have not been able to invest sufficiently in computerized systems and information databases, nor have they been able to establish sufficiently good working conditions with customs officials in exporting countries for purposes of sharing valuation information. Second, the WTO agreement generally requires proof that an importer's invoice is undervalued before a computation of new value can take place, and finding such evidence is difficult and costly. Third, there appears to be significant collusion going on in invoicing among importers, in addition to double invoicing (one for Jamaican tax authorities and one for internal reasons), with the invoice submitted to Customs being perhaps 1/3 the true value on average. Fourth, there are a number of straightforward

means to evade tariffs and charges on used motor vehicles brought into the country, primarily by misclassifying them, for example, as damaged cars. Fifth, a substantial proportion of Jamaican imports come in through informal commercial sellers, who tend to under-invoice. Sixth, it is easy to attain a tax compliance certificate (TCC), which may be used fraudulently to register numerous buyers, with the effect of undervaluing imports. There are other problems as well, including the ineffective and slow judicial system in ordering penalties and fines.<sup>36</sup> Customs officials offered an estimate of lost tariff and fee revenues of perhaps J\$2 billion currently due to valuation problems. This would amount to approximately seven percent of FY 2002/2003 trade-tax revenues.

The authors of this report made an attempt to find independent information that could be used to assess the scope of this problem. For this purpose we matched the 10-digit product categories on the C-78 forms with similar categories from the website of the United States International Trade Commission. That website provides figures on the unit value of US exports (fob) to Jamaica by product category. Our intent was to find a sample of sufficiently close categories in which the US export price was somewhat below the declared (C-78) Jamaican import value that we could attempt to extrapolate the difference to other trade volumes. In a word, this approach was unsuccessful. While we could identify 117 reasonably similar product lines, the unit prices were generally so radically different (in both directions) that it is impossible to use them with confidence.<sup>37</sup>

The best we can say is that there is convincing evidence from Jamaican authorities that import valuation is a significant problem in terms of tax evasion and that

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<sup>35</sup> Interview with Jamaican Customs officials, 18 February 2004.

<sup>36</sup> Interview with Jamaican Customs officials, 18 February 2004. See also "Billions Lost in Customs Duties," *The Jamaica Gleaner* 18 February 2004. It should be noted that many of these problems existed prior to implementation of the CV code, so attributing them to the new rules would be misleading.

steps need to be taken to overcome it.<sup>38</sup> Jamaican customs officials offered the opinion that lowering tariff rates would not improve the situation because importers still would prefer to evade any non-zero tax. However, to some extent this misses the point that incentives to evade import charges exist not only due to their levels but also to their significant variation, and especially arise from the extensive exemptions that are available. Undoubtedly the extensive problems in smuggling in liquor and cigarettes are associated with high taxes, while misclassification problems with automobiles and chicken parts are endemic.

It is evident from the figures calculated in the last sub-sections that Jamaica's tariff and tax system is inefficient at raising revenues because of its highly variable (and also rather subjective and arbitrary) nature. Incentives to misclassify goods and to report transactions values far below actual values are endemic in Jamaica and this is surely one reason. It follows that one way to reduce the problem is to attempt to unify effective taxation at the border, primarily through reduced opportunities for favoritism, exceptional treatment, and administrative duty remissions or forgiveness. Moreover, the problem stems in part from weak enforcement and under-funded authorities. Thus, better enforcement, improved procedures, access to international databases, and international cooperation with major trading partners are all central to improving this issue.

In principle, one partial solution would be to move toward a tariff structure that, at least for goods with high tax rates and extensive smuggling, is based more on specific and compound tariffs than on *ad valorem* tariffs. Specific tariffs offer little incentive for under-valuing goods because the tax is the same per unit of imports regardless of price.

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<sup>37</sup> Data file available on request.

However, this would not help the mis-classification problem much unless overall taxes on trade were brought down. Specific tariffs also may need to be updated periodically to reflect such items as inflation and exchange-rate variations to maintain stable revenue generation or levels of protection. Such updating could itself be subject to political capture by interested groups. Ultimately, the main reason this option is not likely to be feasible is that tariff rates are set by CARICOM in the CET and negotiating such a partial shift toward specific tariffs may not be possible.

### **Other Jamaican Trade Policies**

A brief overview of other trade policies is useful for making this report comprehensive and linking it to other parts of the overall report.

#### *Trade in Services*

Jamaica is a markedly open economy in the services area, though some burdensome licensing requirements and procedures for gaining permits remain as regards investment by both foreign and domestic firms (JAMPRO 2004). It has eliminated virtually all restrictions on ownership of FDI and offers rights of establishment in most sectors. Currency transactions are fully liberalized. It places few restrictions on the ability of enterprises to repatriate profits, though there is a withholding tax on dividends remitted abroad (FIAS 2003). Privatization in telecommunications has invited foreign ownership. Under the General Agreement on Trade in Services (GATS), Jamaica has made initial commitments regarding commercial presence (GATS Mode 3) in business services, educational services, financial services, health and social services, tourism, and

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<sup>38</sup> Interviews with a private sector group (PSOJ) and a senior Jamaican tax official, Mr. Surridge, confirm this view. Both interviews were on 19 February 2004.

transport services. These various commitments generally afford national treatment. Additional intentions have been signaled as regards movement of professionals, subject to relevant Jamaican regulations.

### *Foreign Direct Investment*

Despite these commitments, Jamaican FDI has not increased much in recent years, as noted in Table 14. New investments are concentrated in three broad sectors: telecommunications, tourism (primarily hotels), and mining. The latter two areas reflect Jamaica's largest established areas of comparative advantage. There is scope for increasing export revenues in other services, including call centers and back-office data work (Foreign Investment Advisory Service, 2003).

Jamaica's performance in attracting FDI is not out of line for Caribbean economies<sup>39</sup> but these countries as a group under-perform in relation to economies of similar size and income levels in East Asia. Part of the problem is endemic to island economies: high transport costs and a difficulty in distinguishing among locations in terms of comparative advantage. However, Jamaica has particular problems arising from its competitiveness issues, including high rates of crime, a weak educational system, poor governance, high real interest rates, concerns about exchange rate instability, and utility costs. These issues were discussed more fully earlier in the report. More relevant for this report, the high and variable taxes on trade, including the significant non-transparencies in the system, very likely contribute to a negative view of Jamaica as a destination for foreign investment.

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<sup>39</sup> See figures in UNCTAD (2002).

**Table 14: Foreign Direct Investment into Jamaica**

Direct investments	1998	1999	2000	2001	2002
(S\$million)					
<b>Sectors (Greenfield FDI)</b>					
Agricultural/manufacturing/Distrib	53.9	18.4	14.7	22.5	13.2
Information Tech/communication	85.2	49.6	57.2	112.5	52.3
Minerals & Chemicals	3.1	29.5	9.6	15.7	0.3
Insurance	0	0	6	0	0
Tourism	2.7	52.8	69.4	24.3	48.8
Mining	109.9	67.8	97.8	83.7	108.1
<b>Sub-total</b>	<b>254.8</b>	<b>218.1</b>	<b>254.7</b>	<b>258.7</b>	<b>222.7</b>
<b>Retained Earnings</b>	<b>101.1</b>	<b>87.3</b>	<b>116.1</b>	<b>115.9</b>	<b>168.9</b>
<b>Divestment</b>	<b>0</b>	<b>177.2</b>	<b>40.9</b>	<b>234</b>	<b>83.6</b>
<b>TOTAL</b>	<b>369.1</b>	<b>523.7</b>	<b>455.8</b>	<b>613.91</b>	<b>485.7</b>

Source: Bank of Jamaica.

To provide more perspective we consider how Jamaica's performance in attracting FDI fares compared to other Caribbean countries. The table below presents the latest rankings from UNCTAD's *World Investment Report 2003*. The FDI Performance Index ranks countries by the FDI they receive relative to the economy's size. More specifically, it is the ratio of a country's share in global FDI inflows to its share in global GDP. According to this FDI Performance Index, Jamaica is ranked 23<sup>rd</sup> of 140 economies. Jamaica's ranking is in fact the highest among the group of Caribbean countries presented in the table. Trinidad and Tobago (27<sup>th</sup>) and Dominican Republic (31<sup>st</sup>) rank somewhat below Jamaica, while countries like Costa Rica, El Salvador, Dominican Republic, Honduras and Haiti rank significantly lower.<sup>40</sup> In summary, Jamaica has performed comparatively well in attracting FDI during 1999-2001.

<sup>40</sup> Regarding the score value of the FDI Performance Index, values larger than 1 indicate that the country receives more FDI than its relative economic size. Jamaica's score is about 2.

**Table 15: FDI Performance and Potential, 1999-2001**

Country	FDI Performance Index		FDI Potential Index	
	World Rank	Score	World Rank	Score
Costa Rica	73	0.871	60	0.205
El Salvador	95	0.459	54	0.213
Dominican Rep	31	1.633	65	0.201
Honduras	55	1.130	96	0.143
Haiti	123	0.119	135	0.076
Jamaica	23	2.001	78	0.169
Trin & Tobago	27	1.811	61	0.202

Source: World Investment Report 2003, UNCTAD

Table 15 also presents rankings based on the FDI Potential Index. This index is designed to capture a variety of factors that would make an economy attractive to foreign investors. Some of these factors are: GDP per capita, the growth rate of GDP over the previous 10 years, the share of exports in GDP (measures of openness and competitiveness), IT and energy infrastructure indicators, education level variables, country risk, and share of existing world FDI. Jamaica does not rank high (78 of 140 economies) according to the FDI Potential Index. In fact, Costa Rica, El Salvador, Dominican Republic, and Trinidad and Tobago all rank higher. The World Investment Report does not provide disaggregated scores by component for this index, so it is hard to know which components are mostly responsible for this low ranking. One would, however, suspect that some of the issues mentioned above, such as country risk and infrastructure deficiencies, may be responsible.

In summarizing rankings from both indexes, one question that remains is why Jamaica has performed well in attracting FDI during 1999-2001, while its potential to attract FDI appears to be low. According to Mortimore and Peres (1998), countries compete for FDI by using incentives (like taxes and subsidies), strengthening institutions and rules, and improving the factors of production (e.g., labor force and infrastructure).

They find that competition for FDI using incentives can lead to bidding wars and that focusing on the other two avenues of attracting FDI can lead to more persistent growth in FDI.

### *Export Policies*

Jamaica imposes no taxes or quantitative restrictions on exports. Indeed, it has a series of incentives, discussed next, that attempt to encourage exportation. The fact that Jamaican exports continue to stagnate, as noted early in the report, even in the presence of a significant depreciation of the Jamaican dollar in 2003 indicates that there are significant problems with competitiveness. The incentive programs offer some partial approaches to resolving these difficulties but, unfortunately these problems are more structural in nature and cannot readily be resolved by incentive policies.

### *Incentive Programs*

Another report extensively analyzes Jamaica's various incentive programs<sup>41</sup> and they are discussed here only to the extent they are related to trade policy. Jamaica has a remarkable panoply of investment incentives, which seem to have developed piecemeal in an attempt to attract investment in the face of significant competitiveness problems and high tax rates on legitimate business. Most incentives are tax holidays and come in different forms. They can be permanent or temporary, partial or comprehensive, apply to some taxes and not others (depending on the incentive), involve extensive and generous depreciation write-offs, and vary by sector. Ultimately these reductions in taxation on capital reflect Jamaica's status as a small open economy with numerous competitors; it is difficult to sustain capital taxes when investment is mobile.

Consider those incentive programs that are closely related to trade. First, the Export Industry Encouragement Act, available to manufacturers, exempts export production from paying import duties. As noted above, this is a sensible approach to offsetting some of the costs imposed on exporters by variable import taxes (including taxes on imported inputs). The main concern is in making the process of certification and licensing transparent, devoid of favoritism, and of low transactions costs.

The same law exempts manufacturers from paying GCT when goods are exported. As long as this treatment is available to all exporters without discrimination and there are sensible means of discriminating between export and home production, this policy is consistent with standard WTO procedures. As noted earlier, however, exemption of exporters from income tax under the Export Free Zones Act and the Foreign Corporation Act may be questionable within the WTO as they may be seen as export-specific subsidies. There are similar tax breaks for hotels that could be brought under scrutiny.

From the standpoint of policy, the interesting question is how effective these incentives may be. We leave this question largely to that part of the tax team that is preparing a report on fiscal incentives. Based on interviews with participants and analysis of the overall trade incentives structure, there are reasons to doubt it in our view. The highly variable import taxation system raises transactions costs for exporters in claiming rebates and administering their input flows. Inflows of FDI for export production outside mining and tourism are disappointing. Finally, the stagnant performance of merchandise exports even after the significant fall in the Jamaican dollar

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<sup>41</sup> See the companion report by Mark Rider.

attests to underlying problems in the export sectors. It is likely that many of the subsidies and incentives disappear into inefficiencies rather than modernization and exports.

#### *Tourism Incentives in Jamaica*

The issue of tourism incentives in Jamaica has been covered in Mark Rider's report (Jamaica's Tax Reform, Working Paper 3). The main features are summarized here since it is also an international sector issue. Jamaica's main incentives to tourism are The Hotel (Incentives) Act and The Resort Cottages (Incentives) Act. The Hotel Act provides a 10 to 15 year tax holiday and exemption of GCT, duty, and dividend taxes. In addition, losses can be carried forward 6 years after the tax holiday expires and hotels have a partial exemption from payroll taxes. Similarly, The Resort Cottage Act grants 7 years of tax holiday, exemption of dividend taxes, and a 6-year carry forward of losses.

Other CARICOM countries also offer tourism incentives that are comparable to Jamaica. For example, Antigua offers a 7 to 25 year tax holiday for hotels built after January 2003. The exact number of years depends on the number of rooms built. The Bahamas offer a similar 5 to 20 year tax holiday. In addition, they are exempt of duty, business licenses and property taxes. Trinidad and Tobago offers a 15 percent tax credit to companies earning foreign currency (including hotels). Tourism companies (including hotels) can get tax holidays of 5 to 10 years, exemptions on duties for equipment and building materials, exemption on dividend taxes, accelerated depreciation and capital allowances for some capital expenditures, and carry over of losses. In summary, Jamaica's incentives for tourism are comparable to other Caribbean countries, while some differences exist in the types and extent of incentives. One should keep in mind,

however, that incentives are not the only determinant for a successful tourism sector. The issues of infrastructure, security, and quality of the labor force—all discussed elsewhere in this report—remain very important for the continued success of Jamaica’s tourism.

### **Tariff Policy Exercises**

In this section we attempt to put forward some simple answers to the questions surrounding Jamaican tariff policy. We initially consider exercises involving tariff unification and the elimination of exemptions and other forms of tax evasion. Then we consider the implications of full trade integration with CARICOM, so that all collected tariff rates are truly zero. Finally, we look at implications of joining the FTAA in the sense of setting those tariff rates to zero. It must be emphasized that these calculations are simplistic in that they are not filtered through a computational general equilibrium model and they rely on simple assumptions about import demand elasticities. The computations are partial-equilibrium in nature, in that we calculate the anticipated revenue changes sector by sector, without permitting the price changes to affect inter-sectoral production and consumption shifts. The authors intend to integrate this analysis with the CGE model under development by another member of the tax reform team.

#### *Tariff Unification and Equal Tax Treatment with No Tax Evasion*

Our first experiment is to unify the collected tariff rates (ignoring associated tax rates such as ASD, GCT and SCT) at the level of 10 percent, which is above the weighted-average collections rate in Table 9 but marginally below the weighted-average applied rate. The essential idea is that all applied rates would be set at ten percent and that associated exemptions and remissions would be eliminated, so that the applied tariffs

would also be collected. By raising collected rates the amount of revenues predicted for collections would be likely to rise in this case unless import demand fell dramatically. In a second case we unify the applied (and collected) rates at five percent, which is below the weighted-average collected rate. In this case if estimated tax collections were to rise the impact would be due to the efficiency gains from tariff unification.

Note, however, that these scenarios would effectively raise the tariff rates on imports from CARICOM and are, therefore, not feasible options. The experiments are done for illustrative and comparative purposes and provide some guidance on the implications of a negotiation on far-lower tariff bindings at the WTO.

In considering the revenue implications of this policy change, some simplifying assumptions are made initially. First, assume that Jamaica is a small economy and that foreign firms offer products to the country at fixed prices (that is, the levels of Jamaica's taxes on trade do not affect those prices). This is a reasonable assumption that we maintain throughout the analysis.<sup>42</sup> Second, we assume that Jamaican domestic production (if any) is perfectly substitutable with imports and that import demand can be represented as the difference between domestic consumption and production. Third, because at this point we are considering unilateral tariff unification with MFN rates, we assume that suppliers from all foreign countries offer products that are perfect substitutes and command the same world export price. We relax these assumptions in later calculations.

To illustrate these basic calculations, consider the diagram labeled Chart 3. The downward-sloping line is the demand for imports of a particular good. Along the

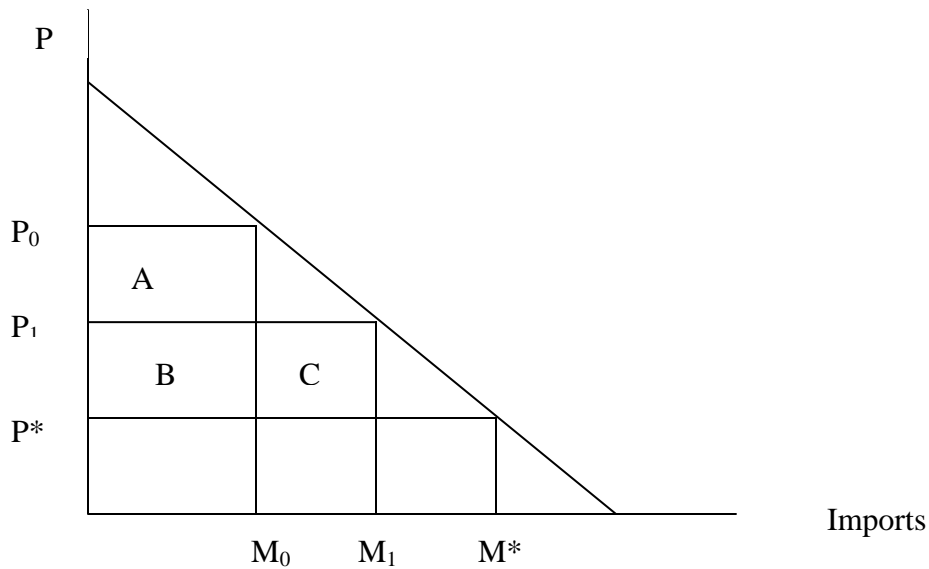
horizontal axis are quantities of imports purchased at different prices. The global supply price is  $P^*$  and if Jamaica imposed no MFN tariff or charges that would also be the price in Jamaica. Suppose initially that there is a relatively high *ad valorem* tariff,  $t_0$ , which generates a domestic price in Jamaica of  $P_0 = P^*(1 + t_0)$  and imports are brought in at volume  $M_0$ .<sup>43</sup> Initial tariff revenue is therefore the area (A + B). Now suppose that the tariff is reduced to a lower *ad valorem* value  $t_1$ , reducing domestic price to  $P_1 = P^*(1 + t_1)$  and a higher import volume  $M_1$ . The new level of tariff revenue is (B + C) and the net impact is (C - A), which could be higher or lower. If the induced increase in imports is large relative to the fall in price, tariff revenue would expand; in the opposite case it would decline. Note finally that if the tariff were reduced to zero no revenue would be generated.

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<sup>42</sup> To the (doubtful) extent that Jamaica has market power, a reduction in a tariff would raise the foreign export supply price and tend to increase any anticipated tariff revenue loss, though the precise impact would depend on a number of elasticities.

<sup>43</sup> Strictly speaking, since we analyze an *ad valorem* tariff, there are implicitly tariff-distorted demand curves (not drawn) that pivot downward from the vertical axis of this demand curve, with the lowest one reflecting the initial tariff and a higher one reflecting the lower tariff. These curves determine  $M_0$  and  $M_1$  but in fact are themselves determined by the tariff rates and demand elasticity.

**Chart 3. Impact of Tariff Cuts on Revenues: No Domestic Taxes and Zero Cross-Elasticities in Import Demand**



It is evident that the impact on revenues would depend on the elasticity of import demand. We define this elasticity  $\varepsilon_M$  as the percentage change in imports divided by the percentage change in domestic price; this parameter is negative or zero. Given assumptions or information about the tariff rates before and after unification and assumptions about import demand, it is straightforward to calculate the change in imports:

$$\frac{M_1}{M_0} = 1 + \varepsilon_M \left( \frac{t_1 - t_0}{1 + t_0} \right) \quad (1)$$

From customs data we know the initial cif value of imports,  $P^*M_0$ , and initial tariff revenue  $t_0 P^*M_0$ . From the equation above we can calculate the new cif value of imports

$$P^* M_1 = P^* M_0 \left[ 1 + \varepsilon_m \frac{(t_1 - t_0)}{1 + t_0} \right] \quad (2)$$

and therefore also calculate new tariff revenue  $t_1 P^* M_1$ . Applying this approach across sectors we can compute the implied changes in tariff revenue for the entire economy that results from unification of all tariff rates.

Computations for this initial exercise are in Table 16. In the first row we set the collected tariff rate equal to 10 percent for each 3-digit sector and compute the change in implied tariff revenue, summing these across all sectors. To elaborate on this procedure, we computed from the C-78 forms the weighted-average collected tariff rates, defined as tariff revenues collected divided by import values, for each 3-digit HS product category. It should be noted that when aggregated to the 3-digit level the collected tariff rates range from 0.00 percent to 32.16 percent. Our calculation sets all of these rates equal to 10 percent, implying an increase in collected rates for 143 product categories and a reduction in rates for 30 categories. Note from the formula that in cases where the tariff rate rises there will be a decline in import values (because the elasticity is negative) but tariff revenues could increase or decrease. We then apply this unified tariff rate to the initial import values by sector, using the formula above and assumptions on the value of import demand elasticity. To reiterate the approach:

- We set each collected tariff rate by 3-digit category equal to 10 percent;
- We compute the change in CIF import values for each 3-digit sector by applying the formula in equation (2) above to the initial sectoral import values aggregated from the C-78 forms, making assumptions about import demand elasticities.
- We compute the implied change in tariff revenues at the unified tariff rates, given the change in import values.

As may be seen, when the uniform tariff rate is set at 10 percent (just below the weighted average applied rate of 10.16 percent in Table 9 but well above the weighted average collected rate of 5.28 percent) and is actually collected, the rise in tariff revenues varies between J\$7.7 billion and J\$9.7 billion, depending on the assumed demand elasticity.<sup>44</sup> This would represent an increase of up to 95 percent of tariff revenue (J\$10.2 billion) currently collected by Jamaican customs.<sup>45</sup>

In the second row we keep the existing zero-percent tariffs untouched, for presumably they reflect a social policy preference for zero taxes on imported inputs. In this case a 10 percent uniform tariff is closer to what actually exists and the tariff revenue gains are smaller, ranging from J\$6.9 billion to J\$8.5 billion, or from 68 percent to 83 percent of current tariff revenues. In any case, it seems that, if the weighted average applied rate of 10.16 percent somehow reflected preferred policy, a unification of tariffs near that level could greatly increase collected revenues.

**Table 16: Implied Gains in Tariff Revenues from Tariff Unification (from 3-digit HS; J\$ m)**

Tariff Rate	Elasticity of Import Demand			
	0.0	-0.5	-1.0	-2.0
10%	+9690	+9189	+8689	+7687
10%, keep zeroes	+8467	+8028	+7588	+6709
5%	-565	-571	-577	-589
5%, keep zeroes	-1176	-1167	-1158	-1139

Source: Computed from Jamaica Tariff Files.

Alternatively, in the second pair of rows we unify the tariff at a low five percent, first for all sectors and next by keeping the zero-tariffs intact. Because this situation would impose a smaller average tax than the weighted-average collected tariff rate of

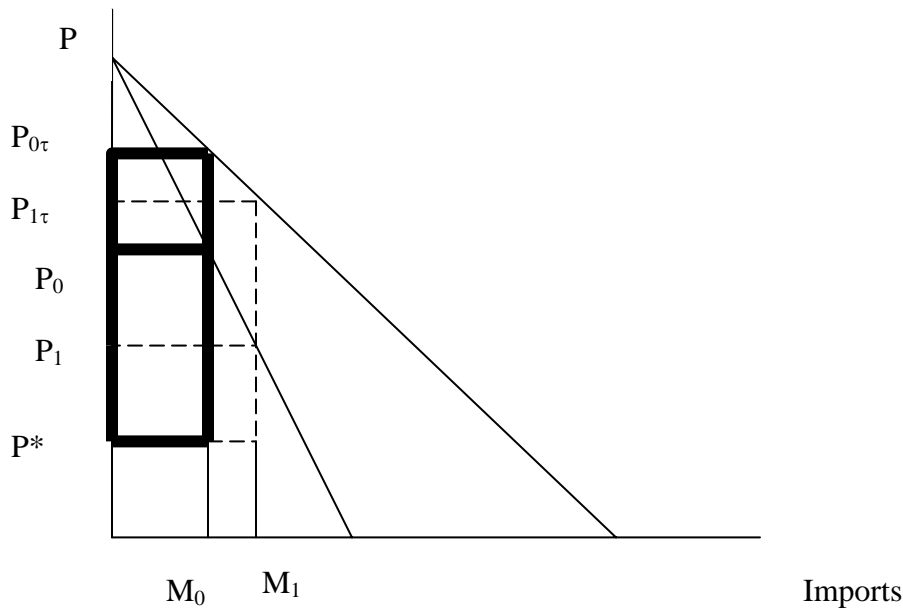
<sup>44</sup> This exercise assigns the same import-demand elasticity to all sectors, which is surely incorrect. If information were available about such elasticities for Jamaica they could be incorporated; it is likely that the implied revenue gains would increase.

<sup>45</sup> This figure refers only to custom duty and not to other taxes on imports, which we consider below.

5.28 percent, it would cost a relatively small amount of tariff revenue collected. However, if the zero-rate tariffs are maintained the tariff revenue loss could exceed J\$1.1 billion. The reader should keep in mind that these calculations assume there would be no evasion of the new tax rates, requiring full enforcement of the customs laws and procedures.

One obvious difficulty with the calculations in Table 16 is that they do not allow for changes in tax revenues that would be collected via the ASD, GCT, and SCT as imports increase with tariff cuts. Chart 4 depicts the simple theory where these collections are allowed to change, albeit at the same tax rates. The outer demand curve is inclusive of the tariff and the lower demand curve reflects the imposition of additional *ad valorem* taxes on top of the tariff. Thus, the price  $P_{0\tau}$  is the domestic price in the initial situation, accounting for both the tariff  $t_0$  (which raises the price to  $P_0$ ) and the taxes at combined rate  $\tau$  (which raise the price yet further and are computed on the cif plus tariff basis). The solid lines depict initial revenues generated; with the lower box referring to tariff revenue and the upper box to tax revenue. Upon reduction of the tariff to  $t_1$  the domestic price falls to  $P_{1\tau}$  and the combined revenues are given by the two dashed boxes. Again, in principle the revenues generated could rise or fall. In the calculations that follow we are interested in comparing the sizes of the upper boxes, which capture non-tariff tax revenues.

**Chart 4. Impacts of Tariff Cuts on Tariff Revenues: Fixed Domestic Taxes and Zero Cross-Elasticities in Import Demand**



Because all taxes are *ad valorem*, the formula for computing increases in cif import values is the same as above. However, the formula for tax collections is

$$\text{Tax revenue} = \tau P^*(1+t_i)M_i \text{ for } i = 0, 1. \quad (3)$$

To elaborate on this procedure:

- We set each tariff at the unified rate (or keep zero tariff rates) and hold other taxes constant;
- We compute the implied change in CIF import values using equation (2) above;
- Using equation (3) we calculate the implied change in both tariff and tax revenues that would be generated by the new import volumes.

These additional amounts of tax revenue generated are listed in Table 17.<sup>46</sup> It is immediately evident that a revenue bonus is available from simply unifying the tariff

<sup>46</sup> These almost surely must be increases because they are the same tax rates imposed on increased amounts of cif import values.

structure and collecting non-tariff tax revenues at the same rates, even including the extensive limitations and exclusions in those taxes. For the ten-percent uniform tariff the additional increase ranges from J\$0.73 billion to J\$2.2 billion, while keeping the zero-tariff lines intact generates further tax revenue increases between J\$0.83 billion and J\$2.1 billion. Indeed, even where the tariffs are cut to five percent in the bottom two rows of the table, the implied increase in imports is sufficient to generate large tax revenue increments as well, ranging up to J\$1.9 billion. Again, the reason that revenues are generated in this case, as opposed to the reduction in tariff revenues in Table 16, is that now we account for the additional non-tariff taxes collected on rising import volumes after tariffs are unified.

The figures in Tables 16 and 17 may be added to determine the net impact on tariff and tax revenues in these simple cases. In the most optimistic case of a zero elasticity and a ten percent tariff unification, revenues would rise by J\$11.9 billion. In the least optimistic case, with an elasticity of -2.0 and a five percent tariff unification (but keeping zero tariffs intact), revenues would increase by J\$ 783 million. Thus, these calculations suggest that this policy change alone could raise overall tariff and tax revenues generated on imports by between 2.8 percent and 42 percent.

**Table 17: Implied Gains in Tax Revenues from Tariff Unification at Fixed Tax Rates** (from 3-digit HS; J\$ m)

	Elasticity of Import Demand			
Tariff Rate	0.0	-0.5	-1.0	-2.0
10%	+2234	+1857	+1480	+726
10%, keep zeroes	+2148	+1818	+1488	+829
5%	+1117	+1306	+1496	+1875
5%, keep zeroes	+1074	+1286	+1498	+1922

Source: Computed from Jamaica Tariff Files.

An obvious final experiment to conduct here would be to unify the non-tariff tax rates at 15 percent, which is below the weighted average applied rate of 20.67 percent but above the weighted average collected rate of 10.89 percent (see Table 11). This is essentially equivalent to limiting all such taxes to the GCT and unifying it at 15 percent, again assuming no exceptions or remissions. In this case the change in tax rates would also affect domestic prices of imported goods and therefore would change import volumes along with the changes in tariff rates. A revised version of equation (2) is then

$$P * M_1 = P * M_0 \left[ 1 + \varepsilon_m \left\{ \frac{(1+t_1)(1+\tau_1)}{(1+t_0)(1+\tau_0)} - 1 \right\} \right] \quad (4)$$

That is, in this case:

- We set each tariff at the unified rate (or keep zero tariffs intact) and set all non-tariff tax rates to 15 percent;
- We compute the implied changes in CIF import values from equation (4);
- We compute the implied changes in overall revenues (tariffs plus taxes) from the new import volume and tax rates.

Table 18 presents the computations. As may be seen unifying both tariff rates and tax rates is capable of generating quite large increases in overall government revenues, ranging from J\$5.6 billion (with a five percent tariff rate and 15 percent tax rate) to J\$21.2 billion (with a ten percent tariff rate and 15 percent tax rate). To understand how this comes about, focus on what might be considered a feasible "intermediate" outcome, in which tariffs are set at five percent, though keeping existing zero rates, and non-tariff taxes on imports effectively become a GCT of 15 percent. In this case the calculations suggest that a revenue increase of J\$7.5 billion is feasible. This happens as a combination of a reduction in tariff revenue (because actual collection rates on tariff

would be lower) and a rise in GCT tax revenues. The latter increase comes about both because there would be a larger volume of imports to tax and because of a net increase in tax rates from the weighted-average collected rate of 10.89 percent. This is a reflection of how inefficiently the tax system as it currently exists generates revenues.

**Table 18: Implied Gains in Tariff plus Tax Revenues from Tariff Unification at Unified (15%) Tax Rates** (from 3-digit HS; J\$ m)

Tariff Rate	Elasticity of Import Demand			
	0.0	-0.5	-1.0	-2.0
10%	+21197	+18630	+16062	+10927
10%, keep zeroes	+19791	+17451	+15111	+10432
5%	+9404	+8452	+7500	+5596
5%, keep zeroes	+9404	+8520	+7637	+5869

Source: Computed from Jamaica Tariff Files.

The figures in Table 18 should be treated with some caution because there are likely to be uncalculated interaction effects between tariff policy and fiscal reforms as changes in prices affect other economic activity. Evidence from other developing countries suggests that these interactions are slight offsets, so that the actual revenue gains would be somewhat less than the sums indicated in the tables.<sup>47</sup>

There are other important complications to be raised, again arising from the price changes that would affect outputs and taxes paid in the general economy. First, output in domestic import-competing goods is likely to decline with tariff cuts or unification and, consequently, fewer taxes will be generated in those industries. The amount of this change depends on the substitution elasticities in demand between imports and domestic goods, along with domestic supply elasticities. In sectors with no domestic production there would be no revenue impacts. In general, the more elastic the substitution in demand between imports and home goods, the greater the revenue declines. In the

calculations to this point we have assumed that domestic goods and imports are perfect substitutes, a case that could generate significant output declines depending on supply conditions. However, to the extent that Jamaican and imported goods are differentiated, home output would retain some natural protection from imports, mitigating the output decline and subsequent tax collections. The latter description is likely more accurate than perfect substitutability.

Second, tariff reforms that permit greater imports are liable to depreciate the Jamaican dollar to some degree, other things equal. They also would reduce the cost of imported inputs and, by virtue of competition, of some domestically produced inputs. These factors together would induce lower costs in exportable goods and exported services (such as tourism), tending to expand output in those sectors and, to the extent they are taxed, associated revenues. To some extent these expansionary pressures would come at the expense of non-tradable services, however, inducing some unknown cost increases there.

Finally, while the last factor mentioned mitigates against this outcome somewhat, tax and tariff reforms could well move activity out of the informal sectors, where it is currently unmeasured and untaxed, into formal sectors.

We cannot assess these factors with the data at our disposal for two basic reasons. First, we do not have information on sectoral outputs, employment, and other relevant taxes, including payroll and capital taxes. These would be required, along with assumptions or information about relevant elasticities, to implement such calculations. Second, neither do we have an appropriate inter-industry structure (a Social Accounting

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<sup>47</sup> See Konan and Maskus (2000) for an extensive treatment of combined fiscal reforms and offsets in a CGE model for Egypt.

Matrix and input-output matrix) for undertaking the analysis sensibly. That is, the kinds of questions just posed require a CGE approach for a full explication. In the next version of the report we will integrate these factors with a CGE model to gain a fuller understanding of the revenue implications of fiscal reforms.

#### *Adding Tariff and Tax Evasion*

It is evident from earlier discussion that Jamaica's ability to collect tariff and tax revenues suffers from considerable opportunities to evade taxes. The calculations of "lost" revenues in Tables 9 and 10 get at this problem in some degree but they refer to legal exemptions and forgiveness of taxes owed. They do not capture evasion that arises from under-invoicing imports and misclassifying goods. Unfortunately, there is no direct information available on how much revenue may be lost due to these factors.

It is possible to get a conservative estimate (lower bound) for such costs by implementing a simple model of tax-evasion behavior by importers. To take the simplest case, suppose that importers choose to engage in greater invoicing as the total tax bite rises, according to the following relationship:

$$\frac{P^T}{P^R} = [(1+t)(1+\tau)]^\alpha \quad (5)$$

In this equation,  $P^T$  refers to the "true" price of a unit of imports and  $P^R$  refers to the price reported to Customs. The tariff rate is  $t$ , the aggregated additional tax rate is  $\tau$  and  $\alpha$  is a non-negative parameter indicating how rapidly the gap between the true and reported prices rises with the tariff rate. Note that for any product with a zero tariff rate there is no incentive to mis-value imports and true price would equal reported price. Regarding the exponent, if  $\alpha$  is less than one then the amount of under-invoicing would rise with the

total tax bite but at a decreasing rate. However, if  $\alpha$  exceeds one, the extent of mis-reporting would go up at an increasing rate with the tariff and tax aggregate.

If we assume that reported quantities of imports are accurate (i.e., there is no under-reporting of import volumes) then it is easy to calculate what the "true" value of imports would have been given the relationship in equation (5). We argue that this is an appropriate assumption because Customs authorities can police quantities far easier than prices. That is, the following relationship would hold:

$$M_0 p^T = M_0 p^R [(1+t)(1+\tau)]^\alpha \quad (6)$$

Thus, given initial import values by sector, collected tariff and tax rates, and the value of  $\alpha$  we can compute what import values would have been in the absence of under-invoicing, then go on to compute what tariff and tax revenues would have been without under-invoicing. In this calculation, therefore, we:

- Select a value for the exponent and use existing collected tariff and tax rates to compute the differences between declared import values and "true" import values.
- Compute the resulting tariff and tax revenues in the "true" valuation case and the implied loss in revenues from under-invoicing.

It should be noted that under this procedure the "true" value of imports will be higher than the reported value, depending on tax rates and the tax-evasion parameter (e.g., the exponent  $\alpha$ ). In fact, therefore, given this problem Jamaica's declared trade deficit actually understates what it would be if import cif prices were fully valued.

Before implementing this idea we point out that this assumption is conservative about the full extent of tariff and tax evasion. For one thing it focuses solely on the under-pricing of invoices and does not take into account any misclassification of goods

arising from large differences in tariff rates across products. Thus, we capture only the first type of evasion. Second, in the analysis below we calibrate the tax-evasion parameter  $\alpha$  to match Customs' estimate of current evasion from under-pricing. However, the calibrated value is such that estimated evasion increases at a decreasing rate with the rise in overall tax rates, which may be a questionable assumption. If, instead, evasion were to rise with taxes at an increasing rate our approach would underestimate the impacts in higher-taxed products.

**Table 19: Estimated Increases in Tariff and Tax Revenues with True Invoicing under Simple Model of Tax Evasion at Fixed Tariff and Tax Rates**  
(from 3-digit HS; J\$ m)

	Evasion Parameter ( $\alpha$ )				
	0.1	0.5	0.65	1.0	1.5
Gain tariff revenues	292	1554	2068	3363	5474
Gain tax revenues	2146	4420	5337	7624	11288
Gain total revenues	2438	5974	7405	10987	16762

Source: Computed from Jamaica Tariff Files.

To provide an idea of the magnitude of potential evasion through price under-invoicing, we present in Table 19 our calculations of what additional tariff and tax revenues would have been, at given collected (not applied) nominal rates, had true import prices been declared according to equations (5) and (6). If there were a small evasion parameter ( $\alpha = 0.1$ ), true pricing would have generated an additional J\$292 million in tariff revenues and J\$2.15 billion for the government. One can see that as the evasion parameter is increased the amount of under-reporting, and therefore taxes not paid, goes up rapidly. Perhaps the most appropriate guess about the value of  $\alpha$  is 0.65, which generates an estimated loss in tariff revenue from under-invoicing of J\$2.07 billion, very close to the Customs estimate of J\$ 2.0 billion listed earlier in this report. At that level of evasion lost tariff and tax revenues sum to J\$7.4 billion, or around 26 percent of total

trade taxes in FY 2002/03. This may be termed the amount of "pure price evasion" associated solely with under-reporting import prices.

We take 0.65 as our calibrated value of the tax-evasion parameter and use it in subsequent calculations. We are interested next in analyzing what would happen to tariff and tax revenues from tariff and tax reforms, given this unchanged level of evasion. That is, we wish to combine the calculations of the last sub-section with the simple evasion model in order to get an idea of what the relative contributions of evasion and fiscal reforms would be to tax collections.

Our procedure for combining these impacts requires explanation. The first step is to compute pure tariff and tax evasion at initial tariff and tax rates, as done in Table 19. The second step is to undertake a tariff reform, holding tax rates constant, but computing the new level of evasion as import values change. To implement this we assume that the elasticity calculations above (see equation (4)) apply to *reported* import prices, rather than *true* import prices. The latter are held fixed by the assumption that Jamaica is a small importer and its trading companies acquire the goods at a given world price, but then undervalue that price for tax-evasion purposes. From this set of assumptions it is possible to compute the new reported import values would be:

$$P_1^R M_1 = P_0^R M_0 \left[ \frac{(1+t_1)}{(1+t_0)} \right]^\alpha \left\{ 1 + \varepsilon \left[ \frac{(1+t_1)^\alpha}{(1+t_0)^\alpha} - 1 \right] \right\} \quad (7)$$

From this computation of new reported cif import values after the tariff reform it is possible to compute new tariff revenues and new tax revenues.<sup>48</sup> Next, we can apply our assumption on tax evasion to determine the new "true" import values as follows:

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<sup>48</sup> It may seem surprising that tax rates  $\tau$  do not appear in this expression but it is because we hold tax rates constant in this experiment and they cancel out in both ratios listed

$$P_1^T M_1 = M_1 P_1^R [(1 + t_1)(1 + \tau_0)]^\alpha \quad (8)$$

From equation (8) we can compute the new revenues lost to tariff and tax evasion through under-pricing.

We implement this approach in Tables 20a and 20b, where we consider various tariff and tax reforms. In making these calculations, we keep the tax-evasion parameter fixed at  $\alpha = 0.65$ , our calibrated value, and we permit the import-demand elasticity to vary from -0.5 to -2.0. In Table 20 Panel I is a base case, in which we compute initial reported tariff (row A1) and tax (row B1) revenues directly from the C-78 data, along with total reported revenues in row C1. Row D1 estimates tariff evasion and row E1 tax evasion in the initial case; these values are identical to those in Table 19. Finally, row G1 lists what total revenues would be if there were no price evasion. Thus, while initial actual revenues from tariffs and taxes on trade amounted to J\$33.155 billion, our assumptions on evasion suggested that an additional J\$7.405 billion was lost to this activity. Put differently, evasion amounts to perhaps 18 percent of potential revenues from tariffs and taxes on imports.

**Table 20: Estimated Changes in Tariff and Tax Revenues from Tariff Unification and True Invoicing** (from 3-digit HS; J\$ m)

	Elasticity of Import Demand ( $\alpha = 0.65$ )					
	-0.5	Change	-1.0	Change	-2.0	Change
Panel I. Base Case						
A1. Initial Reported Tariff Revenue	10820	NA	10820	NA	10820	NA
B1. Initial Reported Tax Revenue	22335	NA	22335	NA	22335	NA
C1. Initial Total Reported Revenue (A1+B1)	33155	NA	33155	NA	33155	NA
D1. Initial Tariff Evasion	2068	NA	2068	NA	2068	NA
E1. Initial Tax Evasion	5337	NA	5337	NA	5337	NA
F1. Initial Total Evasion (D1+E1)	7405	NA	7405	NA	7405	NA
G1. Initial Total Revenue if Evasion Elim. (C1+F1)	40560	NA	40560	NA	40560	NA
Panel II. Unify Tariffs 5%, No Tax Changes		Change II-I		Change II-I		Change II-I
A2. New Reported Tariff Revenue	10249	-571	10239	-581	10221	-599
B2. New Reported Tax Revenue	23299	+964	23406	+1071	23619	+1284
C2. New Total Reported Revenue (A2+B2)	33548	+393	33645	+490	33840	+685
D2. New Tariff Evasion	1055	-1013	1058	-1010	1064	-1004
E2. New Tax Evasion	3173	-2164	3190	-2147	3223	-2114
F2. New Total Evasion (D2+E2)	4228	-3177	4248	-3157	4287	-3118
G2. New Total Revenue if Evasion Elim. (C2+F2)	37776	-2784	37893	-2667	38127	-2433
H2. Max Gain in Revenue (G2-C1)		+4621		+4738		+4972
Panel III. Unify Tariffs 5%, Keep Zero Tariffs, No Tax Changes		Change III-I		Change III-I		Change III-I
A3. New Reported Tariff Revenue	8389	-2431	8411	-2409	8452	-2368
B3. New Reported Tax Revenue	23231	+896	23356	+1021	23604	+1269
C3. New Total Reported Revenue (A3+B3)	31620	-1535	31767	-1388	32056	-1099
D3. New Tariff Evasion	961	-1107	966	-1102	975	-1093
E3. New Tax Evasion	3133	-2204	3151	-2186	3187	-2150
F3. New Total Evasion (D3+E3)	4094	-3311	4117	-3288	4162	-3243
G3. New Total Revenue if Evasion Elim. (C3+F3)	35714	-4846	35884	-4676	36218	-4342
H3. Max Gain in Revenue (G3-C1)		+2559		+2729		+3063

**Table 20 (cont'd). Estimated Changes in Tariff and Tax Revenues from Tariff Unification and True Invoicing** (from 3-digit HS; J\$ m)

		Elasticity of Import Demand ( $\alpha = 0.65$ )				
Panel IV. Unify Tariffs 5%, Unify Taxes 15%			Change IV-I		Change IV-I	Change IV-I
A4. New Reported Tariff Revenue	10366	-454	10195	-625	9853	-967
B4. New Reported Tax Revenue	32653	+10318	32114	+9779	31036	+8701
C4. New Total Reported Revenue (A4+B4)	43019	+9864	42309	+9154	40889	+7734
D4. New Tariff Evasion	1352	-716	1329	-739	1285	-783
E4. New Tax Evasion	4258	-1079	4187	-1150	4047	-1290
F4. New Total Evasion (D4+E4)	5610	-1795	5516	-1889	5332	-2073
G4. New Total Revenue if Evasion Elim. (C4+F4)	48629	+8069	47825	+7265	46221	+5661
H4. Max Gain in Revenue (G4-C1)		+15474		+14670		+13066
Panel V. Unify Tariffs 5%, Keep Zero Tariffs, Unify Taxes 15%			Change V-I		Change V-I	Change V-I
A5. New Reported Tariff Revenue	8445	-2375	8387	-2433	8273	-2547
B5. New Reported Tax Revenue	32288	+9953	31879	+9544	31062	+8727
C5. New Total Reported Revenue (A5+B5)	40733	+7578	40267	+7112	39335	+6180
D5. New Tariff Evasion	1101	-967	1094	-974	1079	-989
E5. New Tax Evasion	4009	-1328	3964	-1373	3873	-1464
F5. New Total Evasion (D5+E5)	5110	-2295	5058	-2347	4952	-2453
G5. New Total Revenue if Evasion Elim. (C5+F5)	45843	+5283	45325	+4765	44287	+3727
H5. Max Gain in Revenue (G5-C1)		+12688		+12170		+11132

Notes: Rows G, titled "New Total Revenue if Evasion Eliminated" refer to cases in which tariff and tax evasion are eliminated in both the initial (Panel I) situation and each new situation. Rows H, titled "Max Gain in Revenue" refer to cases in which tariff and tax evasion are not eliminated in the initial situation but are eliminated in each new situation. Source: Calculated from Jamaica tariff files.

In Panel II we consider a unification of all tariff rates at five percent, keeping all other tax rates the same as in the benchmark case. Because this situation represents a small reduction in the average tariff rate from the weighted-average tariff rate (see Table 9), there would be a decline in reported tariff revenues of J\$581 million, using an elasticity of -1.0. However, tax revenues would go up in this case by J\$1.071 billion, for a total increase in taxes actually collected of J\$490 million.<sup>49</sup> The reason that tax revenues rise is that there is a higher import volume in sectors with high initial tariffs, which also tend to have high additional taxes.

The calculations in the last paragraph are made under the assumption that the government makes no effort to reduce tariff and tax evasion, either in the initial case or in the new equilibrium. However, the role of evasion is interesting. Note, for example, that tariff evasion falls from J\$2.068 billion in Panel I to J\$1.058 billion in Panel II, even if no efforts to reduce it were taken. The reason is that, by our assumption in equation (5), for those sectors where tariffs are cut from current levels there is a reduction in under-pricing and therefore a decline in evasion. Similarly, the changes in reported import prices would reduce tax evasion by J\$2.147 billion.

There are, therefore, two ways in which evasion is addressed in the trade sector. The first is *endogenous*, meaning simply that as high tariffs are cut the amount of evasion goes down automatically. The second is *policy-related*, meaning that the government may undertake additional audits and inspections to reduce or eliminate evasion. In this regard, suppose that completely successful efforts were made to collect revenues from

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<sup>49</sup> The reason this sum differs from the corresponding figure of +J\$919 million in Tables 15 and 16 (+1496 - 577) is that the former figures held the import price constant under the assumption of no evasion. In the new case the import price changes because the extent of price evasion depends on the tariff and tax rates. It

under-pricing in both the base case and the new situation. Here, total revenues earned by the government would be J\$40.6 billion in the base case, without tariff reform. After the tariff reform, total revenues would be J\$37.8 billion if evasion were eliminated. The fact that revenues would be higher prior to reforms clearly points out the importance of adequate customs and auditing procedures to collect evaded revenues.

To avoid any confusion on this point, let us summarize. There are three ways that revenue officials might wish to compare Panels I and II in Table 20.

- The gain in total revenues from tariff reform, making no additional efforts to reduce tax evasion, would be +J\$490 million in the most central case.
- If efforts were made to eliminate evasion, revenues in the initial case (pre-tariff reform) would rise by +J\$7.4 billion. In fact, this potential revenue gain would dominate any increases from tariff reform. If there were also no evasion in the new equilibrium, total revenues would decline.
- If no efforts were made to eliminate evasion in the initial case, but tariff reform were combined with audits to eliminate evasion in the new equilibrium, total revenues would rise by +J\$4.738 billion (see Row H2).

The last bullet point would constitute the "maximum" revenue gain available by combining tariff reforms with efforts to collect trade-tax revenues after the reform. Note in Panel II that this impact would consist of a small gain in revenues at constant evasion rates (+J\$490 million), plus a large gain in revenues from enforcing audits (+J\$4.248 billion). In this case, therefore, 90 percent of potential revenue gains would come from implementing enforcement procedures.

In Panel III we consider unifying tariffs at five percent but leaving any zero tariffs alone. Because these are lower tariffs than in Panel II, the reduction in actual tariff revenue is larger, at -J\$2.409 billion. The increase in tax revenue is smaller at +J\$1.021

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may be seen that incorporating such evasion tends to reduce the simulated additional tax take by about 47

billion. Thus, this reform would actually reduce actual tariff and tax revenues earned by the government by perhaps J\$1.388 billion.<sup>50</sup> If enforcement were imposed in the new equilibrium, however, revenues would rise overall by J\$2.729 billion. In this case, the government simply would be advised to collect its revenues appropriately rather than undertake the considered tariff reform, if increasing revenues were the policy target.

A third scenario in Panel IV is for the government to engage in a combined tariff and tax reform, similarly to that in Table 18. Thus, we compute the impacts of unifying tariffs at five percent, while also unifying non-tariff trade taxes at a GCT-equivalent level of 15 percent in all sectors. In this case because both tariff rates and tax rates change the formula for computing the new level of reported import values is more complicated:

$$P_1^R M_1 = P_0^R M_0 \left[ \frac{(1+t_1)(1+\tau_1)}{(1+t_0)(1+\tau_0)} \right]^\alpha \left\{ 1 + \varepsilon \left( \left[ \frac{(1+t_1)(1+\tau_1)}{(1+t_0)(1+\tau_0)} \right]^\alpha - 1 \right) \right\} \quad (9)$$

Then the "true" value of imports after the policy changes is calculated as

$$P_1^T M_1 = M_1 P_1^R [(1+t_1)(1+\tau_1)]^\alpha \quad (10)$$

Implementing these formulas generates the estimated changes in revenues listed in Panel IV of Table 20. It is immediately evident that, while reported tariff revenues would decline somewhat, there would be a large increase in reported tax revenues, with a net increase in the actual revenue take of +J\$9.154 billion using the central demand elasticity. The reason tax revenues increase so dramatically (as they did in Table 18) is that tax unification greatly reduces domestic prices of imports in highly taxed goods, generating larger import volumes and tax payments.

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percent.

<sup>50</sup> Again, the earlier results in Tables 15 and 16 suggested there would be a small net increase in revenues but those calculations did not account for reported import price changes.

Again, however, the amount of endogenous evasion would decline in the new equilibrium. The maximal increase in revenue, combining fiscal reforms with enforcement efforts at the new situation, would be +J\$14.670 billion, or an increase on current trade-tax revenues of around 44 percent. This would be made up of a gain in reported revenues of J\$9.154 billion (62 percent of the increase) and a rise in revenues from reducing evasion of J\$5.516 billion (38 percent).

Panel V depicts the results of tariff unification, keeping zero tariffs intact, along with the same tax unification scenario. As may be seen the impacts are similar to those in Panel IV, though somewhat smaller because of the lower average tariffs in this case.

The scenarios in Table 20 may be somewhat misleading because they treat CARICOM members the same as other countries. That is, when tariffs are unified, for example, those unified tariffs are applied to imports from both CARICOM and non-CARICOM nations. Because it is not feasible to alter the tariffs facing CARICOM members except by negotiation, we report in Table 21 similar computations where, in every case, tariffs on CARICOM members are kept at their initial levels. Note that most of these CARICOM rates (defined here as tariff revenues collected divided by import values from CARICOM members) are zero or very low. The first panel of Table 21 presents the same base case as in Table 20, except that CARICOM and ROW (non-CARICOM) are separated in terms of revenues and evasion. Note that very little tariff revenues (J\$24 million) were collected from CARICOM and because of these low tariffs the estimated tariff evasion was also small at J\$3 million. However, non-tariff taxes apply to CARICOM trade and such taxes generated J\$4.5 billion in revenues, while tax evasion was estimated to be J\$590 million. For Jamaica to generate more tax revenues

on CARICOM trade the only option is better tax enforcement. Obviously, much larger tariff and tax revenues were generated on ROW imports and estimated evasion amounts were correspondingly larger.

The scenarios in Panels II through V repeat the analysis in Table 20, except that tariffs on CARICOM are kept constant throughout. Thus, in Panels II and III, since there are no tariff or tax changes imposed on CARICOM members, the estimated flows do not change from the base case. In Panel II ROW tariffs are unified at five percent, which has the effect of reducing tariff revenues by J\$1.832 billion but there would be an offsetting increase in tax revenues of +J\$850 million. The maximum revenue gain available in this scenario, coming from tariff unification and enforcement at the new equilibrium, would be +J\$2.292 billion. The scenario in Panel III is similar but keeps existing zero tariffs on ROW unchanged. There would be a considerably larger reduction in collected tariff revenues in this case, while even fully enforcement against price evasion in the new equilibrium would not generate much net increase in revenue.

**Table 21: Estimated Changes in Tariff and Tax Revenues from Tariff Unification and True Invoicing, Keeping CARICOM Tariffs Unchanged**  
(from 3-digit HS; J\$ m)

	Parameter Values: Elasticity = -1.0; $\alpha = 0.65$			
	CARI.	Change	ROW	Change
Panel I. Base Case				
A1. Initial Reported Tariff Revenue	24	NA	10796	NA
B1. Initial Reported Tax Revenue	4498	NA	17837	NA
C1. Initial Total Reported Revenue (A1+B1)	4522	NA	28633	NA
D1. Initial Tariff Evasion	3	NA	2102	NA
E1. Initial Tax Evasion	590	NA	4753	NA
F1. Initial Total Evasion (D1+E1)	593	NA	6855	NA
G1. Initial Total Revenue if Evasion Elim. (C1+F1)	5115	NA	35488	NA
Panel II. Unify ROW Tariffs 5% excluding CARICOM				
A2. New Reported Tariff Revenue	24	0	8964	-1832
B2. New Reported Tax Revenue	4498	0	18687	+850
C2. New Total Reported Revenue (A2+B2)	4522	0	27651	-982
D2. New Tariff Evasion	3	0	872	-1230

E2. New Tax Evasion	590	0	2402	-2351
F2. New Total Evasion (D2+E2)	593	0	3274	-3581
G2. New Total Revenue if Evasion Elim. (C2+F2)	5115	0	30925	-4563
H2. Max Gain in Revenue (G2-C1)		+593		+2292
Panel III. Unify ROW Tariffs 5%, Keep Zero Tariffs, excluding CARICOM				
A3. New Reported Tariff Revenue	24	0	7151	-3645
B3. New Reported Tax Revenue	4498	0	18638	+801
C3. New Total Reported Revenue (A3+B3)	4522	0	25519	-3114
D3. New Tariff Evasion	3	0	780	-1322
E3. New Tax Evasion	590	0	2364	-2389
F3. New Total Evasion (D3+E3)	593	0	3144	-3711
G3. New Total Revenue if Evasion Elim. (C3+F3)	5115	0	28663	-6825
H3. Max Gain in Revenue (G3-C1)		+593		+30
<i>Parameter Values: Elasticity = -1.0; <math>\alpha = 0.65</math></i>				
Panel IV. Unify ROW Tariffs 5% excluding CARICOM, Unify Taxes 15%				
A4. New Reported Tariff Revenue	23	-1	8921	-1875
B4. New Reported Tax Revenue	3824	-674	28101	+10264
C4. New Total Reported Revenue (A2+B2)	3847	-675	37022	+8389
D4. New Tariff Evasion	3	0	1163	-939
E4. New Tax Evasion	366	-224	3664	-1089
F4. New Total Evasion (D2+E2)	369	-224	4827	-2028
G4. New Total Revenue if Evasion Elim. (C4+F4)	4216	-899	41849	+6361
H4. Max Gain in Revenue (G4-C1)		-306		+13216
Panel V. Unify ROW Tariffs 5%, Keep Zero Tariffs, excl. CARICOM, Unify Taxes 15%				
A5. New Reported Tariff Revenue	23	-1	7130	-3666
B5. New Reported Tax Revenue	3824	-674	27868	+10031
C5. New Total Reported Revenue (A5+B5)	3847	-675	34998	+6365
D5. New Tariff Evasion	3	0	930	-1172
E5. New Tax Evasion	366	-224	3443	-1310
F5. New Total Evasion (D5+E5)	369	-224	4373	-2482
G5. New Total Revenue if Evasion Elim. (C5+F5)	4216	-899	39371	+3883
H5. Max Gain in Revenue (G5-C1)		-306		+10738

In Panel IV we consider unifying non-tariff taxes at 15 percent, applied to both CARICOM and ROW. Because CARICOM is treated differently now, there would be changes in tariff and tax collections. Thus, in Panel IV we find that tariff revenue on CARICOM goods would decline imperceptibly (by -J\$1 million), but tax revenue would

fall by around -J\$674 million. This result suggests that taxes are relatively high on CARICOM imports with low or zero tariffs. As for imports from ROW, the policy would reduce tariff revenues by -J\$1.875 billion but generate a substantial increase in tax revenues, by +J\$10.264 billion. If evasion were eliminated at the new equilibrium the gain in tax revenues would be as much as +J\$13.216 billion. Again we find that tax unification is a far greater source of potential revenue increases than are tariff reforms. Similar results, though somewhat smaller, pertain to Panel V in which ROW zero tariffs are kept intact.

### *CARICOM*

The report turns next to estimating revenue implications of further liberalization with CARICOM. Initial perspective on regional import shares is provided in Table 22. There it can be seen that Jamaica overall imports about 12 percent of its merchandise from CARICOM, almost 60 percent from the potential FTAA countries (the vast majority of this is from the United States), 13 percent from the EU-15 countries, and 15 percent from the rest of the world (ROW). There is considerable variation in these import shares across broad sectors.<sup>51</sup> For example, CARICOM provides 42 percent of imports in sector 5, while the FTAA countries provide over 90 percent in sectors 9 and 21. Such trade shares are significant parameters in considering revenue implications of preferential tariff cuts.

In this section we set the residual small collected tariff rates on Jamaican imports (at the 3-digit HS level) to zero and then re-compute impacts on trade from the rest of the world (including FTAA, EU-15 and ROW above). In order to focus on these revenue

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<sup>51</sup> The 2-digit classification in this table is a grouping of industries provided by Jamaican Customs.

impacts directly, we do not compute implied changes in tariff and tax evasion. That is, we assume that evasion essentially remains constant before and after the change in policy and we consider only actual revenue changes.

**Table 22: Jamaican Regional Import Shares, 2003**

Section	CARICOM (in percent)	FTAA (in percent)	EU-15 (in percent)	ROW (in percent)	
All	Product Group	12.44	59.50	12.98	15.07
1	Animals	12.71	51.60	8.93	26.76
2	Vegetables	10.68	75.39	8.11	5.82
3	Fats (animal and veg.)	18.15	76.81	1.06	3.98
4	Prepared foodstuffs	23.24	59.22	10.33	7.22
5	Minerals and fuels	41.57	56.37	0.25	1.80
6	Chemical & allied products	6.48	72.90	12.72	7.90
7	Plastic and rubber products	3.14	54.24	26.62	15.99
8	Hides, leather products, etc.	0.29	53.88	1.42	44.41
9	Wood and wood articles	4.75	90.26	1.14	3.85
10	Fibrous cellulosic materials	17.97	64.78	12.97	4.28
11	Textiles	1.43	56.14	2.75	39.68
12	Footwear, headwear, etc.	0.08	62.55	2.84	34.52
13	Articles of stone, cement, etc.	2.20	65.45	16.82	15.52
14	Precious or semi-precious stones	0.10	83.08	7.76	9.05
15	Base metals and articles	4.83	66.18	8.58	20.42
16	Machinery, mechanical appliances	0.79	67.96	18.93	12.33
17	Transport equipment	0.06	35.43	27.37	37.15
18	Precision instruments	0.15	66.68	8.23	24.94
19	Arms and ammunition	0.00	81.85	15.18	2.98
20	Misc. manufactured goods	3.24	73.40	5.77	17.59
21	Art	0.64	96.19	0.00	3.17

Source: Computed from Jamaican Customs data. FTAA refers to countries other than those in CARICOM that would join the FTAA.

In fact, Jamaican collected rates on many 3-digit sectors from CARICOM are zero now and most of the others reflect small additional charges, as noted in the last subsection. In consequence, the weighted average collection rate on imports from CARICOM was 0.09 percent in 2003. It follows, as seen in the row labeled "Tariff Revenue" in Table 23, that the direct impact of setting all charges on CARICOM imports

to zero on revenues is small. Tariff revenues on CARICOM goods decline by J\$24 million in the simulation, which equals the initial level of tariff revenues.<sup>52</sup> To compute the implied changes in taxes we use equations (2) and (3) above. That is, having computed the increases in imports from eliminating tariffs on CARICOM we apply existing tax rates to these new imports then compute the change in tax revenues. The impact on non-tariff tax revenues is quite small, ranging from a loss of J\$3 million when import demand is inelastic (0.0) to a gain of J\$3 million when demand is elastic (-2.0). That is, the elimination of the small remaining tariffs on CARICOM goods has virtually no impact on Jamaica's potential tax collections. In direct terms, therefore, there is little to fear in revenue terms from this final free-trade treatment within CARICOM.

**Table 23: Tariff Revenue Losses and Tax Revenue Changes from CARICOM (J\$ m)**

	Elasticity of Import Demand		
	0.0	-1.0	-2.0
CARICOM:			
Tariff Revenue	-24	-24	-24
Tax Revenue (same rates)	-3	-0.2	+3
ROW Tariff Revenue (same rates):			
Cross = 1.0	-0	-0.1	-0.2
Cross = 2.0	-9	-18	-28
Cross = 5.0	-87	-174	-220
ROW Tax Revenue (same rates):			
Cross = 1.0	-0	-0.2	-0.3
Cross = 2.0	-11	-22	-41
Cross = 5.0	-75	-140	-272

Source: Computed from Jamaica Tariff Files.

However, the potential impact on tariff and tax revenues from the rest of the world (ROW) is more problematic. If there is a positive elasticity of substitution between CARICOM imports and ROW imports, the decline in prices on CARICOM imports would shift the demand for ROW goods downward. Because the prices from ROW are

<sup>52</sup> The reason the reduction in tariff revenue is the same for all import demand elasticities is that tariff

fixed, by assumption, as are the tariff and tax rates, the only impact would be a reduction in both tariff and tax revenues. The formulas we adopt for computing these changes are as follows. First, the proportionate change in ROW import volumes is:

$$\frac{M_R^1}{M_R^0} = \left\{ 1 + \varepsilon \left( \frac{t_C^1 - t_C^0}{1 + t_C^0} \right) \right\} \left\{ 1 + \varepsilon_{RC} \left( \frac{t_C^1 - t_C^0}{1 + t_C^0} \right) \right\} \quad (11)$$

In this equation  $\varepsilon$  is the overall import-demand elasticity and  $\varepsilon_{RC}$  is the cross-elasticity of substitution between CARICOM goods and ROW goods. From this percentage change in volume and, assuming import prices are fixed because Jamaica is small, it is possible to determine the new value of ROW imports and associated tariff and tax revenues from the tariff and tax rates on ROW.

As noted in Table 23, these negative revenue effects are small, though they increase in magnitude as the elasticity of substitution becomes higher. Even with a large elasticity of 5.0 (which would mean that CARICOM goods and ROW goods, product by product, are considered good substitutes for each other), ROW tariff revenues would fall by an amount between -J\$87 million and -J\$220 million, while ROW tax revenues would fall by an amount between -J\$75 million and -J\$272 million. There are two reasons for these small impacts. First, CARICOM tariffs are not cut much in this scenario because they already are quite low, so there is not much price impact to affect ROW import demand. Second, because in most goods the volume of CARICOM imports is small, increases in those imports would not displace much volume from ROW.

The authors of this report recognize that the experiment just undertaken is different from the main concerns the Jamaican government has in regards to CARICOM,

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revenue goes to zero in each case and the loss is identical.

which is the potential effects on revenue of the CSME. While the trade-related revenue impacts are captured here with some confidence, it is not possible with available data to go beyond this to a consideration of impacts of CSME on foreign direct investment, tax revenues from tax harmonization, and the like.

#### *Free Trade Agreement of the Americas*

It is possible to undertake a similar analysis of the revenue effects of Jamaica's joining FTAA. It should be noted that the revenue impacts are likely to be much larger in this case, both because the import shares with FTAA are larger and because the initial tariff rates are higher.

To simulate the entry into FTAA, we simply set the collected tariff rates on imports from the FTAA countries to zero and compute the implied effects on tariff and tax revenues. For this purpose, FTAA is defined as CARICOM plus North America plus the remainder of the Western Hemisphere except Cuba. The results of the calculations are in Table 23. As may be seen from the top part of the table, the anticipated reductions in direct tariff and tax revenues earned on FTAA trade are considerably larger than for CARICOM, summing to as much as -J\$6.2 billion when import demand is inelastic. Thus, the elimination of tariffs on imports from FTAA countries, because those imports are so large in Jamaica's trade pattern would reduce tariff collections by significant amounts, perhaps by 60 percent of FY 2002/2003 tariff revenue.<sup>53</sup>

However, looking further at the tariff and tax revenue that would be foregone due to the displacement of non-FTAA imports in Jamaica, those revenue losses would be small, summing to just -J\$142 million in the case of a cross-elasticity of 5.0.

Again, it must be reiterated that these are the sums of partial equilibrium calculations, sector by sector, without permitting general-equilibrium interactions in outputs, employment, prices, and tax obligations. It is impossible in general to predict upfront whether a CGE model would yield higher or smaller figures for revenue impacts of trade liberalization, though the imposition of factor-supply constraints would tend toward finding smaller impacts. Thus, it is likely that the changes in revenue computed in this approach are at the high end of possible reactions. They should be taken as instructive about the potential magnitudes of revenue changes after joining the FTAA.

Another relevant issue is that tariff cuts in FTAA presumably would be phased in over some period of time, permitting a period within which to organize alternative sources of government revenue.

**Table 24: Tariff Revenue Losses and Tax Revenue Changes from FTAA (J\$ m)**

	Elasticity of Import Demand		
	0.0	-1.0	-2.0
FTAA:			
Tariff Revenue	-5448	-5448	-5448
Tax Revenue (same rates)	-780	-73	+635
Non-FTAA Tariff Revenue (same rates):			
Cross = 1.0	-0	-0.1	-0.1
Cross = 2.0	-4	-6	-9
Cross = 5.0	-38	-58	-82
Non-FTAA Tax Revenue (same rates):			
Cross = 1.0	-0	-0.2	-0.3
Cross = 2.0	-7	-14	-20
Cross = 5.0	-49	-84	-140

Source: Computed from Jamaica Tariff Files.

<sup>53</sup> These computations hold non-tariff tax rates constant at initial levels. If those rates were also reformed, say with a unification at 15 percent, there would be a large increase in tax revenues as detailed earlier.

*Policy Implications*

We end this section by summarizing the main results and making some observations about the implications these results may have for tariff and tax policy. The computational results may be summarized as follows.

*Holding Evasion Rates Constant*

We first performed calculations of revenue impacts from policy changes under the assumption that existing rates of evading taxes and tariffs, which must be reflected in the data, would not change and that the government would not attempt to enforce greater compliance. With this assumption we reached some conclusions.

- Unifying tariff rates across sectors at 10 percent could raise tariff revenues by up to J\$10 billion, or 95 percent of current levels. However, those calculations did not account for the increases in evasion that would emerge at higher average tariff rates and the ultimate increase in revenues would be smaller. In fact, this exercise is not feasible because it would raise many tariff rates, including those on CARICOM goods.
- A separate exercise in which current zero-rate tariffs are left at zero and remaining charges set at 10 percent would raise revenues by around J\$8 billion, though these calculations are subject to the same caveats. Note that these tariffs would be slightly lower than the weighted average applied rate currently in existence, though larger than the weighted average collections rate. The latter is low, at 5.8 percent, largely due to the existence of large exemptions, limitations, and remission programs within the tariff structure, along with significant evasion. Thus, the main part of the potential revenue gains come from reducing or eliminating these special programs and favoritism.
- Unifying tariffs at a lower rate, five percent, would by itself generate a small revenue loss.
- Because tariff unification (even keeping zero rates intact) would generate additional imports and a more efficient trade structure, additional revenues would be generated from the "non-tariff" taxes, such as the GCT and SCT. Kept at current rates, this follow-on increase in tax revenues could be as much as J\$1.9 billion in the case of five-percent tariff unification.

- Substantial gains in revenues would come from unifying these taxes at the standard GCT rate of 15 percent, with exemptions eliminated. This policy could generate additional revenues of J\$6 billion to J\$9 billion per year in combination with tariff unification. Again, these increases stem from the efficiency gains from reducing discretion in tax treatment across payers.

### *Accounting for Evasion*

As noted often in this report, evasion of tariffs and taxes seems endemic in Jamaica. We have virtually no quantitative information with which to assess how much the evasion actually is, other than a single (and casual) estimate from Customs that the underpricing of import invoices costs the government perhaps J\$2 billion per year in lost revenues. Calibrating this figure to existing data and a simple model of tariff and tax evasion permitted us to develop conservative (lower-bound) estimates of the revenue losses from limited compliance. This approach supported these conclusions.

- Simply trying to enforce compliance, through more audits, better inspections, and the like, could raise total revenues from tariffs and trade taxes by reducing evasion by perhaps J\$7.4 billion per year, using our calibrated parameter. Of this amount, 28 percent is due to tariff evasion and 72 percent to tax evasion.
- Unifying tariffs at five percent, holding tax rates constant, would reduce reported tariff revenues but raise reported tax revenues, with a net gain in government collections of perhaps J\$490 million. If this reform were accompanied by stronger enforcement, the gain could be as much as J\$4.7 billion. The importance of active enforcement to raise compliance is easily demonstrated in this result.
- Unifying tariffs at five percent, but leaving existing zero tariffs intact, would reduce these revenue gains considerably. In this case overall reported revenues would decline unless compliance were assured through enforcement.
- As before, much larger increases in revenues would come from unifying tariffs at five percent and, primarily, from unifying non-tariff taxes at 15 percent. At given evasion rates, this policy change could raise trade-tax revenues by perhaps J\$9.2 billion, or 33 percent of FY 2002/2003 revenues. Again, these revenue gains would be somewhat smaller if zero tariffs were retained.

- When CARICOM tariffs are kept constant (and essentially zero), as must be the case in the absence of negotiated tariff reforms, the available revenue gains would be considerably smaller. Unifying tariffs at five percent, holding tax rates constant, would reduce government collections by perhaps -J\$982 million. Only if this policy were accompanied by a vigorous program to raise compliance would revenues actually increase, by approximately +J\$2.3 billion.
- When tariff unification for ROW, holding CARICOM tariffs constant, is combined with tax unification at 15 percent, the available reported revenue gains would be substantial, at perhaps +J\$6.4 billion to +J\$ 8.4 billion, holding evasion rates fixed. If compliance were assured in the new equilibrium, revenues would rise between +J\$10.7 billion and +J\$13.2 billion.

### *Regional Trade Issues*

- Jamaica's regional pattern of imports is concentrated on goods from the FTAA countries, including CARICOM partners and especially the United States. Nonetheless, there are significant sectoral variations in where imports are sourced. These facts are important in assessing the potential revenue implications of additional regional trade liberalization.
- Because Jamaica currently collects very little tariff revenue on imports from CARICOM, an outcome of the existing trade preferences, fully setting all such charges to zero would have virtually no impact on collections. Such revenues might decline by around J\$20-25 million, while follow-on tax revenues could fall or rise slightly, depending on the elasticity of import demand.
- The implied reductions in price on CARICOM goods would induce some substitution away from imports from other sources. However, the revenue impacts would be small, amounting to a loss of perhaps one percent of trade-tax collections compared to current levels.
- The largest potential problem as regards tax revenues would stem from the FTAA. In our central calculations, Jamaica's government could stand to lose perhaps -J\$5.7 billion per year due to the elimination of tariffs on FTAA (especially US) goods, follow-on tax revenue reductions, and displacement of imports from non-FTAA countries.
- Conclusions of this kind should be considered informative of ranges but not taken as sharp estimates of actual revenue impacts.
- Extending this analysis to a well articulated CGE model of the Jamaican economy would offer additional important perspective on the revenue and inter-sectoral implications of trade liberalization.

The main conclusion from this analysis is that as Jamaica continues to cut its taxes on trade, whether due to WTO, CARICOM (CSME), or FTAA, it needs to pay attention to the need for complementary fiscal reforms. We noted above that adopting both a unified tariff rate and a unified trade-tax (eg, GCT) rate would generate large increases in revenue. Indeed, under such a scenario the unified GCT rate could be even lower than 15 percent. However, joining the FTAA would cause sharp declines in revenues generated on imports, and Jamaica would need to consider how to recover those resources. It is evident that making the general tax system more efficient would be a lower-cost means of achieving this goal than either to raise existing rates or to inject yet greater variability across payers into the taxation system.

#### *Partial Tariff and Tax Reform*

[This section may also have been circulated as Supplement to Jamaica Trade Tax Reform.]

#### *Tariff Reform*

A question surfaced about the earlier version of this report as to the extent to which tariff changes were permissible under the restrictions of the CET set out by CARICOM.

To answer this question fully required us to take a detailed look at the CET at the 10-digit tariff line level, a painstaking task. Within the CET there are two forms of flexibility in setting direct tariff rates (as opposed to non-tariff trade taxes and the CUF and SCF). The first is called "List A", which permits each country to reduce its tariff rate to zero. That is, such tariff lines are not constrained from below. There are 106 such lines (of a total number of tariff lines in the CET of 6,869). They may be characterized as

falling in the areas of meat, fish, and poultry products, dairy products, vegetables, grains, oilseeds, sugar products, fuels, a few industrial materials, and (for some reason) stone and porcelain fixtures. List A items, therefore, largely permit countries to offer no tariffs on a few basic goods, especially food products, to non-CARICOM members. Jamaica does not take advantage of many of these zero-tariff lines. The major exception is the infamous chicken-back tariff line, which has a zero tariff.

The second is called "List C", which sets a minimum tariff for non-member countries that is almost always higher than zero. Countries are free to choose a tariff above this level. There are 355 tariff-line items on this list. List C minimum tariffs may be found in alcoholic beverages, tobacco products, fuels, petroleum products, rubber products, glass products, gems, jewelry, metal products, some machinery items, watches, instruments, firearms, and, most prominently, buses and motor vehicles. Jamaica generally adopts tariffs well above these minimum rates in buses and motor vehicles, but otherwise tends to adopt minimum rates.

If an item is neither on list A or list C, we presume that Jamaica's tariff rate is the same as the CET rate and ineligible to be moved, at least in terms of its published (legislated) rate.

For purposes of developing a set of tariff rates that could reasonably capture these elements of flexibility, we concorded the tariff-line data to the 4-digit aggregated HS codes. This permitted us to calculate an approximate range for the weighted-average tariff in each 4-digit sector without violating the CET schedule. Details are provided in an accompanying Excel file titled "Tar\_tax\_flexibility" in the sheet called "Tar+Tax". A printout is included as Annex Table 1. In that table will be found the 4-digit code, some

titles indicating points at which the nature of covered products changes, the number of 10-digit tariff lines, the simple average Jamaican tariff rate in each code, the weighted-average Jamaican (applied) tariff rate, the weighted-average Jamaican collected tariff rate (tariffs paid divided by import values), the ASD, GCT, SCT, Excise tax, CUF + SCF, and details on Lists A and C. At the bottom of the table are several categories listed in bold. They are in the tariff files but did not appear on any C-78 forms; evidently Jamaica does not import in these categories.

The initial task is to develop a set of tariff rates at this 4-digit level that may be feasibly applied by Jamaica. In this regard, a number of critical points need to be made.

- Whenever the weighted-average collected tariff rate lies below the weighted-average applied tariff rate, Jamaica is fully free to raise the collected rate up to the applied rate. The applied rate itself is what is restricted by the CET, not the collected rate. Keep in mind that these differences in collected and applied rates reflect legal exemptions and remissions, including Minister's remissions. They do not account for illegal tax evasion.
- The great majority of Jamaica's applied tariff rates are zero, especially those for industrial materials and inputs. We choose to keep these tariffs fixed at zero in selecting a feasible tariff schedule.
- Where List A or C permits flexibility, we respect any minimum rates in List C; otherwise we attempt to unify these rates as much as possible.
- No changes in any collected CARICOM rates are to be permitted.

With these points in mind, our algorithm for selecting tariff rates at the 4-digit level in order to compute the impacts of what we now call a "Partial unification" of tariffs, is as follows.

- If the weighted-average applied tariff exceeds 10 percent and the collected rate is below 10 percent we set the new collected rate at 10%. This would

not violate any CARICOM obligations; it would simply close the gap between applied and collected rates (that is, reduce exemptions).

- If the weighted-average rate is zero we keep the collected rate at zero.
- If the weighted-average rate is between zero and 10% we set the collected rate equal to the weighted-average rate (that is, eliminate exemptions in these cases).
- If both the weighted-average and collected rates are above 10% and there are no List A or C restrictions, we set the tariff rate equal to the collected rate (that is, keep exemptions).
- If both the weighted-average and collected rates are above 10% and there are List A or C minimum rates, we set the tariff to 10% if that is above the minimum, otherwise we select the A or C minimum.
- We keep the collected CARICOM rates at their current levels throughout, so all of the above changes refer strictly to tariffs on ROW imports.

This new tariff schedule may be found in the excel file in the sheet called "Policy Rates".

In using it for revenue analysis we try to recognize that not all revenues would be collected. Thus, we generally follow this setup:

- First, calculate the impacts of tariff reform on revenues, assuming all tariff rates are fully collected.
- Second, calculate the impacts of tariff reform on revenues, assuming only 52 percent of revenues are collected by line. The figure 52 percent comes from the fact that currently exemptions and remissions reduce the tariff-revenue take in Jamaica by 48 percent (see the main report).
- Third, we develop a simple method for calculating tariff evasion (discussed also in the main report).

### *Tax Reform*

In the main report we calculated revenue changes from assuming that all non-trade taxes could be unified at 15 percent in each sector. These non-trade taxes include the CUF, SCF, GCT, SCT, ASD, and excise tax. Implicitly, therefore, we were

eliminating all such taxes except the GCT and unifying it at 15 percent. Questions were raised about whether such tax unification is feasible.

To consider this question we looked closely also at the tax treatment of each tariff line, concorded to the 4-digit HS level. This information is also in the spreadsheet and in the attached printout. As may be seen the ASD applied largely to meat products, dairy products, fruits and vegetables, grains, oilseeds, fats and oils, sugar products, processed foods, alcoholic beverages, tobacco products, and aluminum shapes. It ranges from zero to 90 percent. The basic GCT rate is 15 percent, with a number of zero lines and exempted lines as indicated. The major exception is in motor vehicles, where specific lines attract wildly different tax rates, ranging from 15 percent to 155 percent. The SCT applies to alcoholic beverages, with rates between 16 percent and 21 percent, and tobacco products with a range of 12 percent to 169 percent. It should be noted that many of these SCT rates actually are translations (in the tariff file) of specific taxes rather than ad valorem taxes. There are extremely high SCT rates (up to 772 percent on exported fuels and natural gas). Finally, the excise tax is 23 percent in tobacco products and does not otherwise appear. The sum of the CUF and SUF is either 2 percent or 2.3 percent, depending on whether the latter is applied.

In working through what might be a feasible reform of this non-tariff trade tax structure, we adopted the following principles.

- We set the GCT to 15% in all categories in which it is 15% or higher and do not change the CUF or SCF. Thus, the "basic" tax rate is 0.17 or 0.173.
- Where the GCT is less than 15% we keep it unchanged.
- Where the GCT is above 15% we set the GCT to 15% and shift the additional tax to the SCT, without reducing the overall tax in the sector.

- We keep all SCT rates as given and also keep the excise tax.
- We eliminate the ASD.

Thus, the essential tax principles may be articulated in this way. The GCT should serve as the basic and non-discriminatory tax. The CUF and SCF are modest fees that may be kept (eliminating them would be costly in revenue terms). The ASD, however, is a highly distortionary additional tax on imports that should be removed. Finally, the SCT and excise taxes should be the residual location for imposing high consumption taxes in order to reduce consumption. The resulting tax rates by sector may also be found in the worksheet called "Policy Rates". We refer below to this tax schedule as "Partial Tax Unification."

A final comment in this regard is that we recognize again that the government is most unlikely to collect all of these taxes. Thus, we compute revenue impacts with full collection and with tax collections of 53 percent. The 53 percent figure comes again from an earlier section of this report, where it was shown that collected tax revenues are 53 percent of revenues that were computed from applied rates.

#### *Revenue Implications of Policy Scenarios*

Various revenue calculations are made in Supplement Tables 24 through 28, using the 4-digit HS codes. Each deserves a careful description so that it is clear what is being computed.

**Scenario 1: Achieve the "Partial Unification" of tariff rates, consistent with CET, assuming these are either 100% or 52% collected. Keep CARICOM tariffs unchanged. Maintain the existing tax structure fixed, including the collected rates.**

In this case, as may be seen in Table 25, the revenue implications of this "feasible" tariff unification depend entirely on the ability of the government to collect the new rates. If the tariffs are fully collected, revenues could rise by around J\$2 billion, depending on the elasticity of demand. However, if collection rates for both taxes and tariffs are unchanged after this reform, revenues could fall by between -J\$3 billion and -J\$ 4 billion.

**Table 25: Implied Changes in Tariff Revenues from Partial Tariff Unification (consistent with CET), Keeping CARICOM Tariffs Unchanged (from 4-digit HS; J\$m)**

	<i>Elasticity of Import Demand</i>			
<i>Tariff rates</i>	0.0	-0.5	-1.0	-2.0
Partial Unif., 100% collected	+2363	+2252	+2141	+1919
Partial Unif., 52% collected	-3953	-3778	-3602	-3251

Source: computed from Jamaica Tariff Files. For specific 4-digit rates see Annex to this Supplement.

At the same time, because this tariff policy change would affect import volumes, there would be a follow-on automatic impact on collected tax revenues (on both CARICOM and ROW imports), as shown in Table 26. Keep in mind that here tax rates are kept unchanged at their initial collected rates. Thus, there is no change in exemptions for the non-tariff trade taxes. The calculations indicate that if tariff revenues are fully collected (meaning that actual tariff rates are high), tax revenues would increase by between J\$1.3 billion and J\$1.9 billion. It is interesting to note that if tariff revenues are only 52 percent collected (no change in exemptions, meaning lower actual tariff rates), the impact on revenues is quite sensitive to import demand elasticity. If demand were highly elastic (-2.0), revenues could actually rise by J\$2.1 billion.

**Table 26: Implied Changes in Trade-Tax Revenues from Partial Tariff Unification (consistent with CET), Keeping CARICOM Tariffs Unchanged, at Fixed Tax Collection Rates (from 4-digit HS; J\$ m)**

	Elasticity of Import Demand			
Tariff rates	0.0	-0.5	-1.0	-2.0
Partial Unif., 100% collected	+1881	+1734	+1586	+1291
Partial Unif., 52% collected	+978	+1262	+1546	+2113

Source: computed from Jamaica Tariff Files. For specific 4-digit rates see Annex to this Supplement.

To settle on a "realistic" case, choose the elasticity of -1.0. In this case if tariff revenues are fully collected, the total increase in revenues could be J\$3.9 billion (consider both Tables 24 and 25). However, if tariff collections remain at 52 percent, this policy would reduce net revenues by -J\$2.1 billion.

***Conclusion: Partial tariff unification within the bounds of CET, by itself, could lose revenue for the government. The source of any real gains here would be a better attempt to collect the available revenues, by reducing exemptions and remissions.***

**Scenario 2: Achieve the "Partial Unification" of tariff rates, consistent with CET, assuming these are either 100 percent or 52 percent collected. Keep CARICOM tariffs unchanged. Add partial unification of non-tariff tax rates, assumed to be collected either at 100 percent or 53 percent.**

This case is summarized in Table 27. In the top panel we assume tariffs are fully collected and then consider 4 tax reform cases. First, the partial unification mentioned above, fully collected. Second, the same set of tax rates but 53 percent collected. For comparison purposes we add full unification at 15 percent in the last two cases. In the bottom panel we repeat this structure but permit only 52 percent of tariffs to be collected.

**Table 27: Implied Changes in Tariff and Trade-Tax Revenues from Partial Tariff Unification (consistent with CET), Keeping CARICOM Tariffs Unchanged, at Partial and Full Unification of Tax Rates (from 4-digit HS; J\$ m)**

	Elasticity of Import Demand							
	0.0		-0.5		-1.0		-2.0	
	Tariff	Tax	Tariff	Tax	Tariff	Tax	Tariff	Tax
<i>Panel I: Tariffs 100 % collected</i>								
<i>Tax Policy</i>								
Partial Unification, 100% collected	+2363	+37678	+1150	+29912	-64	+22146	-2491	+6613
Partial Unification, 53% collected	+2363	+9172	+2054	+8104	+1744	+6736	+1124	+4000
Full Unification (15%) 100 % collected	+2363	+10407	+2191	+9555	+2018	+8703	+1672	+7000
Full Unification (15%) 53% collected	+2363	-4982	+2605	-4874	+2847	-4766	+3330	-4549
<i>Panel II: Tariffs 52% collected</i>								
<i>Tax Policy</i>								
Partial Unification, 100% collected	-3953	+35584	-4307	+29383	-4661	+23182	-5368	+10781
Partial Unification, 53% collected	-3953	+8361	-3872	+7615	-3790	+6868	-3626	+5375
Full Unification (15%) 100 % collected	-3953	+9459	-3809	+9074	-3666	+8688	-3378	+7918
Full Unification (15%) 53% collected	-3953	-5485	-3608	-5160	-3262	-4835	-2571	-4185

Source: computed from Jamaica Tariff Files. For specific 4-digit rates see Annex to this Supplement.

It is obvious that if all taxes are fully collected the government would gain considerable tax revenues. This is because the new tariff schedule would represent a slight increase in average tariffs, while the new tax schedule would constitute a large increase in average tax rates. Notice in the first row of Panel I, for example, that with an elasticity of -0.5, tariff revenues could rise by J\$1.15 billion and tax revenues by J\$29.9 billion. The latter effect falls quickly as demand elasticity rises (the fact that tariff revenues would decline is a result of the overall increase in taxes on imports, causing a significant reduction in import volumes). Overall, however, this kind of outcome should not be anticipated to emerge because of the difficulty of actually collecting this revenue.

A more reasonable scenario would be for the partially unified taxes to be collected at 53 percent, the current rate. In this case, assuming an elasticity of -1.0, tariff revenues could rise by J\$1.7 billion and tax revenues by an additional J\$6.7 billion, with a net rise in revenues of J\$8.4 billion. The final two rows in Panel I consider the possibility of a full 15 percent tax unification, either fully collected or 53% collected. In principle this kind of change would increase revenues considerably if fully collected (by J\$10.7 billion with a unitary demand elasticity, which is consistent with the result in Table 18 of the main report). However, if collection rates were not to rise there would be a fall in overall revenues (essentially because 53 percent of a 15-percent average tax rate would be a large cut in taxes on trade), perhaps by -J\$2.8 billion.

The scenarios in Panel II are even more pessimistic by assuming that tariff revenues are only collected at 52 percent of applied tariff rates, consistent with the current situation. In all cases this scenario would reduce tariff revenues, ranging in amount from -J\$2.6 billion to -J\$5.4 billion. However, there would be an increase in tax

revenues from partial unification of taxes, even at 53 percent collection. Again to take a "realistic" case, which is perhaps too pessimistic: at a demand elasticity of -1.0 and a 53 percent collection rate, tariff revenues would fall by -J\$3.8 billion but tax revenues would rise by +J\$6.9 billion. The overall increase would be +J\$3.1 billion. Thus, there is potential to increase revenues from taxes on trade through rationalization of the tariff and tax structure, even holding current collection rates constant.

***Conclusion: Partial tariff unification within the bounds of the CET, combined with partial rationalization of the non-tariff taxes on trade, bears the potential to increase revenues by perhaps J\$3 billion to J\$4 billion, even at current levels of collection. Larger revenues would ensue from reducing exemptions and remissions.***

Our final consideration in this short supplement is the issue of evasion of tariffs and trade taxes through under-invoicing import prices. The main report contains details on the simple model and computational approach. Table 28 in this document duplicates Table 19 in the main report. It is there to remind readers that we calibrate the evasion parameter  $\alpha$  to 0.65, which generates an initial estimate of tariff evasion of J\$ 2 billion, consistent with information from the Customs Authority. This parameter also suggests that price-based evasion of other trade taxes could be as much as J\$5.3 billion, with total evasion of J\$7.4 billion. This is not revenue lost to legal exemptions and remissions, which were the source of the low collections rate analyzed above. Rather, these are revenues that could be (at least partially) recovered with stronger enforcement activities. In the main report we also argue that reduction and unification of tariffs and taxes would tend to reduce evasion activity as well.

**Table 28: Estimated Increases in Tariff and Tax Revenues with True Invoicing under Simple Model of Tax Evasion at Fixed Tariff and Tax Rates (from 3-digit HS; J\$ m)**

	Evasion Parameter ( $\alpha$ )				
	0.1	0.5	0.65	1.0	1.5
Gain tariff revenues	292	1554	2068	3363	5474
Gain tax revenues	2146	4420	5337	7624	11288
Gain total revenues	2438	5974	7405	10987	16762

Source: Computed from Jamaica Tariff Files. This table is identical to Report Table 18.

**Scenario 3: Achieve the "Partial Unification" of tariff rates, consistent with CET, assuming these are either 100 percent or 52 percent collected. Keep CARICOM tariff rates fixed. Add partial unification of non-tariff tax rates, assuming these are 53 percent collected. Take account of the fact that changes in tariff and tax rates would automatically change the amount of price evasion.**

The major purpose here is to estimate the revenue implications of these policy changes while carefully excluding CARICOM imports from any changes in current collected tariff rates. However, CARICOM goods are still subject to the same domestic non-tariff tax rates as goods from the rest of the world (ROW). Panel I of Table 28 shows the current Jamaican revenue situation. Tariffs on imports from CARICOM generate just J\$23 million in revenue but J\$ 4.5 billion in tax revenue. On ROW imports tariff revenues are J\$10.8 billion and tax revenues are J\$17.8 billion. Tariff and tax evasion on CARICOM imports are estimated to be J\$597 million and on ROW imports to be J\$7.2 billion.

Panel II depicts the results of partial tariff unification (as defined earlier) with no change in tax rates or tax collection rates, assuming an import demand elasticity of -1.0. In computing these revenue impacts we implement the price under-invoicing model. Essentially this means that if average tariffs and taxes are reduced the amount of evasion

automatically would fall, generating a bonus in collected revenues. This is the essential difference between Tables 28 and 29.

**Table 29: Estimated Changes in Tariff and Tax Revenues from Partial Tariff Unification (consistent with CET) and True Invoicing, Keeping CARICOM Tariffs Unchanged (from 4-digit HS; J\$ m)**

	<i>Parameter Values: Elasticity = -1.0; <math>\alpha = 0.65</math></i>			
Panel I. Base Case - Current Situation	CARI.	Change	ROW	Change
A1. Initial Reported Tariff Revenue	23	NA	10796	NA
B1. Initial Reported Tax Revenue	4495	NA	17841	NA
C1. Initial Total Reported Revenue (A1+B1)	4518	NA	28637	NA
D1. Initial Tariff Evasion	4	NA	2412	NA
E1. Initial Tax Evasion	593	NA	4784	NA
F1. Initial Total Evasion (D1+E1)	597	NA	7196	NA
G1. Initial Total Revenue if Evasion Elim. (C1+F1)	5115	NA	35833	NA
Panel II. Partial Unify ROW Tariffs excluding CARICOM, tariffs 100% collected; no change in tax rates or tax collection rates				
A2. New Reported Tariff Revenue	24	0	13151	+2355
B2. New Reported Tax Revenue	4495	0	19712	+1871
C2. New Total Reported Revenue (A2+B2)	4518	0	32863	<b>+4226</b>
D2. New Tariff Evasion	4	0	2725	+313
E2. New Tax Evasion	593	0	3409	-1375
F2. New Total Evasion (D2+E2)	597	0	6134	-1062
G2. New Total Revenue if Evasion Elim. (C2+F2)	5115	0	38997	+3164
H2. Max Gain in Revenue (G2-C1)		+593		+10360
Panel III. Partial Unify ROW Tariffs excluding CARICOM, tariffs 52% collected; no change in tax rates or tax collection rates				
A3. New Reported Tariff Revenue	24	0	6827	-3969
B3. New Reported Tax Revenue	4498	0	18794	+953
C3. New Total Reported Revenue (A3+B3)	4522	0	25621	<b>-3016</b>
D3. New Tariff Evasion	3	0	1038	-1374
E3. New Tax Evasion	590	0	2519	-2265
F3. New Total Evasion (D3+E3)	593	0	3557	-3639
G3. New Total Revenue if Evasion Elim. (C3+F3)	5115	0	29178	-6655
H3. Max Gain in Revenue (G3-C1)		+593		+541
	<i>Parameter Values: Elasticity = -1.0; <math>\alpha = 0.65</math></i>			
Panel IV. Partial Unify ROW Tariffs excluding CARICOM, tariffs 100% collected; Partial Unify Taxes, taxes 53% collected	CARIC	Change	ROW	Change
A4. New Reported Tariff Revenue	23	0	13078	+2282

B4. New Reported Tax Revenue	6744	+2249	27392	+9551
C4. New Total Reported Revenue (A2+B2)	6767	<b>+2249</b>	40470	<b>+11833</b>
D4. New Tariff Evasion	4	0	3073	+661
E4. New Tax Evasion	1439	+846	5823	+1039
F4. New Total Evasion (D2+E2)	1441	+844	8896	-1700
G4. New Total Revenue if Evasion Elim. (C4+F4)	8208	+3093	49366	+13533
H4. Max Gain in Revenue (G4-C1)		+3690		+20729
Panel V. Partial Unify ROW Tariffs excluding CARICOM, tariffs 52% collected; Partial Unify Taxes, taxes 53% collected	CARIC	Change	ROW	Change
A5. New Reported Tariff Revenue	23	-1	6807	-3989
B5. New Reported Tax Revenue	6744	+2249	26311	+8470
C5. New Total Reported Revenue (A5+B5)	6767	<b>+2249</b>	33118	<b>+4481</b>
D5. New Tariff Evasion	4	0	1217	-1195
E5. New Tax Evasion	1440	+847	4593	-191
F5. New Total Evasion (D5+E5)	1444	+847	5810	-1386
G5. New Total Revenue if Evasion Elim. (C5+F5)	8211	+3096	38928	+3095
H5. Max Gain in Revenue (G5-C1)		+3693		+10291

Source: Computed from Jamaica Tariff Files.

Thus, in Panel II, if the new tariffs are fully collected on (reported) import values, ROW tariff revenues would rise by J\$2.36 billion and ROW tax revenues by J\$1.87 billion, with a total increase in revenues of J\$4.2 billion. This figure is highlighted in bold. If price evasion were fully eliminated, revenues could rise by J\$10.9 in total. The last figure is quite optimistic because it assumes the elimination of tariff exemptions (100 percent collections) and full compliance in tariffs and in price invoicing.

Panel III computes such figures assuming that tariff revenue collections remain at 52% of applied rates. This scenario represents a cut in tariffs overall and would cost the government around -J\$3.9 billion in tariff revenues. The impact on tax revenues would be slightly positive at J\$953 million, which consists of lower taxes due to lower tariffs (for example, the GCT is imposed on top of the tariff-inclusive prices, which would be lower), higher revenues due to larger import volumes and higher revenues due to reduced

evasion. The overall impact on revenues would be negative, at -J\$3 billion. Note carefully that this means that a feasible tariff unification, with no change in tax policy, would likely reduce central government revenues.

Panel IV is the most optimistic scenario, assuming that the partially unified tariffs are fully collected while taxes are also partially unified (as defined earlier). Here, however, we assume that these taxes are 53 percent collected because of the implausibility of full collection rates. Obviously full collections would generate much larger revenue gains (similar to the situation in Table 26). In the case modeled in Panel IV, both tariff and tax revenues would rise considerably. Tax revenues on CARICOM imports would be some J\$2.2 billion higher (because of higher import volumes associated with lower overall taxes on trade and automatically reduced evasion). Tax and tariff revenues would on ROW imports would rise by J\$11.8 billion (for similar reasons). Thus, a total increase in revenues of some J\$14.0 billion in principle could be realized. Even more could be generated if evasion were reduced by enforcement policy.

Again, however, this case is surely too optimistic. Thus in Panel V we compute implied changes in revenues from this scenario, assuming that tariffs are 52 percent collected and taxes 53 percent collected. Again, CARICOM tax revenues would rise by J\$2.2 billion. ROW tariff revenues would decline by nearly -J\$4 billion but tax revenues would increase by J\$8.5 billion, for a net increase in available revenues of around J\$4.5 billion, noted in bold. Overall Jamaican government revenues could rise by around J\$6.7 billion. In our view this is a reasonably realistic, but upper-bound (in terms of revenues), scenario for the government to pursue.

***Conclusion: Partial tariff unification within the bounds of the CET, combined with partial rationalization of the non-tariff taxes on trade, bears the potential to increase revenues by up to J\$6.7 billion, even at current levels of collection, accounting for automatic reductions in price evasion. This amount could be increased by reductions in exemptions and emissions and by improving tax enforcement to reduce evasion.***

## Conclusions

This section remains to be fully written. It will summarize the main conclusions and attempt to integrate this report on trade policy with others in the tax study. At this point, a brief overview of conclusions would be the following.

- The Jamaican tariff system, in conjunction with its additional taxes on trade, is inefficient at raising revenues. This is largely the result of excessive limitations, exemptions, remission, and weak customs enforcement, but the variable nature of the tariff structure itself contributes to the problem.
- There is scope for unifying tariff rates without reducing tariff revenues collected. The ability to raise revenues would be markedly enhanced by unifying the non-tariff components of taxing imports.
- The need for effective integration of trade taxes with general fiscal reforms is evident. As Jamaica heads further toward unilateral and, especially, multilateral reductions in trade barriers its tariffs will generate declining revenues, both absolutely and relatively. Developing efficient and broad-based taxes to offset this problem is imperative.
- While the customs valuation system prior to adopting the WTO rules was not very effective, the new system places real constraints on Jamaican Customs authorities in their ability to determine reasonable import values, with a need to rely basically on declared import values. Given this restriction, it is incumbent on Customs authorities to continue modernizing their facilities and improving their abilities to monitor and inspect shipments. Developing cooperative arrangements regarding information flows and average cif or fob prices with Customs officials in major trading partners is important.
- In theory, the Jamaican government could consider shifting some of their *ad valorem* tariffs, which are responsible for much of the evasion due to misclassification and under-invoicing problems, to specific tariffs or compound tariffs. However, this option is essentially blocked by membership in CARICOM and by the general need to place domestic taxes on imports according to their

value. Thus, more attention needs to be paid to developing incentives for reducing fraudulent goods classification.

- Jamaica's export incentive system is a mix of tax incentives and holidays that is probably not efficient and should be rationalized. Given the ongoing exercise to move toward harmonization of taxation incentives in CARICOM as part of the CSME, there is an opportunity to undertake such an examination.
- With respect to WTO rules, the forgiveness of capital taxes specific to exporters is problematic and may need to be abandoned or modified.

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