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**THE FISCAL IMPACT OF TRADE LIBERALIZATION AND COMMODITY
PRICE FLUCTUATION**

The case of Dominican Republic, 1980-1998

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SUMMARY

During the 1980's, the Dominican Republic made attempts at macroeconomic reform that saw little success. A decade later a stabilization and structural reform package was implemented. This package included, among other aspects, inflation control through monetary restraint and a tax and tariff reform which sought to increase the efficiency of the prevailing tax structure and eliminate its relative price distortion while maintaining fiscal equilibrium. Price stabilization was achieved, nominal import tariff rates were reduced and the economy started on a growth trajectory that has lasted into the present.

The tariff and tax reforms saw light in September 1990 and June 1992, respectively. The tariff reform sought to simplify the existing tariff structure and reduce the tariff dispersion as well as the average effective rate of protection. Accordingly, the tariff interval was initially reduced from 0%-200% to 5%-35% and then to 0%-35%. The tariff rates which were seven in number at the beginning of the reform increased to nine by 1997. The average tariff rate was estimated at 17.3% in 1997.

The tariff reform was also accompanied by the elimination of most import prohibitions, licenses and exemptions increasing thus the import tax base as well as the virtual elimination of export taxes. The elimination of export taxes coupled with the recent reforms regarding the oil tax differential have shielded the performance of budget accounts from commodity price volatility.

Nonetheless an implicit export tax to traditional exporters exists as these have to surrender their foreign exchange earnings to the Central Bank. The quasi-fiscal revenue potential of this implicit tax depends on the difference between the official exchange rate and the market exchange rate.

Still, external sources of revenue are important as they represent 36% of total fiscal revenues and 6% of GDP as of 1998. Import taxes represented during 1995-1998 more than a quarter of total fiscal revenues and 4% of GDP. This dependence on trade taxes, which is one of the highest in Latin America and selected Caribbean countries, has become a source of concern as the Dominican Republic is opening up to external competition (the country is part of several regional agreements and since March 1995 is a member of the World Trade Organization (WTO). In 1998, it signed free trade agreements with the Caribbean Community (CARICOM) and the Central American Common Market (CACM). In short, how can the country carry out an outward looking economic policy while maintaining the present weight of trade taxes in fiscal revenue?

In 1998, a tariff reform was elaborated seeking to reduce the tariff interval from the present 0%-35% to 0%-15%, diminishing effective rates of protection and the average mean tariff rate. While the proposal is still under inspection by the legislative power, if implemented it could decrease trade taxes substantially and endanger fiscal stability, especially since the present fiscal account surplus falls short of the sustainability surplus boundary line by 1.5% of GDP.

A reduction in internal interest rates could diminish the sustainability surplus boundary line. Additionally, the fiscal reform —also in the legislative chamber— which seeks to increase the value added tax rate from 8% to 12% coupled with substantial decrease in government subsidies (which the privatization law [1997] ultimately seeks to achieve) to state owned firms could generate earnings to compensate the fiscal gap and provide the necessary maneuver margin to distribute income. First approximation calculations indicated that even if the tariff proposal is carried out and all government subsidies to state owned firms were eliminated, the resulting surplus would, other things being equal, fall short of the sustainability surplus by 1% of GDP.

1. Introduction

During the 1980's, the Dominican Republic ¹ made attempts at macroeconomic reform that saw little success. A decade later a stabilization and structural reform package was implemented. This package included, among other aspects, inflation control through monetary restraint and a tax and tariff reform which sought to increase the efficiency of the prevailing tax structure and eliminate its relative price distortion while maintaining fiscal equilibrium. Price stabilization was achieved, nominal import tariff rates were reduced and the economy started on a growth trajectory that has lasted into the present.

However, fiscal performance remained dependent on an array of foreign trade taxes, specifically on import taxes (27% of total fiscal revenues and 4.2% of GDP for 1990-1998). With time as the oil tax became a major source of revenue (14.7% of total revenue for 1990-1998), ² budget accounts became dependent, as well, on international oil prices and exchange rate variations. Following a 1996 reform, the oil tax was made less vulnerable to changes in both these variables. The weight of trade taxes remains a concern as the Dominican Republic registers, with few exceptions, the highest ratio of trade taxes to total fiscal revenue of Latin American and Caribbean countries.

In 1998, a tariff reform proposal was elaborated which plans to reduce present nominal tariff rates —so as to diminish effective rates of protection—, and to simplify the present tariff structure characterized by a wide tax rate dispersion. While the proposal would certainly yield a decrease in trade revenue taxes a fiscal reform project, also under current discussion, could compensate this revenue loss.

The aim of the paper is to examine the fiscal impact of trade liberalization and commodity price fluctuation for 1980-1998. The paper is divided into five sections. The first section describes, albeit briefly, the economic situation during the 1970's that led to the first attempts at economic reform. This prelude is followed by an analysis of macroeconomic performance for 1982-1998, that distinguishes four periods corresponding to the initial attempts at monetary and fiscal stabilization (1982-1986), an interlude characterized by aggregate demand and public works expansion (1986-1990), a macroeconomic reform package (1991-1995), and the deepening of economic reforms (1995-1998).

¹ The Dominican Republic has 7.8 million inhabitants (est. 1997) and a gross domestic product (GDP) per capita of 1 460 US dollars (Britannica, Book of the Year, 1998).

² The oil tax is a tax levied on imported oil.

The third section describes the evolution of the commercial regime and focuses on the tariff and fiscal reforms (1990-1992, 1997-1998). The fourth section decomposes the revenue side of the fiscal accounts between internal and external sources of revenue and examines the importance of trade tax revenues, import taxes and export taxes as percentages of total tax revenue and GDP. It also provides a comparison of trade taxes between the Dominican Republic and 19 other Latin American and Caribbean countries. The fifth section analyses the concept of budget sustainability and assesses whether tariff reform proposals would generate a fiscal revenue within a fiscal sustainability region. Finally, the sixth section examines the fiscal impact of commodity price fluctuation. As export taxes are virtually nil, the focus is on the oil tax.

2. The 1970's: the prelude to economic reform

During the 1970's the economy of the Dominican Republic followed a path of import substitution whose goals consisted in weakening the link between GDP growth and traditional exports, loosening balance-of-payments constraints and promoting high employment levels. Within this strategy, the promotion of national and foreign investment became a national priority.³ The initial results were impressive. The economy registered on average a 12% rate of growth between 1970 and 1973 with one digit inflation. Moreover, the budget accounts registered a surplus and the current account deficit was by most definitions manageable.

Eventually, as happened in other import substitution cases, the economy showed signs of deep disequilibria. The overall rate of growth dropped by 50% and the ratio of industrial GDP to aggregate GDP began to decrease indicating the beginnings of a deindustrialization process. In addition, the market understood the official exchange rate to be overvalued and was prepared to pay a higher premium for every dollar bought (even though the real exchange rate was overvalued by 15%) reflecting devaluation worries over a merchandise trade deficit that had reached 7% of GDP on average between 1978 and 1981 (see table 1).⁴ Following the fall in GDP growth the coefficient of fiscal flexibility fell.⁵

In accordance with the overall performance, economic sectors slowed their development. Agricultural production was hampered by a lack of incentives and industry showed signs of inefficient management due to exaggerated protection and state subsidies. Unilateral transfers to state owned firms increased from 186 million dollars during 1970-1973 to 589 million dollars for the period 1978-1981. This affected fiscal performance and was not balanced by an increase in

³ Ceara Hatton (1990) labels the development strategy followed during this time an import substitution strategy. Pons (1995) refers to a strategy based on promoting national investment and especially of attracting foreign investment. In any case, the import substitution model is not unique to this period of time. An early application is found for the period 1938-1961 during the dictatorship of Rafael Leonidas Trujillo (1930-1961).

⁴ The current account gap was also of the order of -6% or -7% of GDP as the service balance was in deficit and unilateral transfers (which started to be an important source of foreign exchange from 1978 onwards) did not compensate both deficits. The service gap became positive starting in 1985.

⁵ The coefficient of fiscal flexibility measures changes in tax revenue brought about by changes in income maintaining constant a given tax structure. Here we measure tax flexibility in absolute rather than in relative terms.

tax collection as the tax-GDP ratio, decreased by 4.7 percentage points between 1970-1973 and 1978-1981 (see table 1).

During 1981 and 1982 a consensus emerged that achieving macroeconomic balance via market mechanisms rather than by targeting specific sector development through relative price distortions was a necessary step for long run growth.

Table 1

DOMINICAN REPUBLIC: SELECTED AVERAGE MACROECONOMIC AND
FISCAL INDICATORS, 1970-1981

MACROECONOMIC INDICATORS

Years	GDP growth	Inflation	Exchange rate		RER index 1970=100	Real wage Index 1970=100	IC	OC	External gap
			O	P					
1970-1973	11.9	7.8	1	1.14	95.0	81.9	17.9	39.0	-2.8
1974-1977	5.7	12.1	1	1.19	84.1	78.4	19.8	48.5	-0.2
1978-1981	4.7	10.2	1	1.25	84.2	75.0	16.6	44.7	-6.5
Fiscal Indicators									
Years	Savings Gap	Fiscal Gap	Fiscal revenue-GDP ratio	Tax-GDP Ratio	Fiscal revenue velocity	Coefficient of fiscal flexibility			
1970-1973	4.2	1	17.8	15.3	5.5	1.2			
1974-1977	6.5	-0.1	17.3	14.1	6.4	0.6			
1978-1981	4.5	-1	14.3	10.6	7.0	0.7			

Source: Elaborated on the basis of tables 19 and 20 .

Note: O = official exchange rate; P = parallel exchange rate; IC = industrialization coefficient; OC = openness coefficient; RER = real exchange rate. Fiscal revenue velocity is defined as the ratio of nominal GDP to fiscal revenue. The coefficient of fiscal flexibility is the rate of change of this ratio.

Between 1980-1998, two stabilization attempts that followed this train of thought were undertaken. The first one took place between 1982 and 1986 and failed due to a lack of political consensus. The second attempt, based on monetary and fiscal restraint, initiated in 1990 and was followed by a fiscal and tariff reform. Both reforms sought to liberalize the economy. This attempt—so far successful—has been followed by a deepening of structural reforms. In between both attempts, the years 1986-1990 witnessed an experiment to spur growth via increases in aggregate demand coupled with restrictions on foreign exchange and trade flows that materialized in an increasing reliance in trade taxes to balance the budget. The following section

describes in chronological order macroeconomic policies during 1980-1998 and their performance results. Emphasis is placed on the commercial regime adopted and on their tariff and fiscal policies.

3. Macroeconomic overview: 1980-1998

a) Initial attempts at monetary and fiscal stabilization (1982-1986)

In January 1983 prevailing economic imbalances led the authorities to sign an agreement with the International Monetary Fund (IMF). The agreement combined a restrictive monetary policy with active budget control through a freeze on expenditure and tax hikes. In addition the government imposed tight foreign exchange controls to fix an exchange rate parity. Between 1982 and the end of 1983 M1 and M2 growth had decreased by from 13.1% and 16% to 6.7% and 9.1%, respectively, from the previous year and the annual rate of inflation dropped from 60% in 1982 to 6.0% in 1983. The budget deficit as a percentage of GDP was half a percentage point lower in 1983 than in 1982.

The 1983 programme finally fell prey to a contradiction that arose out of rhetoric and practical politics. On the one hand the government vowed to accomplish the goals of the programme; on the other government officials criticized the programme for its negative effects on employment and on poverty.⁶

From a trade perspective the years 1983-1985 saw a decrease in the terms of trade due to the fall in the unit price of traditional export products. Despite the unfavourable external conditions, the authorities opted for a trade liberalization strategy reflected in a lower share of foreign trade taxes in GDP and of taxes in merchandise foreign trade (see table 2).

The end result of the programme was a sharp drop in foreign capital flows and a surge in capital flight. Moreover, by January 1985 as the lack of consistency and credibility took hold over agent's decision making process, the government allowed the currency to float against the dollar and later fixed a unified exchange rate for all financial transactions. Interest rates as well as prices were adjusted. The currency depreciated by 30% (see Graph 1). These measures ultimately increased the demand for dollars and according to some authors (i.e., Pons, 1995) pushed the economy into a de facto dollarization.

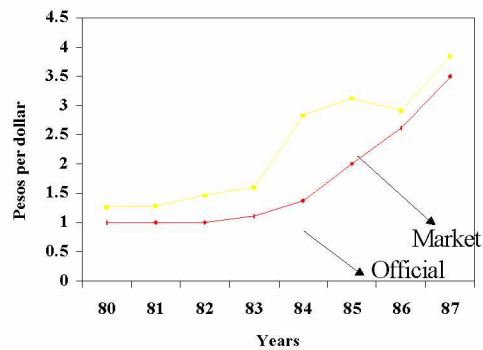
The worsening of economic conditions led to a stand-by agreement with the IMF that was signed in April 1985. The agreement was designed to overhaul the financial system and stimulate the economy. The new IMF programme stimulated Dominican agriculture as previously fixed

⁶ Pons (1995, p. 415) refers to the end of the 1983 reform efforts in the following way: "This policy failed because the IMF was constantly being attacked by public officials while the government tried to execute IMF recommendations...the government ended up discrediting its own policies...at the end of April 1984...government policy makers attempted to take advantage of the Holy Week vacation to raise prices of all essential products." By 1984, the rate of inflation was 39%, M1 and M2 growth, 49% and 30% respectively.

prices were allowed to increase. The limitation of credit to the public sector helped to narrow the control on the money supply thereby limiting price expansion. The government was able to increase revenues through import and export duties. Foreign reserves were increased through IMF and by tourism and free trade zone activities. However, during 1985 the economy registered negative growth (-2.1%) discrediting the authorities efforts to stabilize the economy.

Graph 1

DOMINICAN REPUBLIC: OFFICIAL AND MARKET EXCHANGE RATES, 1980-1987



Source: Martí Gutiérrez (1997).

Table 2

DOMINICAN REPUBLIC: FOREIGN TRADE INDICATORS, 1970-1986

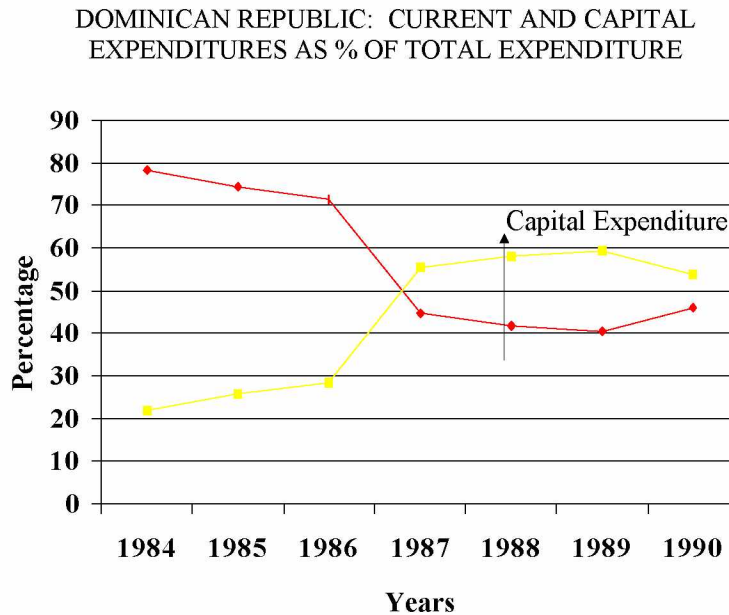
Years	Foreign trade taxes as % of GDP	Estimate fiscal revenue loss (Mill. USD)	Share of taxes in merchandise trade	Effective tariff rate	Terms of trade index 1990=100
1970-1981	6.4%	...	14.6%	22.6%	182.2
1982-1985	2.8%	143	7.0%	10.5%	163.9
1986	3.9%	238	11.5%	14.9%	150.83

Source: Martí Gutierrez (1997).

b) Aggregate demand and public works expansion (1986-1990)

During this period, the objective of economic policy was to boost domestic activity by increasing aggregate demand through public spending (in particular urban public works) and monetary expansion. From 1987 on the share of current expenditures in total fiscal expenditures dropped from 72% to 45% while capital expenditure increased its participation by 29% to 55% (see graph 2). In the same vein the ratio of capital expenditure to GDP rose from 3.1% to 8.1%.

Graph 2



Source: Ministry of finance (1995).

For its part the money supply measured by M1 and M2 grew by 36% and 32% respectively. Inflation and GDP growth averaged 39.5% and 5.1%.⁷ This expansionary policy was accompanied by tight controls on foreign exchange transactions.

Exporters and later on, commercial banks as well as tourist operators were led through different means to surrender their foreign exchange earnings to the authorities at an undervalued exchange rate. Two examples of this policy are provided by the adoption of a multiple exchange rate system which transferred resources from the export sector to the industrial sector and by the monopoly of dollar transactions by the authorities through the “*Sistema de reintegración de divisas*” (August, 1988). This implicit tax resulted in the invoicing of earnings by exporters and other foreign exchange operators.

⁷ In the case of GDP we are excluding the year 1990. In 1990 GDP growth was -5.5%.

In 1987 the country was forced into a balance-of-payments crisis as capital outflows coupled with an increasing current account deficit (99% increase between 1986 and 1987) led to reserve losses which amounted to 2.5% of GDP, in that year, and then increased to 4.3% and 8.7% in 1989 and 1990 respectively.

The lack of foreign reserves forced the government to delay payments on short term debt (mainly payments for oil, medicine, and food imports). Moreover, in May 1989, the government suspended servicing most of its foreign debt and did not pay its debt to foreign banks. Finally, in the month of September the monetary authorities announced the total suspension of payments of its commercial bank debt reaching 800 million dollars. Suppliers cut off their credits as well as the delivery of their goods to the Dominican Republic which included oil, food, medicines, raw materials. This in turn led to a fuel and energy scarcity.

Meanwhile despite foreign exchange controls the parallel exchange rate depreciated and eventually acted as a centre of gravity of the official exchange rate (see table 3). The devaluations of the peso shot up inflation while the decrease in the supply of production inputs and basic foodstuff led to a contraction in GDP growth.

Table 3

DOMINICAN REPUBLIC: DEPRECIATION RATES OF THE OFFICIAL AND PARALLEL EXCHANGE RATES

January-December, 1987-1990

(Percentage)

	1987	1988	1989	1990
Official exchange rate	57	26	0	81
Parallel exchange rate	58	27	30	58

Note: Elaborated on the basis of table 21, Appendix.

c) The beginnings of stabilization and structural reform (1990-1995)

In 1990 a stabilization package, termed the New Economic Programme (NEP, hereafter) was launched (see table 4). The main objective was to bring down the rate of inflation through the curtailment of government expenditure and a unified exchange rate regime. The reduction in the fiscal deficit was to be accomplished by the contraction of subsidies to state owned enterprises and by increasing revenues by increasing trade taxes. The Central Bank engaged in a reduction of the money supply by contracting credit, exerted a more pronounced control on the level of international reserves and started to repay the external debt. The first effects were contractionary. Investment and public expenditure fell by 20% and 10% respectively. GDP and GDP per capita decreased by 5.5% and 7.4%.

The NEP also included a series of structural reforms namely, the tariff, tax and financial reforms. The tariff reform (September, 1990) aimed at reducing tariff rates and their dispersion as well as the average effective rate of protection. The tax reform (June, 1992) sought to increase tax collection and its efficiency. Both reforms are discussed in greater detail in section 5.

From 1991 to 1992 the economy began to show signs of recovery. The GDP growth rate reached 8% in 1992. Inflation declined from 79.7% in 1990 to 5.2% in 1992 and the consolidated public sector deficit which had reached 5% of GDP in registered a 1.6% surplus. In short, overall macroeconomic conditions improved despite a deficit of 63 million dollars in the global balance of payments.

During 1993-1995, governmental authorities, led by favourable expectations of the state of the economy, adopted once again expansionary policies. This resulted in a decrease in the central government's budget surpluses registered following the implementation of the 1990 programme. On average for the period 1990-1992 the central government registered a +2.3% budget surplus in terms of GDP which decreased to +0.1% for 1993-1995.

GDP growth decreased from 8.0 in 1992 to 4.3% in 1994 and inflation increased to 14.3%. Finally in 1995 new stabilization policies were adopted and the authorities announced their commitment to fiscal and monetary discipline as a vehicle to ensure long term stable growth.

Table 4

DOMINICAN REPUBLIC : MAIN STABILIZATION MEASURES ADOPTED
BETWEEN 1990 AND 1992

Fiscal policy	<p>Petroleum prices were doubled. The oil tax or petroleum differential became an important source of fiscal income 2% of GDP on average between 1991 and 1995 and 14% of all tax revenues on average between 1991 and 1995.</p> <p>Elimination of subsidies to electricity, sugar and wheat.</p> <p>Temporary tax on imports initially set at 15% but to be lowered to 4% in June 1995 and that affected 40% of all imports.</p> <p>Temporary increase in tariff rates by 1.3 and eliminated by September 1996.</p> <p>Implementation of a foreign currency transaction of 2.5% which was reduced to 1.5%.</p>
Monetary policy	<p>Interest rate liberalization.</p> <p>Internal credit reduction.</p>
Exchange rate policy	<p>Unification of exchange rates and beginnings of a managed floating exchange rate regime.</p>

Source: WTO (1996), IMF (1995).

d) Reform deepening (1995-1998)

During this period the Dominican economy experienced high rates of growth (7% on average) with one digit inflation rates (7.3% on average). Growth has been led by the dynamism of non-tradable sectors (construction, tourism, communications) while inflation has been kept in check by the use of a nominal exchange rate anchor coupled with restrictive monetary policy measures.

Overall, fiscal policy succeeded in obtaining balanced budgets ⁸ and increasing the share of taxes in GDP (13.8% in 1995 and 15% in 1998). Seen from the expenditure side, the focus of fiscal policy (especially since 1996) has been to reduce the share of capital expenditures and to increase that of current expenditures. ⁹ The projected increase in current expenditure sought to respond to social objectives.

Yet, the bad financial state of public firms has generated a flow of unilateral government transfers that represented in 1998, 29% of all current expenditure and 22% total expenditure, constraining the government's capacity to initiate social programmes. The current privatization process should help to cut expenses on this item and thus increase its discretionary spending capacity.

From the revenue side, fiscal performance is seen to depend on trade taxes as these accounted for more than a quarter of total revenue, highlighting thus the dependency of fiscal performance on these taxes. Despite manifest intentions to the contrary, reducing trade taxes may be far from being simple as other sources of revenue such as the value added tax revenues (18% and 19% of all tax revenues in 1995 and 1998) have barely increased in importance. This has forced the authorities, in some instances, to rely on excise taxes to achieve fiscal equilibrium.

More recently, the authorities have taken steps to reduce tariff rates and increase internal tax collection. In 1997, the government implemented a 0% tax rate on imported inputs and machinery. Also in 1997 and 1998 a tariff and a tax reform proposals were submitted to the legislative chamber for discussion. The tariff reform contemplates the reduction of tariff rates and their dispersion. The tax reform includes a proposal to increase the value added rate from 8% to 12% (see section 5).

The performance of national exports has stagnated while free trade zone exports are increasingly growing in importance. ¹⁰ Due to high levels of consumption, and appreciated exchange rate imports have sharply increased especially since 1996, contributing to highlight the role of tariffs as an important revenue source. The overall result has been a trade deficit that in 1998 reached 16% of GDP. However, the current account deficit is 2.4% of GDP due to the growth of remittances and a positive service balance.

⁸ Refers to the Central Government's budget following the cash flow methodology.

⁹ Current expenditure was to represent 60% of all government expenditure and capital expenditure 40%.

¹⁰ However the government has introduced a bill (*Ley de Fomento a la Exportación*), that is likely to provide incentives to the exports of traditional products such as for example tax drawbacks.

The capital/financial account has reduced its capital outflow and has become, as expected, an important source of balance of payments financing needs. Indeed, in 1995 net official capital outflows were estimated at 20 million dollars and private capital outflows were of the order of 40 million dollars. While these figures represented an improvement over earlier years (in 1990 net official capital outflows were 300 million dollars and in 1994 private capital outflows were 150 million dollars) the 1995 financial situation highlighted an important source of balance of payments vulnerability. By 1998, total capital outflows amounted to 1 113 million dollars while inflows were 2 821 million dollars. Still, the level of reserves is by most standards low (1 or 1.4 months of imports).

4. Commercial regime; tariff and fiscal reforms

a) The commercial regime

The Dominican Republic has partaken in different trade agreements and participated in regional blocs and more recently has become a member of the multilateral trading system.¹¹

The country signed in 1983 together with 27 other Central American and Caribbean nations the Caribbean Basin Initiative (CBI) which allows these countries exports to enter the United States market on a preferential basis. The exceptions to the rule apply among other products to textiles, canned tuna, leather, and plastic.¹² Similarly the country is part since 1989 of the Lomé Convention. Finally in 1998 the Dominican Republic signed free trade agreements with Central America and the Caribbean which contemplate negotiations on services and investment.¹³

¹¹ The Dominican Republic joined the WTO in March 1995.

¹² The CBI had initially a duration of 12 years from its entry into force (January 1984). However, in 1990 it acquired permanent character.

¹³ Trade between the Dominican Republic and Central America is minor. Total Dominican exports to Central America amounted in 1997 to 41.5 million dollars (0.9% of total exports) while its imports were 162 million dollars (2% of total imports). The same is true of the commercial relations between the Dominican Republic and CARICOM (Dominican exports were 17 million dollars in 1996). See Centre for the Promotion of Exports (CEDOPEX) (1997; 1998).

Table 5

DOMINICAN REPUBLIC: SELECTED FISCAL MEASURES, 1995-1998

Date	Measure
January 1995	USD 10 tax per passenger on all airlines with scheduled flights from and to the Dominican Republic. A tax of USD 5 is established for charter airlines and air cargo lines will be subject to a tax of USD 0.03 per pound transported. The USD 0.03 tax was reduced to USD 0.02 in February.
June 1995	The 15% foreign exchange surcharge applied to 41% of imports was eliminated.
1996	Increase by 10% the tax charged to hotel, motel and aparthotel users.
1996	Increases in subsidies to state-owned firms (205 million Dominican pesos to The Dominican Corporation of Electricity; 110 million pesos to the State Sugar Council and 35 million pesos to the Autonomous University of Santo Domingo).
1996	Oil taxes will be used for the payment of the external debt.
1996	Increase of 30% in the pension earnings between 0 and 5 000 Dominican pesos and 10% those above 5 000 Dominican pesos.
December 1996	The oil tax differential becomes a fixed amount per type of product. For gasoline the oil differential is fixed at 12.48 pesos per gallon and will decrease to 12.17 pesos in 1997.
December 1996	Increase in internal oil prices.
1997	Application of inflation adjustment to the income tax.
1997	0% tariff rate applied to the import of inputs, equipment and machinery for the agricultural and textile sectors.
1997	Creation of the Dirección General de Impuestos Internos. This institution unified the Dirección General del Impuesto sobre la Renta and the Dirección General de Rentas Internas with the aim of centralizing in one institution the task of tax collection reducing operative costs and eliminating the duplication of functions.
March 1998	Increase in the exempted tax base of the tax income.

Source: IMF (1996), Central Bank of the Dominican Republic; ECLAC (1999).

At the same time the Dominican Republic has had a history of maintaining restrictions to both imports and exports. For a long time it oriented its trade policy objectives around a gamut of trade policy instruments: tariffs, contingents, licenses, prohibitions, exemptions and concessions. These instruments were applied through different laws, decrees, resolutions, and administrative dispositions. According to the WTO (1996) prior to the 1990 tariff reform, there were 27 fiscal

laws that administered the regimes applied to imports and 140 taxes and duties. Imports were subject to three types of fixed exchange rates. Tariff rates comprised: excise, ad valorem and composite rates.

While most imports were subject to these restrictions there were a few exceptions, namely the activities whose goal was to promote the tourism sector and free trade zones. The combination of tariff and non-tariff barriers for most tradables and the exemptions granted to certain activities fostered a process of development of a dual economy with dynamic and stagnating sectors. This duality is manifest when comparing free trade zone exports to national exports (see table 6 and section 3.d above).

Import prohibitions which were especially prominent since 1979 included textiles, food and electronic products, textiles, shoes, cars, and luxury items. Import prohibitions were justified on the grounds of encouraging national production and of enabling the country to balance its external accounts. Between 1979 and 1986 there were eight decrees that prohibited among others imports of textile products shoes, belts, and pastas. The 1990 reform did not explicitly suppress import prohibitions, however since the reform these have not been enforced.

Table 6

DOMINICAN REPUBLIC: NATIONAL AND FREE TRADE ZONE EXPORTS, 1980-1998

Year	National Exports (Mill. USD)	% Growth	Free Trade Zone exports (Mill. USD)	% Growth	Free Trade Zone exports as % of total exports
1980	960.4	...	117.1	...	10.8
1981	1 184.7	23.3	128.2	9.5	9.7
1982	756.9	-36.1	155.1	21	17
1983	781.5	3.2	181.2	16.8	18.8
1984	870.3	11.4	195.7	8.0	18.3
1985	734.9	-15.6	214.7	9.7	22.6
1986	726.7	-1.1	246.7	14.9	25.3
1987	708.5	-2.5	332.3	34.7	31.9
1988	898	26.7	519.9	56.5	36.7
1989	928.3	3.4	735.3	41.4	46.4
1990	744.1	-19.8	838.6	14.0	52.9
1991	659.6	-11.4	1 052.8	25.5	61.4
1992	564.5	-14.4	1 194.2	13.4	67.9
1993	504	-10.7	2 608.9	118.5	83.8
1994	626.2	24.2	2 716.1	4.1	81.2
1995	758	21.0	2 907.4	7.0	79.3
1996	835.7	10.3	3 107.3	6.9	78.8
1997	958.2	14.7	3 596.4	15.7	78.9
1998	942.3	-1.7	3 930.3	9.3	80.6

Source: Consejo Nacional de Zonas Francas (1998).

Most import quotas permits and licenses were eliminated at the beginning of 1990. According to the WTO (1996) the government denies the existence of laws that allow for the application of quantitative restrictions to imports. There are nonetheless tariff contingents for some agricultural products (corn, milk, beans, onions, rice, chicken, sugar, garlic). In 1998 the government established quotas that are subject to preferential tariff rates for the imports of these agricultural products.¹⁴ The quotas will be applied from 1999 to the year 2005 (see tables 7a-7d for the years 1999, 2000, 2002, 2005).

Table 7a

DOMINICAN REPUBLIC: QUOTAS FOR AGRICULTURAL
PRODUCTS AND TARIFF RATES THAT APPLY
BEYOND THE QUOTA FOR 1999

Product	Quota (t)	Tariff rate beyond quota
Corn	858 200	60
Milk	33 600	83
Beans	14 400	95
Onion	3 000	97
Rice	15344	114
Garlic	3600	119
Chicken	8500	136
Sugar	24000	94

Source: National Planning Office (ONAPLAN) (1999).

Note: The tariff rates applied to quotas oscillate between 5% and 40%.

¹⁴ In the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) agricultural products were consolidated at a tariff of 40%. The Dominican Republic tried for some time to change this consolidated tariff. Prior to 1998 the quotas for these products were still in the process of being negotiated. In November 1999 a new round of the Agricultural Agreement within the WTO framework will begin.

Table 7b

DOMINICAN REPUBLIC: QUOTAS FOR AGRICULTURAL PRODUCTS
AND TARIFF RATES THAT APPLY BEYOND THE QUOTA FOR 2000

Product	Quota (t)	Tariff rate beyond quota
Corn	897 000	57
Milk	35 000	79
Beans	15 000	94
Onion	3 125	97
Rice	15 755	111
Garlic	3 750	109
Chicken	9 000	130
Sugar	25 000	92

Source: National Planning Office (ONAPLAN) (1999).

Note: The tariff rates applied to quotas oscillate between 5% and 40%.

Table 7c

DOMINICAN REPUBLIC: QUOTAS FOR AGRICULTURAL PRODUCTS AND
TARIFF RATES THAT APPLY BEYOND THE QUOTA FOR 2002

Product	Quota (t)	Tariff rate beyond quota
Corn	974 600	50
Milk	37 800	69
Beans	16 200	92
Onion	3 375	97
Rice	16 577	106
Garlic	4 050	105
Chicken	10 000	117
Sugar	27 000	89

Source: National Planning Office (ONAPLAN) (1999).

Note: The tariff rates applied to quotas oscillate between 5% and 40%.

Table 7d

DOMINICAN REPUBLIC: QUOTAS FOR AGRICULTURAL PRODUCTS AND
TARIFF RATES THAT APPLY BEYOND THE QUOTA FOR 2005

Product	Quota (t)	Tariff rate beyond quota
Corn	1 091 000	40
Milk	42 000	56
Beans	18 000	89
Onion	3 750	97
Rice	17 810	99
Garlic	4 500	99
Chicken	11 500	99
Sugar	30 000	85

Source: National Planning Office (ONAPLAN) (1999).

Note: The tariff rates applied to quotas oscillate between 5% and 40%.

Import licenses for agricultural products are still in force.¹⁵ In 1998 (decree 114-98) the government further eliminated non-tariff barriers to the imports of agricultural products in order to comply with WTO agreements. These non-tariff barriers were being implemented through 31 decrees and 22 governmental resolutions and affected mainly, rice, meat and chicken imports.

Imports are also subject to non-tariff taxes. These are mainly the value added tax (with a 8% tax base) and a selective tax on consumer products (STCP) (with a 5-80% tax base interval). The imported products that are subject to the STCP are basically: alcoholic beverages, tobacco products and luxury goods. The imported products that are value added tax exempt are books, petroleum and oil products, milk, and corn among others. An additional import tax established in 1987 was eliminated in 1995.

Exports restrictions have experienced the same evolution as import ones. During the 1980's there was an increasing anti-export bias. This was the result of overvalued and multiple exchange rate regimes, export restrictions and excessive protection of certain national economic sectors. This was reflected in export performance which decreased from 735 million dollars to 504 million dollars between 1985 and 1993 (see table 6). The legislation that has supported export promotion has lacked consistency. The promotion and industrial protection law sought to develop an industrial sector oriented towards the internal market and the creation of a

¹⁵ Depending on the circumstances this can lead to unwarranted price variations especially if accompanied by price manipulation. In 1998, the authorities overissued import permits for rice leading to an excess supply of rice which lowered its price. The government was forced to sustain its price by buying rice in order to avoid the negative effects of the fall in the price of rice on national producers. Import permits for a given product can lead to a bargaining process between the government and the producers affected by the import of that product.

manufacturing sector oriented towards exports. The latter sector was designed to have its own export laws while the national sector was subject to a set of restrictions, some of which still exist today. The way the difference in treatment has affected both free trade zone and national export performance is reflected clearly in table 6.

Until recently export taxes were applied to basic commodity exports: bananas, bovine meat, cocoa, coffee, fish and sugar. Among these the most important products subject to taxes were coffee and cocoa. During the period 1985-1990 export taxes represented 2.0% of fiscal revenues.

In March 1990, the implementation of the export taxes on those products was eliminated and in April 1992 the tax was suppressed. However there still exists a 1.5% commission on all foreign exchange rate transactions. The commission is payable to the central bank. Additionally traditional exporters must surrender their foreign exchange earnings to the Central Bank and obtain national currency at the official exchange rate.¹⁶ Non-traditional exporters were also subject to this requirement but only up until 1994. This requirement can be seen as an implicit tax on export activities and a quasi fiscal source of revenues. The larger the spread between official and parallel exchange rates the bigger is this implicit export tax (see table 8).¹⁷

As can be seen from the above description of the commercial regime, most restrictions on imports and exports have been eliminated. However, the elimination of import prohibitions, restrictions, tax exemptions coupled with an increase in non-tariff import taxes resulted in an increase in foreign trade and the import tax base.

During the 1990's the trade coefficient increased substantially (see table 19 in the appendix). Also national imports (i.e., imports that do not fall within free trade zones) have doubled their rate of growth. During 1985-1990, these increased by 6.6%. For 1991-1998, the rate of growth of imports reached on average 13.8%. This increase has been brought about partly, by the import of those goods that were subject to prohibition and important restrictions during the 1970's and 1980's. These represented in 1998, 23% of all national imports. This provides an idea of the extent to which the import tax base would have been reduced in 1998 had these goods been subject to say prohibition.

¹⁶ These traditional products are coffee, sugar, cacao, tobacco, and mineral products other than nickel.

¹⁷ Most minimum prices for export products were suppressed by 1995 save traditional exports. Until 1992, the governmental institution Center for the Promotion of Exports (CEDOPEX) was in charge of export control, contingents, licenses and prohibitions. From 1992 on restrictions to exports were eliminated.

Table 8

DOMINICAN REPUBLIC: EXPORT TAX REVENUE OF TRADITIONAL PRODUCTS,
1985-1998

Year	Official rate	Parallel rate	Exports of traditional products (Mill. USD)	Implicit export tax as percentage of total fiscal income
1986	2.89	2.89	547.0	-
1987	3.51	3.84	542.0	7.0
1988	5.81	6.12	711.0	5.66
1989	6.35	6.97	747.0	8.72
1990	8.65	11.13	629.0	24.50
1991	12.58	13.06	556.0	2.33
1992	12.5	12.77	421.0	0.72
1993	12.5	12.67	363.0	0.34
1994	12.62	13.16	486.5	1.31
1995	12.87	13.6	591.3	1.92
1996	12.9	13.77	623.9	2.25
1997	14.02	14.27	667.7	0.55
1998	14.7	15.27	515.5	0.81

Source: Elaborated on the basis of ECLAC (1999) and the Central Bank of the Dominican Republic (1997-1998).

b) The 1990 tariff reform and the 1998 proposal

The 1990 tariff reform intended to rationalize and simplify the tariff structure as well as to make it more progressive. It established a new tariff structure with seven initial ad valorem tax rates comprised within the interval 5%-35%. This meant a decrease in the ceiling rate by 165 percentage points. Prior to the 1990 reform the tariff rate structure was comprised within the interval 0%-200%.

The tariff rates were to be applied on the cif value of the imported merchandise rather than on the fob value as was done prior to the reform. To avoid a sudden impact on given protection structures and ensure a soft landing, the authorities implemented a tariff surcharge set at 30% for 1991, 20% in 1992, and 10% in 1993. The import surcharge was finally suppressed in 1994. Also a temporal tariff of 15% was applied to all imports with the exception of basic food products. This temporal tariff was eliminated by the second half of 1995. Finally a tax on foreign exchange transactions of 2.5% was implemented which was eventually reduced to 2% and later to 1.5% (see section 4 a above).

In 1991 the authorities added an additional 0% tariff rate to the prevailing tariff schedule. The 0% rate was applied to basic imports. This increased the number of tariff rates from seven to eight. In 1993, the government increased the 0% tariff rate to 3%. The 3% tariff rate was expanded to cover agricultural inputs that were subject to tariff rates equal or greater than 5%. Finally, in 1997 the authorities increased the number of tariff rates to nine as they decided to reinstate a 0% tariff rate on agricultural and textile inputs.

The tariff reform simplified somewhat the tariff structure. However, according to some the average tariff effective rate increased from 16.1% to 23.2% during 1990-1995. According to the WTO, however the average tariff rate was 17.5% in 1995 (with a standard deviation of 10.2% and a coefficient of variation of 57%). In terms of sectors the tariff rates of agriculture, mining and industry were 17.3%, 6.4% and 18.1% respectively. In 1997, our own calculations yield an average tariff rate of 17.3%.

The tariff rates most commonly found in 1995 were 5%, 10%, 25% and 30% accounting for 10.4%, 28%, 13.3%, and 15.6% of all imports. In 1997 these tariff rates accounted 7.5%, 24.1%, 9.5%, and 23.9% of all imports.

According to the WTO, the Dominican tariff structure that emerged out of the reform was progressive (i.e., a positive effective rate of protection). The tariff rates applied to manufactured products are higher than those applied to products which are semi-elaborated (i.e., 20.7% for finished products, 14% for semi-elaborated products and 15% for raw materials).

The effective rates of protection of the new tariff structure remained high. The median effective rate of protection for the Dominican industry was estimated within an interval of 133% to 188% (Fundación Economía y Desarrollo, 1996). Other sources estimated the median rate of protection to be at 123% for the Dominican industry in 1993 (World Bank, 1995).

Despite this tariff reform, as mentioned earlier, imports were still subject to several other taxes such as value added tax (8%) and excise taxes. The excise taxes applied to imports vary between 5% and 80%. Different excise tax rates were applied to imports and national products. In 1995, the rates applicable to both national and imported products were unified to 20% and 25% for alcoholic beverages. Once these all trade taxes are taken into account the effective tariff rate may be much higher than that derived from the tariff schedule *per se*. The favoured case to illustrate this point is that of automobiles (see table 8).

Table 9

DOMINICAN REPUBLIC: AUTOMOBILE TARIFF RATE

Description	Value (US dollars)	Percentage
Value (fob)	15 000	...
Freight	2 250	15
Insurance	300	2
Value (cif)	17 550	...
Import duty	5 265	30
Consular tax	200	...
Final value of import	23 015	...
External value added tax	1 841.3	8
Excise tax	13 809	60
Sale price	38 665.3	...
Effective tariff rate	...	91

Source: WTO (1996).

Finally, In November 1998, a new project for tariff reform (*Proyecto de reforma arancelaria y compensación fiscal*) was submitted to congress. This project seeks to reduce gradually the tariff structure from a rank of 0%-35% to five tariff rates within a rank of 0%-20% in 1999 and in the year 2000 to four tariff rates with a rank of 0%-15%. The reform will provide a higher tariff rates for finished products while at the same time result in reduction of the median effective rate of protection. (see table 10 and graph 3).¹⁸ The average tariff rate would be 6.3%.

c) The 1992 fiscal reform and the 1997 proposal

In 1992 the government implemented a fiscal reform whose basic aim was fiscal equilibrium. The reform tried to adopt simpler fiscal laws to increase the amount of revenue and the efficiency of tax collection. To this end the fiscal reform modified personal and corporate taxes, the value added and excise taxes on consumption.

¹⁸ It is important to note the similarity between the proposed tariff schedule and the tariff schedule that has currently been adopted by Central American countries and which mainly has four tariff rates (0%, 5%, 10% and 15%). 0% is applied to capital goods, 5% and 10% are applied to intermediate goods and inputs, and 15% to final consumption goods.

Table 10

DOMINICAN REPUBLIC: PRESENT AND PROSPECTIVE TARIFF SCHEDULES

Present tariff schedule 1997	Prospective tariff schedule for the year 2000					Total
	0%	5%	10%	15%	>15%	
0%	9.1	...	...	...	...	9.1
3%	3.4	...	...	...	...	3.4
5%	7.5	...	...	...	...	7.5
10%	19.6	4.5	...	...	...	24.1
15%	4.5	1.8	0.6	...	...	6.8
20%	1.8	2.0	1.9	1.1	4.0	10.8
25%	2.0	2.2	2.8	1.4	1.2	9.5
30%	0.3	3.5	0.7	19.3	0.2	23.9
35%	...	0.3	...	4.4	...	4.7
Total	48.1	14.2	6.0	26.3	5.4	100

Source: National Planning Office (ONAPLAN) (1999).

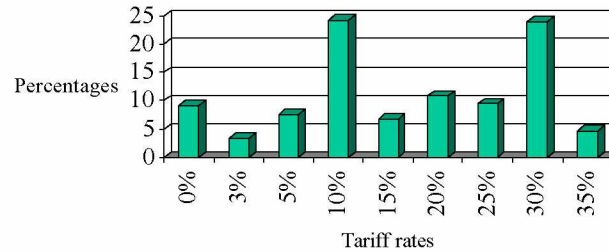
Regarding personal and corporate tax laws, the reform increased the allotted amounts that are regarded as exempted. The reform established three tax rates that could be applied to personal income and one rate for corporate income. The new law established that public firms had to pay the same corporate taxes as private firms. Fiscal incentives were suppressed with a few exceptions (i.e., productive activities undertaken under the free trade zone regime).

The value added tax rate was increased from 6% to 8%. The application of this tax was extended to cover services. All exports as well as some national produced and imported goods are exempted. The excise tax on consumption which was a specific tax became an ad valorem tax. Fifty individual laws that contained more than a 100 tax rates were suppressed and were replaced by the new tax code. The new code contemplates rates that comprise 10% to 15% for national products and seven types that are comprised in the interval 5% to 80%. The reform also reduced the temporal surcharge on imports established in 1987 from 15% to 10%. This surcharge was eliminated in June 1995.

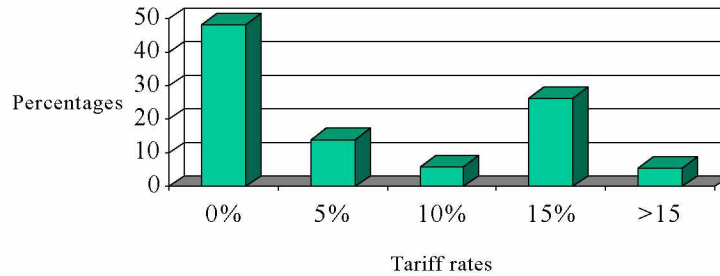
The 1997 tax reform proposal included an increase in the personal income tax base exemption and a fixed charge of 10% on the income tax; an increase in the value added tax rate from 8% to 12% as well as an extension of its base; an excise tax on petroleum products and an increase in the tax rate applied to alcoholic beverages (Pellerano, 1997).

Graph 3

DOMINICAN REPUBLIC: IMPORT DISTRIBUTION
ACCORDING TO PRESENT TARIFF SCHEDULE



IMPORT DISTRIBUTION ACCORDING TO YEAR 2000
TARIFF SCHEDULE



Source: National Planning Office (ONAPLAN) (1999).

5. External and internal sources of government finance

In order to provide an idea of the importance of trade and other tax revenue related to foreign trade the central government's revenues were decomposed into internal and external sources for three periods: 1985-1990; 1990-1995; 1995-1998. The first period corresponds to the revenue structure prior to the reform. The third and fourth periods correspond to the reform period proper and that pertaining to the consolidation of the reforms. The internal revenue sources comprise: income and property taxes; merchandise and service taxes. The external sources of revenue include, export taxes, import taxes, the foreign exchange commission and the external value added tax.

Table 11 highlights several important features of the revenue structure prior and following the tax and trade reform referred to above. Internal sources of revenues as a percentage of total tax revenues increased from 52.5% to 63%, a ten percentage point increase. This is basically the result of the gain in importance of the petroleum oil tax. As this tax reflects petroleum price behaviour and exchange rate variation, its revenue potential depends on exchange rate volatility and international oil price tendencies. This feature of the revenue accounts will be dealt more in detail in section 7.

The external sources of revenue have decreased by little more than four percentage points due basically to the elimination of the foreign exchange commission as a source of governmental revenue and of export taxes. The revenue derived from the external value added increased in weight probably reflecting the increase in the value added tax rate from 6% to 8% (this fact is also patent in the behaviour of the internal value added tax).

However, import taxes remained, in terms of percentage of total revenue, at the same level as before on average (27% of all fiscal revenues). In addition, not taking into account the external value added tax, foreign trade taxes still account for more than 25% of total fiscal income.

Relative to GDP, import taxes represented 3.2% in 1985 and 4.3% in 1998. In the same vein external sources of revenue have increased from 4.2% in 1985 to 5.8% in 1998.

The importance of import and in general foreign trade taxes can be attributed, in part, to foregone administrative costs of implementing internal taxes versus trade taxes. According to Pellerano (1997), the administrative costs of foreign trade taxes represent between 1 and 3 percentage points of fiscal revenue while the administrative costs of implementing the value added tax and income taxes amount to a range between 5 and 10 percentage points of fiscal income. In addition the high propensity to import (see section 4a) coupled with the recent high rates of economic growth generates an increasing and predictable source of fiscal revenue. Finally, the dependency on import taxes allows the authorities to use the official exchange rate as an instrument to increase government taxation.

Table 11

DOMINICAN REPUBLIC: AVERAGE GOVERNMENT REVENUE AS A PERCENT OF TOTAL
GOVERNMENT REVENUE, 1980-1998

	1985-1990	1990-1995	1995-1998
Internal sources of revenue	52.5	57.7	63.0
Income taxes	18.3	16.6	17.8
Property taxes	1.1	0.6	0.7
Merchandise and services	25.4	34.0	38.4
Internal value added tax	6.6	8.0	9.4
Petroleum differential	2.0	14.1	15.2
Other	18.5	11.0	13.7
Non-Tax income	7.7	6.5	6.1
External sources of revenue	41.1	36.9	36.3
Export taxes	2.0	0.0	0.0
Import taxes	26.7	27.1	27.0
Foreign exchange a/	...	3.7	0.1
Value added tax	3.5	5.6	8.8
Other	1.4	0.4	0.4

Source: Elaborated on the basis of table 26, Appendix.

Note: The decomposition does not include capital income.

a/ Not available for 1985-1987.

Table 12

DOMINICAN REPUBLIC: GOVERNMENT REVENUE AS A PERCENT OF GDP.
SELECTED YEARS, 1980-1998

	1985	1990	1995	1998
Total tax revenues	11.4	11.8	13.7	15.0
Total Revenue	12.2	12.9	14.7	15.8
Internal sources of revenue	6.8	7.0	8.8	10.0
Income taxes	2.1	2.7	2.6	2.8
Property taxes	0.2	0.1	0.1	0.1
Merchandise and services	3.7	3.2	5.2	6.2
Internal value added tax	0.5	1.2	1.3	1.5
Petroleum differential	...	0.2	2.3	2.6
Other	3.3	1.8	1.6	2.1
Non-Tax income	0.7	1.0	1.0	0.8
External sources of revenue	4.2	4.5	5.3	5.8
Export taxes	0.3	0.0	0.0	0.0
Import taxes	3.2	2.6	4.0	4.3
Foreign exchange	...	1.4	0.1	0.0
Value added tax	0.5	0.4	1.3	1.4
Other	0.2	0.1	0.1	0.1

Source: Table 26 Appendix.

Note: The decomposition does not include capital income.

Indeed, devaluations, a frequent feature of the Dominican economy, increase tariff import revenue income. This follows from our estimates of the demand for imports which yield an elasticity with respect to relative price changes below unity (0.62; see appendix A.2 for results). This result, probably due to lack of substitutes, indicates that any import price increase will result in higher import tariff revenue (table 13).

Table 13

DOMINICAN REPUBLIC: EXCHANGE RATE DEVALUATIONS AND IMPORT
REVENUES, 1980-1998

	1980	1985	1990	1995	1998
Selected National	1520	1286	1793	3164.2	4896.6
Exchange rate	1.26	3.12	8.65	12.87	14.70
National Imports in pesos	1915.2	4012.3	15509.45	40723.2	71980.0
Hypothetical tariff rate	10	10	10	10	10
Tax Import Revenue	191.5	401.2	1550.9	4072.3	7198

Source: Central Bank of the Dominican Republic.

Note: National imports comprise durable consumer goods, equipment, machinery and intermediate goods.

The fiscal dependency of the Dominican Republic on foreign trade taxes and more precisely on import taxes has generated debate and concern. Indeed not only does the Dominican Republic have one of the highest trade taxes to total fiscal revenue ratios in Latin America (see table 14) but also as the Dominican Republic seeks to carry out a policy of opening up trade and decreasing trade barriers and tariffs, the question remains of how to decrease trade tariffs without endangering fiscal stability.

Such an analysis can be carried out by first defining the concept of fiscal sustainability and then estimating the revenue loss due to different tariff reduction schedules. The next section addresses both issues.¹⁹

¹⁹ The concept of sustainability centres on the relation between internal debt and the primary (or operational) surplus (or deficit) and expresses that relation as a function of the rate of interest minus GDP growth. The higher the rate of growth of GDP for a given interest rate and internal debt-GDP ratio, the greater is the deficit-GDP ratio sustainability area. In the same way, the greater the difference between the rate of interest and GDP growth for a given internal debt-GDP ratio, the greater is the budget surplus required to remain in the sustainability area. Two other ways to analyse budget accounts and the impact of a given tariff structure on fiscal performance are the concept of “prudent” fiscal deficit and an analysis of optimal taxation. Akin to the concept of sustainability, the idea of “prudent” fiscal deficit places emphasis on macroeconomic magnitudes: “one way to decide whether a public deficit is ‘prudent’ is to determine whether financing it is consistent with other macroeconomic objectives...growth of private investment, control of inflation.”(World Bank, 1988, p.58). One should add that the notion of “prudent” budget deficit also should involve an assessment of its magnitude or size. In other words, fiscal prudence should also depend on the level of the budget deficit relative to GDP. In the case of the Dominican Republic, as shown in table 21, in the appendix, the central government’s budget accounts have remained, by most accounts, manageable and in fact prudent. The fiscal balance as a percentage of GDP reached -1.2%, 1.2% and 0.5% for 1980-1990, 1991-1995, and 1996-1998 respectively. Lastly, the question of tariff optimality can be viewed from the angle of maximizing government revenue subject to a given constraint. One could envision total government revenues from tariffs as a function of two components. First, a given tax rate multiplied by a variable tax base (in this case the import base). This component would allow to examine, other things being equal, the fiscal effect of changing the import base *via* institutional arrangements for a given tax rate. The second component would involve a variable tax rate multiplied by an import demand function with given parameters. Total government revenue will be maximized at the point where the marginal gain from expanding the import base for a given tariff rate equals the revenue gain from increasing the tariff rate on a given import demand function.

Table 14

TOTAL TRADE TAX REVENUE, IMPORT TAX REVENUE, EXPORT TAX REVENUE AS A PERCENTAGE OF TOTAL FISCAL REVENUE FOR THREE REFERENCE YEARS BY COUNTRY AND TRADE BLOC

Country/reference years	Reference year 1			Reference year 2			Reference year 3		
	TTT	IMT	EXT	TTT	IMT	EXT	TTT	IMT	EXT
Argentina 86/90/95	12.03	5.38	5.27	14.12	2.30	8.32	5.22	4.41	0.10
Bahamas 85/90/93	59.61	55.48	0.86	64.62	57.94	1.26	58.98	47.48	1.54
Bolivia 87/90/96	15.44	11.65	3.73	6.88	6.88	-	5.76	5.76	-
Brazil 85/90/93	2.33	1.50	0.90	1.52	1.49	0.03	1.50	1.50	-
Colombia 85/90/94	16.35	14.22	2.11	19.86	18.22	1.63	8.20	8.20	-
Costa Rica 86/90/95	21.06	13.01	7.95	22.95	15.53	6.86	14.89	11.55	2.60
Chile 87/90/96	10.30	10.30	-	11.60	...		9.30	...	
Ecuador* 85/90/94	17.46	14.29	1.06	13.29	11.81	0.34	11.27	10.41	-
El Salvador* 87/90/96	26.13	9.62	16.48	21.77	14.10	7.62	12.33	12.22	-
Guatemala* 86/90/95	27.99	9.88	15.19	19.58	19.34	0.17	22.96	22.29	-
Grenada* 91/93/95	24.51	18.56	0.01	19.69	16.81	0.01	16.77	16.77	-
Mexico 86/90/95	6.02	5.62	0.40	6.24	6.18	0.07	3.99	3.96	0.02
Nicaragua 85/90/95	6.90	4.68	0.12	18.61	18.59	0.02	20.56	20.56	-
Panama 86/90/95	11.69	10.76	0.77	11.97	10.92	0.93	...	...	0.52
Paraguay 85/90/93	11.33	9.86	0.01	20.01	14.01	-	12.46	12.46	-
Peru 87/90/96	21.54	21.18	0.36	16.67	9.29	7.23	9.02	9.02	-
Trinidad & Tobago 93/94/95	8.83	4.59		7.32	7.32		5.58	5.58	
Uruguay 87/90/96	11.90	9.11	0.25	9.43	7.70	0.54	3.48	3.20	0.03
Venezuela 87/90/96	12.72	12.72		5.70	...		6.90	6.90	
Dominican Republic	30.2	26.4	2.1	32.1	20.4	0.1	27.7	26.8	0.4
85/90/95									
Total Average	17.06	13.44	3.39	17.2	14.38	2.34	13.52	12.72	0.75
CARICOM									
MERCOSUR	9.40	6.46	1.61	11.27	6.38	2.96	5.06	5.39	0.06
ANDEAN GROUP	16.70	14.81	1.81	12.48	11.55	3.07	8.23	8.06	...
CACM	20.52	9.30	9.94	20.73	16.89	3.67	17.68	16.65	2.60

Source: IMF (1998).

Note: TTT: Total Trade Tax; IMT: Import Tax; EXT: Export Tax; CARICOM: Caribbean Community; MERCOSUR: Southern Common Market; CACM: Central American Common Market.

6. Fiscal sustainability and tariff reduction scenarios

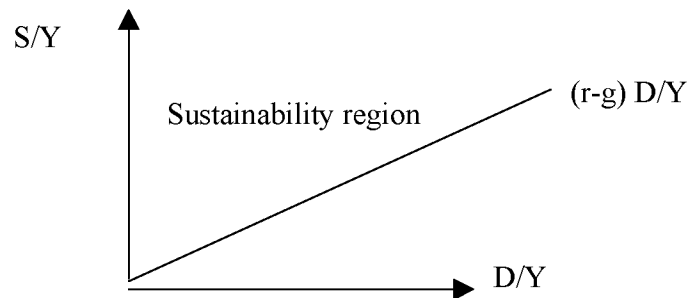
A budget deficit is said to be unsustainable when it leads to uncontrolled increases in the public debt or when interest rates are perceived as being too much of a burden as they are imposed on taxpayers through excessive tax rates or unequal distribution of the burden of the debt (Sawyer, 1998). The concept of fiscal sustainability can be examined using an equation that relates four variables: government expenditures, government revenues, rate of growth of real GDP, the real interest rate and the outstanding public debt. More specifically the equation says that the primary budget surplus as percentage of GDP equals the difference between the real interest rate and real GDP growth multiplied by the share of public debt to GDP (Pasinetti, 1998). Formally,

$$(1) S/Y = (r-g)D/Y$$

Where,

S= primary budget surplus
 Y= nominal output
 r = real rate of interest
 D= internal debt
 g= real growth rate of GDP

Equation (1) provides the boundary line between an unsustainable and a sustainable budget surplus or deficit. If, $S/Y > (r-g)D/Y$ then the surplus or deficit is said to be sustainable. This is illustrated in graph below for a case of less developed country where real interest rates exceed in general rates of growth of real output.



Notice that the formula considers only internal debt. It would thus at best provide a rough approximation to budget deficit sustainability in less developed countries since external debt often places an important constraint on fiscal accounts. Including external debt in equation (1) and expressing the surplus or deficit boundary line in national currency we obtain,

$$(2) S/Y = (r_i - g) D_i/Y + ((r_e + E(e) - g) D_e/Y$$

where,

r_i = internal real rate of interest

D_i = internal debt

r_e = foreign real rate of interest

D_e = external debt

$E(e)$ = expected exchange rate depreciation

This second case, more akin to that of the Dominican Republic, includes external debt. Here, the possibilities for obtaining fiscal equilibrium become more complex as there are four variables determining fiscal equilibrium. In table 15 we carried out computations for 1985 through 1998 of estimated fiscal sustainability and compared these results to actual fiscal performance. From here it can be deduced whether the government has sufficient manoeuvre to reduce trade taxes without increasing other types of taxes.

Table 15

DOMINICAN REPUBLIC: STABILITY SURPLUS BOUNDARY WITH INTERNAL AND EXTERNAL DEBT

Years	D_i/Y	D_e/Y	r_i	$r_e +$	g	Stability surplus boundary	Actual fiscal Result	Manoeuvre Margin
1991	3.0	60.3	25.7	14.6	1.0	8.20	3.3	-4.9
1995	6.2	31.7	18.7	5.78	4.8	1.17	0.7	-0.47
1998	6.2	21.3	16.0	16.68	7.3	2.52	1.0	-1.52

Source: Elaborated on the basis of information provided by the Central Bank of the Dominican Republic (1991-1998), Pellerano (1998), ECLAC (1999).

As table 15 indicates, the actual fiscal result has been below the sustainability region. Also as the external debt and internal rate of interest have decreased the stability surplus boundary has also declined substantially easing pressures to achieve a balance budget. However, the analysis clearly indicates that decreases in internal interest rates and/or in the ratio of internal debt to GDP, or increases in the rate of growth of output would be simply insufficient to achieve fiscal equilibrium while at the same time trying to eliminate trade taxes (which amounted in 1998 to 4.3% of GDP).

Using the concept of fiscal sustainability, a simulation was performed using several tariff reduction proposals to examine the possible impact of tariff reduction on fiscal accounts.

Table 16 shows five different tariff proposals and their fiscal impact, other things being equal. These five tariff schedules correspond the actual tariff reform proposal (see section 4), a 10% flat tariff rate, a 5% flat tariff rate, and a first approximation and second Central American tariff reduction proposal. The first approximation Central American tariff reduction proposal corresponds to a 15%, 5% and 1% tariff rate on final consumption goods, intermediate inputs, and capital goods. The second approximation Central American tariff reduction proposal corresponds to a 15%, 5% and 0% tariff rate on final consumption goods, intermediate inputs, and capital goods. As can be seen from table 16 and as expected, other things being equal all tariff reduction schedules generate a budget performance that falls outside the stability surplus boundary. The difference between both the budget deficit resulting from the alternative tariff reductions and the stability surplus boundary correspond the amount as a % of GDP that would have to be generated in order to fall within the stability surplus boundary. The required surplus is smallest for the 10% flat tariff rate and is biggest for the actual proposed tariff schedule (i.e., tariff 1). In principle this difference could be overcome in all cases by cutting budget expenditures and or raising taxes. One possible scenario is to cut subsidies to public firms. Were this the case, only the 10% flat tariff rate schedule would allow the budget to fall within the stability surplus boundary region. This is shown by comparing column 3 and column 5 in table 16.

Table 16

DOMINICAN REPUBLIC: FISCAL EFFECTS OF SELECTED TARIFF REFORM
PROPOSALS FOR 1998

Tariff proposals	Budget deficit as % of GDP	Stability surplus boundary	Difference	Budget deficit/surplus as % GDP without public subsidies
Tariff 1	-2.39	2.52	4.91	0.92
Tariff 10%	-0.24	2.52	2.76	3.08
Tariff 5%	-1.74	2.52	4.26	1.59
CACM tariff 1	-0.68	2.52	3.20	2.6
CACM tariff 2	-0.74	2.52	3.26	2.6

Note: The calculations for the budget deficit for Tariff 1 proposals were carried out using the tariff code of the Dominican Republic provided the Customs Office (1997). The rest of the budget deficit calculations were undertaken using data from the Central Bank of the Dominican Republic.

7. The fiscal impact of commodity price variations

As shown in the above analysis, especially by the fact that export taxes have been virtually eliminated, the behaviour of the prices of export primary products do not affect the fiscal accounts of the Dominican Republic (see table 12).²⁰

However, this is not the case of variations in imported oil prices. Indeed, the taxing of oil derivatives provides, as mentioned earlier, is an important source of revenue. On average this revenue source, known as the petroleum differential represented on average between 1985-1990, 1990-1995 and 1995-1998, 2.0%, 14.1% and 15.2% of total tax revenue. In terms of GDP, the petroleum differential represented 2.3 and 2.5% of GDP (see tables 11 and 12).

Throughout the 1980's governmental authorities taxed the import of oil products though excise taxes. Oil prices were determined according to a reference price which prior to 1990 was set at 40.5 dollars per barrel. Using an official exchange rate of 1 Dominican peso to a dollar meant 40.5 Dominican pesos per gallon.

The pricing policy did not follow the dictates of international oil price behaviour or of the evolution of the exchange rate. In some instances as the world oil prices had a tendency to increase domestic gasoline prices were, in fact, decreased (1985 and 1987 are cases in point, see table 17). More to the point devaluations of the exchange rate were not regularly accompanied by gasoline price hikes. Thus in dollar terms from 1985 to 1990 oil prices declined when in the international market they had a tendency to increase. As domestic oil prices were not linked to world prices or to the exchange rate through an automatic adjustment mechanism governmental revenues proceeding from this source have been volatile. In turn, this volatility was reflected in the fiscal accounts.

Table 17

DOMINICAN REPUBLIC: OIL PRICES, EXCHANGE RATE AND OIL TAX REVENUES, 1984-1995

	1984	1985	1986	1987	1988	1989	1990	1995
World Petroleum Prices a/	29.40	28.14	15.10	19.16	15.96	19.60	24.45	18.32
Gasoline Dominican Pesos	2.95	3.95	3.19	3.00	3.60	6.00	10.67	20.00
Exchange rate	2.83	3.12	2.89	3.51	5.81	6.35	8.65	12.87
Gasoline in US dollars	1.04	1.27	1.10	0.85	0.62	0.95	1.23	1.55
Oil Tax revenue as % of GDP	...	3.4	4.9	2.9	0.6	-0.2	-0.9	2.0

Source: IMF (1995), ECLAC (1999).

a/ Dollars per barrel.

²⁰ Primary products can affect the quasi-fiscal balance of the Central Bank. Traditional exporters must surrender their foreign earnings to Central Bank authorities and receive Dominican pesos. Thus the fiscal accounts may be affected by commodity price fluctuations. This issue was addressed in section 4 a above.

In August 1990, excise taxes were eliminated and the taxation of oil derivatives followed a scheme known as the oil price differential. The oil price differential is obtained as the difference between a parity price of imports and an ex-refinery price. The parity price is a fob price based on the MARAVEN formula. This formula takes as a reference price Platt's Spot price of the United States Gulf. In addition the parity price takes incorporates freight, insurance, foreign exchange rate commission and the nominal exchange rate. Given that the import parity price varies with nominal exchange rates and the world oil prices, the oil price differential became a fluctuating source of revenue. In fact as oil prices increased and the exchange rate depreciated the total revenues derived from this tax decreased.

Table 18

DOMINICAN REPUBLIC: OIL DIFFERENTIAL, EXCHANGE RATE AND OIL TAX REVENUES, 1984-1995

	1991	1992	1993	1994	1995
Oil differential as % of tax revenues	19.50	19.98	15.44	18.91	17.22
Oil differential revenue	2227.4	2192.5	2783	3634.5	3681
Exchange rate	12.58	12.5	12.5	12.62	12.87
World oil prices	21.46	20.56	18.46	17.10	18.32

Source: ECLAC (1999).

Thus, ultimately while the oil differential became an important source of tax collection it was prone to the same weaknesses as the excise tax before the 1990 reform. The oil differential was still vulnerable to exchange rate and oil price variations. As shown in table 18 a stable exchange rate coupled with a decreasing tendency in the international price of oil contributed substantially to increase the tax revenue derived from this source.

In December 1996, the authorities increased oil prices which had remained constant since 1991 ending an explicit subsidy to the private consumption of gasoline. More importantly it decided to minimize the potential vulnerability of the oil differential to exchange rate and international price fluctuation by fixing the differential oil price per gallon for each type of product. In other words, the oil differential became a constant proportion of oil prices fixed in Dominican pesos per gallon which is revised every year in the months of February, May, August and November. This fixed proportion allows the government to translate to consumer prices any variation in international oil prices or the nominal exchange rate. Thus if international oil prices decrease in the oil sales price will also decrease. This allows to maintain, in principle, the taxing potential of the oil differential. As shown in table 19, the average monthly volatility of the oil tax differential as measured by its standard deviation is not higher than other taxes.

Table 19

DOMINICAN REPUBLIC: AVERAGE AND STANDARD DEVIATION TAX REVENUES, 1996-1998

	1996		1997		1998	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Income Tax	383.7	222.5	490.5	282.5	644.8	369.5
Tax on goods and services	751.3	74.73	1016.7	109.5	1439.5	92.14
Oil differential tax	195.9	43.25	392.07	77.45	467.6	74.99
Import tax	761.4	86.01	1000.2	130.5	863.3	97.17
External Value added tax	182.9	19.04	249.7	35.28	290.08	23.33

Source: See table 28 appendix.

8. Conclusion

During the 1980's the Dominican Republic's implemented macroeconomic reforms to no avail. In 1990, under IMF auspices, a stabilization package (i.e., the New Economic Programme) was launched. The programme which was centred on the control of inflation through monetary and fiscal restraint included a financial, tax and tariff reform. Following a GDP contraction in 1991 (-6%), the package resulted in the resumption of growth accompanied by one digit inflation which has continued to the present day (with the exception of a brief expansionary interlude, 1993-1995). During 1995-1998, the Dominican economy has maintained an average 7% rates of growth of GDP and inflation.

The tariff and tax reforms saw light in September 1990 and June 1992 respectively. The tariff reform sought to simplify the existing tariff structure and reduce the tariff dispersion as well as the average effective rate of protection. Accordingly, the tariff interval was initially reduced from 0%-200% to 5%-35% and then to 0%-35%. The tariff rates which were seven in number at the beginning of the reform increased to nine by 1997. The average tariff rate was estimated at 17.3% in 1997.

The tariff reform was also accompanied by the elimination of most import prohibitions, licenses and exemptions increasing thus the import tax base as well as the virtual elimination of export taxes. The elimination of export taxes coupled with the recent reforms regarding the oil tax differential have shielded the performance of budget accounts from commodity price volatility.

Nonetheless an implicit export tax to traditional exporters exists as these have to surrender their foreign exchange earnings to the Central Bank. The quasi-fiscal revenue potential of this implicit tax depends on the difference between the official exchange rate and the market exchange rate.

Still, external sources of revenue are important as they represent 36% of total fiscal revenues and 6% of GDP as of 1998. Import taxes represented during 1995-1998, more than a quarter of total fiscal revenues and 4% of GDP. This dependence on trade taxes, which is one of the highest in Latin America and selected Caribbean countries, has become a source of concern as the Dominican Republic is opening up to external competition. (The country is part of several regional agreements and since March 1995 of the WTO. In 1998, it signed free trade agreements with CARICOM and the Central American Common Market.) In short, how can the country carry out an outward looking economic policy while maintaining the present weight of trade taxes in fiscal revenue?

In 1998, a tariff reform was elaborated seeking to reduce the tariff interval from the present 0%-35% to 0%-15%, diminishing effective rates of protection and the average mean tariff rate. While the proposal is still under inspection by the legislative power, if implemented it could decrease trade taxes substantially and endanger fiscal stability, especially since the present fiscal account surplus falls short of the sustainability surplus boundary line by 1.5% of GDP.

A reduction in internal interest rates could diminish the sustainability surplus boundary line. Additionally, the fiscal reform —also in the legislative chamber— which seeks to increase the value added tax rate from 8% to 12% coupled with substantial decrease in government subsidies (which the 1997 privatization law ultimately seeks to achieve) to state owned firms could generate earnings to compensate the fiscal gap and provide the necessary manoeuvre margin to distribute income. First approximation calculations indicated that even if the tariff proposal is carried out and all government subsidies to state owned firms were eliminated, the resulting surplus would, other things being equal, fall short of the sustainability surplus by 1% of GDP.

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APPENDIX

1. Selected macroeconomic and fiscal indicators; monthly exchange rates

Table 20

DOMINICAN REPUBLIC: SELECTED MACROECONOMIC INDICATORS, 1970-1998

Years	GDP growth	Inflation	Exchange rate		RER Index	Real Wage Index	IC	Openness	TGAP	CAG
			O	P						
1970	13.4	3.78	1	1.15	100	100	18.54	38	-5.0	-9.7
1971	10.9	4.27	1	1.14	99.2	60.8	18.37	37.9	-4.7	-8.5
1972	10.4	7.19	1	1.12	93.9	89.5	17.48	38.6	0.6	-2.7
1973	12.9	15.84	1	1.13	86.8	77.2	17.01	41.6	1.0	-4.7
1974	6.0	13.20	1	1.14	85.9	67.9	18.62	51.0	-1.4	-9.4
1975	5.2	14.31	1	1.18	84.9	89.5	20.90	54.6	4.0	-2.4
1976	6.7	8.07	1	1.20	84.5	82.8	20.62	44.9	-1.4	-7.3
1977	5.0	12.79	1	1.22	81.1	73.5	18.98	43.3	-1.8	-7.0
1978	2.1	7.09	1	1.25	83.4	68.6	18.58	40.6	-4.9	-8.3
1979	4.5	9.20	1	1.22	83.1	87.2	16.89	44.6	-6.0	-7.2
1980	8.0	16.81	1	...	83.4	74.7	15.31	46.2	-10.4	-12.5
1981	4.3	7.3	1	...	86.9	69.5	15.59	44.7	-4.5	-6.6
1982	1.7	60.1	1	...	84.4	61.6	18.40	35.8	-8.6	-7.8
1983	4.6	6.0	1	...	90.5	58.3	17.8	35.8	-8.6	-7.3
1984	1.3	38.6	1	...	138.8	67.9	17.3	51.9	-9.5	-4.0
1985	-2.1	30.9	3.12	3.10	110.9	66.8	16.8	40	-10.8	-2.1
1986	3.5	4.4	2.89	2.89	100.9	62.1	17.7	33.7	-10.2	-3.0
1987	10.1	22.7	3.51	3.84	113.1	76.5	18.1	39.5	-15.1	-6.2
1988	2.2	55.8	5.81	6.12	120.6	76.1	17.6	46.5	-13.4	-0.4
1989	4.4	34.6	6.35	6.97	106.9	75.7	17.7	47.5	-17.4	-5.4
1990	-5.5	79.9	8.65	11.13	140.7	80.5	17.9	46.6	-19.5	-5.2
1991	1.0	7.9	12.58	13.06	116.9	71.2	18.2	32.4	-14.5	-2.1
1992	8.0	5.2	12.5	12.77	112.9	68.9	18.9	31.0	-18.3	-8.0
1993	3.0	2.8	12.5	12.67	109.7	73.5	18.7	81.8	-15.0	-5.5
1994	4.3	14.3	12.62	13.16	107.9	...	18.4	79.9	-13.9	-2.7
1995	4.8	9.2	12.87	13.6	101.4	...	17.5	75.0	-11.7	-1.5
1996	7.3	4.0	12.9	13.77	100.8	...	17.0	73.4	-12.6	-1.6
1997	8.2	8.4	14.01	14.27	98.7	...	16.9	74.5	-13.2	-1.1
1998	7.3	7.8	14.7	15.27	102.6	...	16.6	79.4	-16.5	-2.4

Source: The Central Bank of the Dominican Republic (1997); Martí Gutiérrez (1997); ECLAC (1999).

Note: O = official exchange rate; P = parallel exchange rate; RER = real exchange rate index; IC = industrialization coefficient; OC = openness coefficient; TGAP = trade gap; CAG = current account gap. The openness coefficient includes from 1993 data on free trade zones. The real wage index is based on the monthly private sector real wage. The real exchange rate index was computed using the official exchange rate from 1980 to 1984. For the remaining years the parallel exchange rate was used in the calculations.

Table 21

DOMINICAN REPUBLIC: SAVINGS GAP AND SELECTED FISCAL INDICATORS. 1970-1998

Years	Savings Gap	Fiscal Gap	Tax-GDP ratio	Fiscal revenue velocity	Coefficient of fiscal flexibility
1970	- 8.8	0.4	14.85	5.54	1.2
1971	-6.0	0.0	15.05	5.47	1.1
1972	-1.2	0.2	14.10	5.9	0.5
1973	-0.8	3.3	17.23	5.05	2.1
1974	-8.9	-0.5	14.10	5.87	0.3
1975	-8.8	-0.2	16.09	5.58	1.3
1976	-4.2	0.0	13.26	6.93	-1.19
1977	-4.0	0.2	12.76	7.16	0.73
1978	-0.8	-1.0	11.35	7.53	-0.04
1979	-2.3	-4.1	11.03	7.07	1.47
1980	-9.7	-2.7	10.30	6.36	1.60
1981	-5.0	-2.0	9.72	7.00	0.14
1982	-3.1	-2.7	8.10	7.99	-0.46
1983	-2.8	-2.3	8.15	7.86	1.16
1984	-0.3	-1.2	9.05	8.81	0.48
1985	-2.2	-1.3	9.7	8.22	1.27
1986	-2.8	0.7	11.3	7.07	2.39
1987	-2.4	-1.6	11.4	7.26	0.87
1988	-1.6	-0.9	11.8	6.48	1.37
1989	-1.0	0.1	12.5	6.14	1.24
1990	6.4	0.4	10.6	7.77	0.30
1991	1.2	3.3	11.8	7.17	1.22
1992	-1.5	3.6	13.8	6.41	1.82
1993	0.2	0.2	14.8	6.15	1.55
1994	0.9	-0.8	14.0	6.40	0.67
1995	-0.5	0.7	13.8	6.79	0.63
1996	...	-0.3	13.1	7.17	0.54
1997	...	0.7	14.7	6.37	1.86
1998	...	1.0	15.0	6.33	1.06

Source: Martí Gutiérrez (1997); Central Bank of the Dominican Republic (1997, 1998, 1999); ECLAC (1999).

Note: Fiscal revenue velocity refers to the ratio of nominal GDP to nominal fiscal revenue. The coefficient of fiscal flexibility refers to the ratio of the rate of change of nominal GDP to the rate of change of fiscal revenue.

Table 22

DOMINICAN REPUBLIC: OFFICIAL AND PARALLEL EXCHANGE RATES. MONTHLY DATA,
1987-1990

Months	1987		1988		1989		1990	
	O	P	O	P	O	P	O	P
January	3.06	3.07	4.97	5.05	6.35	6.42	6.35	8.51
February	3.10	3.15	4.99	5.40	6.35	6.40	6.35	8.83
March	3.23	3.26	4.99	5.1	6.35	6.49	6.35	9.69
April	3.23	3.27	5.09	5.98	6.35	6.50	7.23	10.51
May	3.42	3.54	5.15	6.26	6.35	6.56	7.60	10.62
June	3.66	3.94	6.38	6.73	6.35	6.68	7.60	10.89
July	3.47	3.81	6.36	6.69	6.35	6.82	7.60	10.80
August	3.22	3.72	6.35	6.49	6.35	6.80	9.85	11.22
September	3.40	4.13	6.35	6.46	6.35	6.78	10.50	12.25
October	3.53	4.71	6.35	6.42	6.35	7.47	11.37	13.63
November	4.03	4.60	6.35	6.40	6.35	8.43	11.50	13.14
December	4.79	4.86	6.35	6.41	6.35	8.33	11.50	13.42
Average	3.51	3.84	5.81	6.12	6.35	6.97	8.65	11.13

Source: Central Bank of the Dominican Republic (1997).

2. The demand for imports, 1950-1992

The demand for imports was specified as a function of real GDP and the relative price of imports. Following León-Ledesma (1998) the relative price of imports was proxied by the difference between the GDP and import price deflators. The time domain used for the econometric estimations was 1950-1992. Both cointegration and ordinary least squares (OLS) techniques were applied. The price elasticity of imports in with both techniques yielded very similar results.

Table 23

DOMINICAN REPUBLIC: OLS ESTIMATION RESULTS

Regressor	Coefficient	T-Statistic
Constant	-1.31	-2.21
Real GDP	1.29	10.7
Relative Import Price	0.67	2.58
Diagnostics		
AdjR2= 0.83	ARCH (1)=0.02	LM (1)=1.99
		FF (1)=0.94

Table 24

DOMINICAN REPUBLIC: OLS ESTIMATION RESULTS

Regressor	Coefficient	T-Statistic
Constant	-1.38	-2.21
Real GDP	1.27	10.7
Relative Import Price (-1)	0.61	2.4
Diagnostics		
AdjR2= 0.83	ARCH (1)= 0.02	LM (1= 1.30)
		FF (1)= 0.0

Table 25

DOMINICAN REPUBLIC: DICKEY FULLER UNIT ROOT TESTS AND COINTEGRATION RESULTS

Variable	DF/ADF
Import volume	-1.09
First difference of import volume	-5.89*
Real GDP	-1.27
First difference of real GDP	-6.03*
Relative import price	-0.14
First difference of relative import price	-3.17*
Vector autoregression results	
Tests Diagnostics/Lag order	
AIK/Lag	SC/Lag
67.8/1	58.1/1
ALR/Lag	
36.7/1	
Lagrange Multiplier test for autocorrelation	
Import Volume	Real GDP
0.11	0.14
Relative import prices	1.15
Johansen Cointegration Results	
Cointegration tests results	
Ho	H1
R= 0	r= 1
R= 1	r= 2
R= 2	r= 3
LRS	5%CV
38.5	22.0
21.6	15.9
6.6	9.2
Cointegrating vector	
LIMPV= -1.26 + 1.26 LRGD + 0.69 LRIMP	

Source: ECLAC (1999), Central Bank of the Dominican Republic.

3. Governmental Revenue Structure, 1985-1998

Table 26

DOMINICAN REPUBLIC: GOVERNMENTAL REVENUE STRUCTURE, 1985-1998

(Millions of Dominican pesos)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total revenue	1 910.4	2 515.4	3 085.4	5 066.5	6 893.7	7 757.9	13 419.6	17 572.2	19 776.1	21 482.3	23 898.9	25 590.2	33 755.5	38 218.7
Internal sources of revenue	1 067.6	1 423.7	1 626.6	2 678.1	3 286.1	4 209.9	7 779.5	9 057.7	10 813.5	12 714.2	14 341.1	16 441.8	21 619.0	24 178.4
Income taxes	336.4	420	499.7	841.8	1 284.8	1 602.8	2 374.6	2 762.3	3 110.1	3 224.8	4 142.0	4 629.3	5 935.9	6 893.0
Property taxes	29	34.4	92.2	39.1	46.8	54.7	69.4	90.5	116.1	123.8	160.4	179.3	241.3	323.8
Merchandise and services	586.2	834.3	737.7	1 294.2	1 548.5	1 919.3	4 528.2	514.3	6 288.8	8 001.9	8 419.7	10 074.0	13 232.3	14 916.6
Internal value added tax	73.9	98.5	148.8	284.9	472.8	715.8	951.6	1 250.5	1 483.8	1 819.9	2 069.1	2 445.4	3 240.6	3 697.5
Petroleum differential	...	...	...	...	...	90.7	2 227.4	2 192.5	2 783.0	3 634.5	3 681.0	3 371.7	5 228.6	6 215.3
Others	512.3	735.8	588.9	1 009.3	1 075.7	1 112.8	1349.2	1700	2022	2 547.5	2 669.6	4 256.9	4 763.3	5 003.8
Non tax income	116	135	297	503	406	633.1	807.3	1 061.9	1 298.5	1 363.7	1 619.0	1 559.2	2 209.3	2 045.0
External sources of revenue	657.9	814.7	1 359.2	2 297.5	3 320.0	2743.8	4 451.1	7 604.7	8 512.6	7 869.2	8 648.8	9 248.4	12 137.8	14040.3
Export taxes	40.1	104.8	77.6	178.7	128.7	5.2	3.1	2.2	1.2	1.0	3.9	4.4	2.0	1.7
Import taxes	504.7	586.5	1 065.0	1470	2 045.5	1 586.3	2 969.6	5 333.2	6 038.8	5 777.9	6 417.4	6 942.0	9 006.9	10 402.5
Foreign exchange	...	...	...	407.7	825.8	856.5	909.6	1 053.5	656.3	284.7	87.4	0.0	0.0	0.0
Value added tax	81.7	89.7	168.8	176.4	172.2	253	516	1 153.4	1 717.8	1 704.6	2 037.2	2 194.9	2997	3 481.0
Others	31.4	33.7	47.8	64.7	147.8	42.8	52.8	62.4	98.5	101	102.9	107.1	131.9	155.1

Source: Central Bank of the Dominican Republic.

Table 27

DOMINICAN REPUBLIC: GOVERNMENT EXPENDITURE 1985-1998

(Millions of Dominican Pesos)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total expenditures	1 845	2 226	3 277	4 834	5 738	6 522	10 367	14 059	19 870	22 190	23 190	26 593	32 691	36 757
Current expenditures	1 400	1 609	1 471	2 128	2860	3 521	5 257	6 735	9 973	10 479	12 677	14 951	23 780	27 355
Salaries	613	696	677	965	1 191	1 580	2 065	2 745	3 472	4 081	5 343	6 109	9 892	11 211
Goods and services	...	...	248	297	358	353	542	976	1 428	1 654	1 523	1 379	1 325	1 500
Current transfers	415	578	446	748	790	1 015	1 526	1 615	2 193	1 925	2 938	4 685	7 837	8 045
Interests on the external debt	...	...	13	8	311	242	674	593	1 554	1 200	1 488	1 002	1 065	1 259
Other	372	335	87	110	210	331	451	806	1 326	1 619	1 385	1 776	3 661	5 340
Capital expenditure	443	617	1 806	2 706	2 706	3 001	5 110	7 324	9 897	11 711	10 513	11 642	8 911	9 402

Source: ECLAC (1999).

4. The oil tax differential

Table 28

DOMINICAN REPUBLIC: OIL PRICES, EXCHANGE RATE AND OIL TAX

(Monthly data, 1996-1998)

	1996			1997			1998		
	Oil prices (USD/barrel)	Oil tax (pesos million)	Exchange rate (pesos/USD)	Oil prices (USD/barrel)	Oil tax (pesos million)	Exchange rate (pesos/USD)	Oil prices (USD/barrel)	Oil tax (pesos million)	Exchange rate (pesos/USD)
January	18.89	200	12.87	24.93	360	13.91	16.7	486.9	14.02
February	19.07	160	12.87	21.83	380	13.96	16.06	544.2	14.02
March	21.01	200	12.87	20.66	255	14.02	15.11	580.3	14.02
April	23.2	200	12.87	19.4	534.9	14.02	15.32	436.1	14.02
May	21.07	200	12.87	20.5	307.3	14.02	14.9	429	14.02
June	20.27	160	12.87	18.87	389.6	14.02	13.71	514.6	14.02
July	21.27	200	12.87	19.32	455.5	14.02	14.12	290.5	15.22
August	21.98	322.8	12.87	19.62	372.5	14.02	13.4	464.4	15.33
September	23.96	179.9	12.87	19.59	449.2	14.02	14.98	428.1	15.36
October	24.94	181.1	12.87	21.21	329.5	14.02	14.42	440.2	15.44
November	23.64	160.6	12.87	19.88	396.6	14.02	12.96	462	15.49
December	25.32	186.3	13.19	18.3	474.7	14.02	11.31	534.8	15.48
Annual average/total	22.05	2350.7	12.9	20.34	4704.8	14.01	14.42	5611.1	14.7

Source: Ministry of finance (1997, 1998).

Table 29

DOMINICAN REPUBLIC: TAX REVENUE. MONTHLY DATA, 1996-1998

	1996					1997					1998				
	Income tax	Tax on goods and services	Oil tax	Import tax	External value added tax	Income tax	Tax on goods and services	Oil tax	Imports Tax	External value added tax	Income tax	Tax on goods and services	Oil tax	Import Tax	External value added tax
January	308.5	917.1	200	665.4	158.1	380	1048.3	360	799.4	188.9	425.7	1562	486.9	680	249.8
February	190	748.9	160	689.7	167.9	235	977.2	380	790.3	198.5	334.2	1447.8	544.2	750.5	257.2
March	320.5	789.6	200	760.1	181.2	413.3	805.1	255	865	215.9	559.6	1522.2	580.3	846.3	292.1
April	589.4	719.1	200	737	175.7	811.9	1103	534.9	1035.1	248.8	1029.1	1417.5	436.1	843.1	303
May	272.6	700.2	200	783.5	192.8	305.6	884.5	307.3	1016	247.7	424	1378.5	429	867.7	294.1
June	843.8	685.8	160	638.4	154.9	1011.8	972	389.6	1007.8	260.2	1336.6	1422	514.6	848.8	280.3
July	223.1	823.9	200	752.2	184.2	310.2	1071.7	455.5	1095.7	274.3	383.5	1295.4	290.5	954.9	328.7
August	211.8	828.8	322.8	774	180.3	247.1	1014.2	372.5	1005	250.4	359.5	1474.1	464.4	934.4	301.3
September	647.2	689.8	179.9	693.7	172.7	833.2	1098.2	449.2	964.3	246	1121.4	1430.4	428.1	778.4	265.3
October	214.3	698.9	181.1	858.9	203.4	298.6	972.8	329.5	1079.5	276.5	380.7	1329.4	440.2	899.8	306
November	195	669.6	160.6	857.6	211.7	257.7	1022.2	396.6	1114.1	276.1	356.8	1383.5	462	913.1	290.3
December	588.3	744	186.3	926.4	212	781.7	1231.3	474.7	1231.2	313.6	1026.3	1611.7	534.8	1042.6	312.8
Total	4 604.5	9 015.17	2 350.7	9 136.9	2 194.9	5 886.1	12 200.5	4 704.8	12 003.4	2 996.9	7 737.4	17 274.5	5 611.1	10 359.6	3 480.9
Annual average	383.71	751.31	195.89	761.41	182.91	490.51	1016.71	392.07	1000.28	249.74	644.78	1439.54	467.59	863.30	290.08
Std. deviation	222.48	74.73	43.25	86.01	19.04	282.47	109.52	77.45	130.47	35.28	369.50	92.14	74.99	97.17	23.33

Source: Ministry of Finance (1997, 1998).