## UNIVERSIDAD DE SAN ANDRÉS

Seminario del Departamento de Economía

# "Protection and export incentives in the Dominican Republic" 

Alberto Herrou-Aragon (Banco Mundial)

Martes 3 de agosto de 1999 11 hs.
Aula Roberto J. Lebach

## Protection and Export Incentives in the Dominican Republic

## I. Introduction



1. The Dominican Republic constitutes an interesting case for commercial policy evaluation because an escalating import tariff rate structure and non-tariff import barriers aimed at protecting import-substitution activities coexist with successful export processing zones and tourism. Exports from these zones account for about $80 \%$ of total exports of goods and their annual growth rate has been about $26 \%$ in the last fifteen years.
2. As is well known, free trade status to exportable activities tend to reduce the antiexport bias of commercial policies as tariffs are not applied on imported inputs. Commercial policies could still have a negative impact on these activities as they tend to appreciate the so-called real exchange rate and thus to reduce the competitiveness of the country in international markets. The main question is thus the extent to which current commercial policies constitute an implicit tax on exportable activities in presence of export incentives.
3. This paper has the objective of quantifying the impact of commercial policies on resources allocation, factor returns, relative prices, and welfare in the Dominican Republic. A factor-specific general equilibrium model is used to assess the impact of current trade policies on the economy vis- $\grave{\alpha}$-vis a free trade policy. In addition, a Government proposal of tariff reductions submitted to Congress for approval, and an alternative policy of a $10 \%$ uniform import duty are also evaluated. The model is presented in Section II. Section III contains a summary of commercial policies. The evaluation of commercial policies is presented in Section IV and concluding remarks are in Section V.

## II. A General Equilibrium Model

4. The model presented in this section is very similar in structure to those of R . Jones (1963), R. Batra (1973), R. Komiya (1967), and E. Bond (1995). In Batra's and Komiya's models, equilibrium prices of non-traded goods are determined only by supply conditions with demand playing no role in price determination. In this model, those prices are determined both by supply and demand for non-traded goods as a result of assuming sector-specific primary factors.
5. The model consists of three final goods (exportable, importable, and non-traded goods), four primary inputs (labor and three sector-specific factors), and three intermediate inputs (exportable, importable and non-traded inputs). Labor is mobile across activities while capital is a sector-specific factor although it is mobile among firms

[^0]within each sector ${ }^{1}$. Wages and profits are determined by the equality of demand with fixed supplies of labor and capital. Production technology is assumed to have constant returns to scaie and elasticity of substitution between primary factors and inputs equal to zero. On the other hand, elasticity of substitution between labor and capital is assumed equal to one. Consumers' demand for final goods is assumed to be generated by a utility function with unitary elasticity of substitution.
6. The corresponding cost functions are thus:
\[

$$
\begin{equation*}
C_{j}=\left[\theta_{0 j} \cdot\left(w^{\beta /} r_{j}^{\left(1-\beta_{j}\right)}\right)+\sum_{i=1}^{n} \theta_{i j} \cdot p_{i}\right] \cdot Y_{j} \quad j=M, X, H \tag{1}
\end{equation*}
$$

\]

where $w$ and $r_{j}$ are wages and return to capital in activity $j, p_{i}$ 's are the prices of inputs, $Y_{j}$ is activity $j$ 's output, and $M, X$, and $H$ refer to importable, exportable and non-traded activities.
7. Using Shepherd's Lemma, demand for primary factors and for inputs can be derived from (1):

$$
\begin{align*}
& L_{j}^{d}=\theta_{0 j} \cdot \beta_{j} \cdot\left(\frac{r_{j}}{w}\right)^{\left(1-\beta_{j}\right)} Y_{j}  \tag{2}\\
& K_{j}^{d}=\theta_{0 j} \cdot\left(1-\beta_{j}\right) \cdot\left(\frac{w}{r_{j}}\right)^{\beta_{j}} Y_{j} \tag{3}
\end{align*}
$$

As what is going to be evaluated is policy changes, it would be convenient expressing equations (2) and (3) in terms of a baseline scenario to assess changes in demands for primary factors:

$$
\begin{equation*}
\left(1+l_{j}\right)=\frac{L_{j}^{d}}{\overline{L_{j}^{d}}}=\left(\frac{r_{j}}{\overline{r_{j}}}\right)^{\left(1-\beta_{j}\right)} \cdot\left(\frac{\bar{w}}{w}\right)^{\left(1-\beta_{j}\right)} \cdot \frac{Y_{j}}{\overline{Y_{j}}} \tag{2'}
\end{equation*}
$$

$$
\begin{equation*}
\left(1+k_{j}\right)=\frac{K_{j}^{d}}{\overline{K_{j}^{d}}}=\left(\frac{w}{\bar{w}}\right)^{\beta_{j}} \cdot\left(\frac{\overline{r_{j}}}{r_{j}}\right)^{b_{j}} \cdot \frac{Y_{j}}{\overline{Y_{j}}} \tag{3'}
\end{equation*}
$$

$$
\left(1+d_{i j}\right)=\frac{D_{i j}}{\overline{D_{y j}}}=\left(\frac{Y_{j}}{\overline{Y_{j}}}\right)=1+y_{j}
$$

where a variable $(\bar{x})$ means the value of that variable in the baseline scenario.

[^1]8. Production responses to changes in relative prices are assumed to take place along the production possibility frontier so that all resources are fully employed. This full employment condition requires that demand for labor and capital be equal to their total endowments:
\[

$$
\begin{align*}
& \left(1+l_{M}\right) \cdot\left(\frac{\overline{L_{M}^{d}}}{\bar{L}}\right)+\left(1+l_{x}\right) \cdot\left(\overline{\frac{L_{X}^{d}}{\bar{L}}}\right)+\left(1+l_{H}\right) \cdot\left(\overline{L_{H}^{d}} \overline{\bar{L}}\right)=1 \text {, and }  \tag{5}\\
& \left(1+k_{j}\right)=1
\end{align*}
$$
\]

as labor is mobile across activities and capital is a specific primary factor.
9. A second general equilibrium condition is that of zero-profits. A relationship among prices of final products and prices of primary factors and purchased inputs (vis-àvis the baseline scenario) can then be derived from the cost functions:

$$
\begin{equation*}
\left.\frac{c_{j}}{\overline{c_{j}}}=\theta_{0 j} \cdot\left(\left(\frac{w_{j}}{\frac{w_{j}}{w_{j}}}\right)^{\left(\frac{w_{j}}{w_{j}}\right.}\right)^{\left(1-\beta_{j}\right)}\right)+\sum_{i=1}^{n} \theta_{i j}\left(\frac{p_{i}}{\overline{p_{i}}}\right)=\left(\frac{p_{j}}{\overline{p_{j}}}\right) \tag{7}
\end{equation*}
$$

10. Domestically produced goods are assumed to be perfect substitutes of their internationally traded counterparts so that their domestic prices are determined by their international prices plus import tariff or minus export tax rates. Border prices are going to be normalized to be equal to unity. Thus, domestic prices can be expressed as a function of the baseline and of the new import (or export) taxes. In the case of importcompeting activities, their prices will be given by :

$$
\begin{equation*}
\frac{p_{j}}{\overline{p_{j}}}=\frac{\left(1+t_{j}\right)}{\left(1+\overline{t_{j}}\right)} \text { and } \tag{8.1}
\end{equation*}
$$

$$
\begin{equation*}
\frac{p_{i}}{p_{i}}=\frac{\left(1+t_{i}\right)}{\left(1+\bar{t}_{i}\right)} \tag{8.2}
\end{equation*}
$$

11. Prices of non-traded activities are determined domestically by the market clearing condition. Demand for non-traded goods as final consumer goods $\left(D_{H}^{d}\right)$ is derived from a Cobb-Douglas utility function $(\mathrm{U})$ while their demand for intermediate consumption is derived from the cost function (5):

$$
\begin{equation*}
U=B\left(D_{x}^{d}\right)^{\alpha 0}\left(D_{F}^{d}\right)^{\alpha 1}\left(H_{F}^{d}\right)^{\alpha 2} \tag{9}
\end{equation*}
$$

It can be easily shown that the associated expenditure function $(\mathrm{E})$ is as follows:

$$
\begin{equation*}
E=P\left(p_{x}, p_{m}, p_{h}\right) \cdot U=B p_{x}^{\alpha 0} p_{m}^{\alpha 1} p_{h}^{\alpha 2} U \tag{10}
\end{equation*}
$$

where $P$ is a price level transforming units of the numeraire into utility units.

Applying the Shepherd's Lemma, the demand for non-traded activities as final consumer goods can be obtained:

$$
\begin{equation*}
\frac{d E}{d p_{h}}=D_{H}^{d}=B \alpha_{2} p_{h}^{(\alpha 2-1)} p_{x}^{\alpha 0} p_{m}^{\alpha 1} U \text {, or as a function of the baseline } \tag{11}
\end{equation*}
$$

scenario,

$$
\begin{equation*}
1+d_{h}=\frac{D_{H}^{d}}{\overline{D_{H}^{d}}}=\left(\frac{p_{h}}{p_{h}}\right)^{\left(\alpha_{2}-1\right)}\left(\frac{p_{x}}{p_{x}}\right)^{\alpha_{0}}\left(\frac{p_{m}}{p_{m}}\right)^{\alpha_{1}} \frac{U}{\bar{U}} \tag{11'}
\end{equation*}
$$

Likewise, the demand for non-traded goods as intermediate inputs by the different productive activities can be obtained from the cost functions (1):

$$
\begin{equation*}
1+d_{h j}=\frac{Y_{j}}{\overline{Y_{j}}}=1+y_{j} \tag{12}
\end{equation*}
$$

Prices of non-traded activities are then determined by the market clearing condition

$$
\begin{equation*}
\frac{Y_{h}}{\overline{Y_{h}}}=\left(\frac{\bar{D}_{H}^{d}}{D_{H}}\right)\left(1+d_{h}\right)+\sum\left(\frac{\overline{D_{H j}^{d}}}{D_{H}}\right)\left(1+d_{h j}\right) \tag{13}
\end{equation*}
$$

12. Equation (13) contains changes in welfare (that is, changes in $U$ ) affecting the final demand for non-traded goods. These changes in welfare can be calculated using the national accounts identity:

$$
\begin{equation*}
E+S=Y+\sum_{j} t_{j}\left(D_{j}^{d}-S_{j}\right)+\sum_{i} t_{i}\left(D_{i}^{d}-S_{i}\right) \tag{14}
\end{equation*}
$$

where $Y$ is national income or revenue function
$S$ is savings
$S_{F}, S_{I}$ are quantities domestically supplied of final and intermediate goods
13. The revenue function is a function of prices of final and intermediate goods:

$$
\begin{equation*}
Y=Y\left(p_{j}, p_{i}\right) \tag{15}
\end{equation*}
$$

Using Shepherd's Lemma,

$$
\begin{align*}
& Y_{p_{j}}=S_{j} \text { supply of commodity } j  \tag{16}\\
& Y_{p_{i}}=S_{i}-D_{i}=\text { excess supply of intermediate good } i \tag{17}
\end{align*}
$$

Change in utility is obtained by totally differentiating the utility function and using (16) and (17).

$$
\begin{equation*}
\left(1+\left(\frac{\Delta U}{U}\right)\right)=\frac{\left[1+\left[\left(\frac{\overline{E^{i c}}}{\bar{E}}\right) \cdot\left(\sum_{i} t_{i} \cdot\left(1+d_{i}\right)\right)+\left(\frac{\overline{E^{c g}}}{\bar{E}}\right) \cdot\left(\sum t_{j} \cdot\left(1+d_{j}\right)\right)-\left(\frac{\overline{Y^{m}}}{\bar{E}}\right) \cdot\left(\sum t_{j} \cdot\left(1+y_{j}\right)\right)-\sum_{j}\left(\frac{\overline{E^{c g i}}}{\bar{E}}\right) \cdot \Delta t_{j}\right]\right.}{((1+P) /(1+\bar{P}))} \tag{18}
\end{equation*}
$$

where $\left(\overline{\frac{E^{i c}}{\bar{E}}}\right),\left(\overline{E^{c g}}\right),\left(\overline{Y^{m}}\right)$ are the shares of expenditure in intermediate and final
consumption, and of output of importable goods in total expenditure.
The numerator of (18) contains the welfare gains of increasing imports if domestic prices of imported goods exceed their international prices ( $t_{i}$ and $t_{j}>0$ ), the gains of reducing output of import-competing activities and the cost for consumers of any tariff revenue loss; the denominator is the impact of changes in tariffs on the marginal utility of income (or expenditure).
14. The general equilibrium model thus comprises $21+\mathrm{n}$ equations (2')-(8.2), (11')(13), and (18) and the same number of endogenous variables, namely, $y_{j}, p_{j}, p_{i}, U, d_{i c}, d_{c g}$, $p, l_{j}, k_{j}, w$, and $r_{j}$. A unique solution of the model thus exists as a function of commercial policy, technological parameters, and sectoral shares in the use of labor and in expenditure.
15. The short-run impact of protection to import-competing activities on wages is ambiguous. Nominal wages would tend to increase because demand for labor by importcompeting activities increases as their domestic prices rises. This impact on wages could be offset by declines in output in the non-traded goods sector. As a result of substitution and wage cost effects, supply of non-traded goods would tend to decline and their consumption to increase, their prices would increase but the level of production may decline or increase depending upon the magnitudes of changes in supply and demand. Thus, the net impact of commercial policies on nominal wages would be a function of the size of the sectors and of their labor intensities. The impact of protection on real wages would depend on the impact of protection on the price index used to deflate nominal wages, that is, on the structure of consumer's expenditure.
16. Rental on capital in import-competing activities increases as a result of protection as demand for capital by these activities increases and of capital specificity. On the other hand, rental on capital in exportable activities would decline because the marginal productivity of capital would decline as a result of the increase in wages. Finally, the impact of protection on the rate of return on capital in non-traded activities is ambiguous as the impact of protection on the level of output is also ambiguous.
17. The output responses of import-competing and exportable activities are similar to those of general equilibrium models with perfect mobility of primary factors of production: production of importable goods increases and that of exportable goods declines. As indicated earlier, the response of production of non-traded goods is
ambiguous as demand for these goods increases and their supply declines as a result of substitution effects on consumption and production.
18. The model can be used to compute changes in value-added prices of importable and exportable goods (relative to that of non-traded goods) in response to changes in commercial policies and, hence, to obtain an estimate of the anti-export bias of commercial policies. As can be seen in fig. 1, the differential between relative prices of import-substitution and exportable activities measures the magnitude of distortions affecting the volume of trade. Let $D_{m} D_{m}$ be the excess demand for importable goods and $S_{x} S_{x}$ the excess supply of exportable goods. As before, units of goods are defined such that their internal prices are unity in equilibrium under free trade. Undistorted (free trade) equilibrium occurs at point $A$ with a volume of trade equal to $M^{*}$ where it has been assumed for simplicity that trade is balanced. Demand for importables and supply of exportables would shift when an import tariff is imposed to $D_{m}^{\prime} D_{m}^{\prime}$ and to $S_{x}^{\prime} S_{x}^{\prime}$, respectively as a result of substitution effects on production and consumption. In the new (distorted) equilibrium $B$, the relative price of importable goods would increase to $\left(1+t_{0}\right)$,


Fig. 1
the relative price of exportable goods would decline to $\left(1+s_{0}\right)$, and the volume of trade would decline to $M_{0}$. As can be seen in figure 1, the same volume of trade $M_{0}$ could be achieved with an implicit tax equal to $\left(t_{0}-s_{0}\right)$ part of which represents a tax on exportable activities. The magnitude of the burden of this tax on exportable activities ( $s_{0}$ ) is thus a measure of the so-called anti-export bias of commercial policies. The mechanism through which an import tariff is converted into an implicit export tax is the increase in the price of the non-traded good mentioned earlier (see paragraph 15). This increase in the price of non-traded goods tends also to erode in part the protection that was intended to be granted to import-competing activities.
19. The anti-export bias of commercial policies can be reduced by granting a free-trade status to producers of exportables on their imports of inputs. This would increase the supply of exportable goods to $S_{x}^{\prime \prime} S_{x}^{\prime \prime}$ and the volume of trade would expand to $M_{I}$. As a result, the relative price of exportable activities would increase from $\left(1+s_{0}\right)$ to $\left(1+s_{1}\right)$ and the implicit tax on trade would be reduced to $\left(t_{1}-s_{1}\right)$. There would still be an implicit tax on these activities $\left(s_{1}\right)$ as a result of the overall impact of protection on prices of non-traded goods that cannot be eliminated by export incentives.

## III. Current Commercial Policies

20. The Dominican Republic has made substantial progress towards reducing barriers to trade. In 1990, imports tariffs were reduced from a range of 0-200\% to nine rates ranging from 0 to $35 \%$. Tariff exemptions granted to special sectors under special agreements with the State have been eliminated. Import prohibitions have also been eliminated with the exception of several products competing with local production ${ }^{2}$. At present, there are non-tariff barriers on imports of rice, sugar, onions, garlic, milk, red beans, poultry meat, and tomato paste. These commodities represent around $40 \%$ of 1995 agricultural output and $12 \%$ of manufacturing production.
21. The granting of these licenses to importers does not follow either clear procedures or criteria and the government authorities have wide discretional powers. In general, imports are authorized or prohibited depending upon the conditions of the market and they are subject to statutory tariff rates. Imports of poultry and tomatoes are exclusively granted to domestic producers. Import licenses for garlic, onions and potatoes are granted to registered importers only when there are domestic supply shortages.
22. The Government has reached agreement with the World Trade Organization (WTO) on increasing until the year 2005, on year-to-year basis, the quantities that can be imported under the quota system ${ }^{3}$. According to this agreement, the volumes of onions, red beans, sugar, garlic, and milk to be imported will be increased by $37 \%$ by the year 2005 compared to 1997 levels; the quota volumes for corn, poultry and rice will be increased by about 40,53 , and $23 \%$, respectively. This will certainly tend to reduce the levels of protection granted to these activities. This reduction in protection rates would be reinforced if a government's proposal for further reduction in import tariffs is implemented (see paragraph 23 below); this overall reduction in tariff rates (and in prices of import-competing activities) would tend to reduce the demand for goods subject to the quota system as a result of cross-substitution effects.
23. The tariff equivalents of these barriers have been quantified for the commodities for which data is available by comparing producers' prices with border prices (see Table 1).
[^2]Table 1: Tariff Equivalents of Non-Tariff Barriers

| (in \%) |  |  |
| :--- | ---: | ---: |
| Commodity | Statutory Rate | Tariff Equivalent |
| Corn | 5.00 | 85.17 |
| Red Beans | 25.00 | 69.55 |
| Onions | 25.00 | 37.87 |
| Garlic | 25.00 | 34.53 |
| Poultry | 25.00 | 74.82 |
| Pasteurized Milk | 20.00 | 48.36 |
| Milk in Powder | 20.00 | 53.36 |
| Polished Rice | 20.00 | 43.00 |
| Raw Sugar | 15.00 | 42.11 |
| Refined Sugar | 15.00 | 37.67 |

24. Regarding domestic indirect taxation, there is discrimination against imports in value added and excise taxation. The current value added tax rate is $8 \%$ and commodities such as rice, tomato sauces, condiments, cheese, bread, wheat, processed cereals, sausages, fresh, chilled and frozen meats, detergents, toothpaste, matches, salt, and primary sector commodities are exempt from the tax if they are locally produced. . Imports of beer and alcoholic beverages, and cigarettes are subject to a $30 \%$ excise tax rate but local production is subject only to a $10 \%$ tax rate. If exempt from value added and excise taxation, producers would find more profitable to increase their production vis- $\alpha$-vis non-discriminatory domestic indirect taxation. This would result from the increase in producers' prices because consumers would have to pay the international price plus all taxes on imports (import and domestic indirect taxes) but producers would not get any reduction in their prices because of the exemption on domestic taxes.
25. A summary of output-weighted average nominal protection rates granted by current commercial policies to import-substitution activities is presented in Table $2^{4}$. Import-competing agriculture is protected at a nominal rate of around $40 \%{ }^{5}$ and its value added represents around $30 \%$ of the sectoral GDP. In the import-substitution manufacturing sector, activities such as grain mills (mostly rice milling), sugar refining, food processing, beverages, tobacco manufacturing (mostly cigarettes), wearing apparel and footwear are all protected at nominal rates ranging from around 30 to $45 \%$. Not surprisingly, the value added of these activities represents about $80 \%$ of total value added of import-competing manufacturing (about $16 \%$ of GDP that excludes public administration).

Table 2: Nominal Protection Rates

[^3]9

| (in \%) |  |
| :--- | ---: |
| Activity | Protection Rate |
| Agriculture* | 39.56 |
| Import-Substitution Manufacturing | 33.02 |
| Grain Mills | 44.54 |
| Food Processing | 40.98 |
| Beverages and Tobacco Manufacturing | 45.16 |
| Textiles and Wearing Apparel | 32.00 |
| Footwear and Leather Manufacturing | 35.00 |
| Petroleum Refineries | 5.90 |
| Chemicals | 16.37 |
| Rubber and Plastic Products | 24.00 |
| Non-Metal Products | 18.88 |
| Metal Products | 20.00 |
| Other Manufacturing | 17.37 |
| Intermediate Goods ** | 15.69 |
| Consumer Goods | 28.53 |
| Note: (*) Excludes paddy, livestock, forestry and fishing that are included <br> in the non-traded group of commodities. <br> (**) Includes imports of capital goods. <br> Source: 1997 customs data and 1995 production matrix. |  |

26. The government has submitted legislation to Congress to further reduce tariffs and to eliminate discrimination against imports in the value added and excise taxation. In the proposed legislation, the maximum tariff rate would be reduced to $15 \%$ in a period of two years and the number of rates reduced to four (0-5-10-15\%). The government's proposal includes a transitional tariff structure by which the maximum import tariff would be reduced to $20 \%$ and the number of tariff rates reduced to five $(0,3,8,14$, $20 \%$ ).
27. Nominal output-weighted protection rates as proposed by the government have been calculated for import-competing activities and they are presented in table 3. Data in column (a) contains the proposed tariff rates per economic activity maintaining current import licensing for the aforementioned commodities; column (b) assumes the elimination of these quantitative restrictions. In both cases, there would be a substantial reduction in nominal protection rates, particularly for food processing and grain mills.

Table 3: Proposed Tariff Reductions
(in \%)

| Activities Protection Rates <br> (a) <br> Protection Rates  <br> (b)  |  |  |
| :--- | ---: | ---: |
| Grain Mills | 22.63 | 15.00 |
| Food Processing | 32.61 | 15.00 |
| Beverages and Tobacco <br> Manufacturing | 25.78 | 15.00 |
| Textiles and Wearing Apparel | 15.00 | 15.00 |
| Footwear and Leather | 13.11 | 13.11 |


| Manufacturing | 14.91 | 14.91 |
| :--- | ---: | ---: |
| Petroleum Refineries | 0.23 | 0.23 |
| Chemicals | 5.48 | 5.48 |
| Rubber and Plastic Products | 9.24 | 9.24 |
| Non-Metal Products | 10.27 | 10.27 |
| Metal Products | 5.90 | 5.90 |
| Other Manufacturing | 6.23 | 6.23 |
| Intermediate Goods | 3.36 | 3.36 |
| Consumer Goods | 15.3 | 11.92 |

Notes: (a) Existing QRs are maintained.
(b) QRs are eliminated.

## IV. Commercial Policy Evaluation

28. The general equilibrium model is solved using the coefficients of the 1995 inputoutput matrix for the Dominican Republic. The matrix contains 37 sectors (excluding public administration) of which 13 are classified as import competing activities (other agriculture, grain mills, sugar refining, food processing, beverages and tobacco manufacturing, textiles, footwear, petroleum refineries, rubber and plastic products, chemicals, non-metal products, metal products and other manufacturing), 8 as exportable activities (exportable agriculture, mining, food processing, textiles, tobacco manufacturing, footwear, and other activities in export processing zones, and hotels and restaurants), and 16 as non-traded activities (paddy, livestock and services excluding public administration and hotels). The non-traded service sector is aggregated into one activity and sugar refining and food processing are also merged together so that the inputoutput matrix used in the calculations contains 23 activities.
29. As mentioned earlier, nominal protection rates include tariff rates, value added and excise differentials, and the calculated tariff equivalents of quantitative restrictions. The source of tariff rates is 1997 customs data containing CIF value of imports and tariff revenue so that actual tariff rates could be calculated. In order to calculate tariff rates on imports of inputs and capital goods, imports were classified according to the Broad Economic Categories (BEC) ${ }^{6}$ of the United Nations by mapping the codes of the Customs Harmonized System (HS) into those of BEC; another mapping was used to link the local codes of national accounts with those of $\mathrm{HS}^{7}$. As a result, customs data could be matched with input-output data and tariff rates allocated to the different categories of inputs and capital goods used in production by the economic activities.
30. The current commercial policies summarized in Table 1 are used as the baseline scenario and compared with alternative commercial policies, namely, free trade, the
[^4]Government's proposal of tariff reductions, the proposal cum elimination of quantitative restrictions, and a $10 \%$ uniform import duty ${ }^{8}$. Units of goods, inputs, and primary factors are defined so that their prices are equal to unity in the baseline scenario.
31. The impact of the alternative scenarios on the economy is presented in Tables 410. As indicated in Section II, one consequence of protection is that exportable activities are subject to an implicit tax that can be reduced but not eliminated by granting free trade status to their producers. It is estimated that, under the free trade scenario, the relative value added prices of exportable activities would increase by $27 \%$ (see Table 4) and this would reflect the removal of the implicit tax. According to the calculations, exportable activities would currently pay around $55 \%$ of the total taxation of foreign trade $(48 \%)^{9}$.
32. Nominal value added prices of non-traded agriculture (paddy and livestock) would substantially fall ( $46 \%$ for paddy, and $50 \%$ for livestock) as a result of trade liberalization ${ }^{10}$. As most of the local demand for these commodities is for intermediate consumption by import competing activities, the reduction in (effective) protection granted to these activities is the main cause behind this decline.
33. As indicated in Section II, the impact of changes in commercial policies on real wages depends upon consumers' pattern of expenditure. Based on input-output data, it is calculated that real wages would increase by about $5 \%$ in spite of a reduction in nominal wages by around $13 \%$ as the result of a decline in the consumer price level of around $17 \%$. On the other hand, return to capital in import-substitution activities would decline with the elimination of protection, and increase in export-oriented activities (see Table 5). This clearly indicates that protection redistributes income against labor, at least in the short run. As a result of free trade, the increase in consumers' welfare is calculated at around $8 \%$ over that of current commercial policies.

Table 4: Free Trade Scenario - Impact on Relative Prices, Wages, Prices and Welfare
(in \%)

| Impact of Reforms on: | \% Change |
| :--- | ---: |
| Relative Value Added Prices: |  |
| Import-Substitution Activities | -21.67 |
| Exportable Activities: | 26.68 |
| - Commodities | 21.66 |
| - Tourism | 33.47 |
| Implicit Tax on Trade | -48.35 |
| Value Added Prices of Non- |  |
| Traded Goods: | -13.86 |
| Paddy | -45.90 |
| Livestock | -50.17 |

[^5]| Services | -11.08 |
| :--- | ---: |
| Nominal Wages | -12.80 |
| Real Wages | 4.90 |
| Consumer Price Index | -16.87 |
| Consumers' Welfare | 7.80 |

Notes: Value added prices are averages of those of the activities weighted by the sectoral shares in total value added. Real wages are nominal wages deflated by a consumer price index with weights given by the input-output matrix.
34. Under this scenario, the increase in output of export processing zones (see Table 5) would range between 16 (food processing) and $50 \%$ (footwear and leather manufacturing). Agriculture and mining outputs would increase by around 7 and $13 \%$, respectively, reflecting the fact that these commodities are intensive in the use of natural resources ${ }^{11}$. Most of the outputs of import-competing activities would decline as a result of free trade; this decline would range between 6 (import competing agriculture) and $53 \%$ (footwear for the domestic market) ${ }^{12}$.
35. The size of the response of outputs of exportable activities such as footwear and tobacco processing is not surprising as these activities are labor-intensive (labor-capital ratios are 2.53 in tobacco processing and 2.57 in leather manufacturing compared to an average of about 1.5 for the whole export processing sector) and their production costs would be thus reduced vis- $\dot{\alpha}$-vis other exportable activities. Given the assumption of full employment of the labor force, these activities would need to expand vis- $\alpha$-vis others in order to absorb the labor released by import-competing activities.

Table 5: Free Trade Scenario - Impact on Output, Employment and Capital Rentals

| Rentals <br> (in \%) |  |  |  |
| :--- | ---: | ---: | ---: |
| Activities | Changes in <br> Output | Changes in <br> Employment | Changes in <br> Return to Capital |
| Rice | -26.40 | -54.40 | -60.20 |
| Exportable Agriculture | 6.80 | 24.40 | 8.50 |
| Other Agriculture | -6.10 | -26.50 | -35.90 |
| Livestock, Forestry and Fishing | -9.10 | -48.00 | -54.70 |
| Mining | 13.10 | -28.90 | -48.10 |
| Grain Mills | -17.10 | -41.00 | 35.60 |
| Food Processing | -9.50 | -42.50 | -54.70 |
| Beverages and Tobacco Manufacturing | -26.80 | -49.50 | -49.90 |
| Textiles and Wearing Apparel |  | -56.00 |  |

${ }^{11}$ It is assumed that technology in tourism (hotels and restaurants) is such that the elasticity of substitution between labor and capital is zero; as capital is specific to the activity, the activity's output response is zero.
${ }_{12}$ If unitary elasticity of substitution between labor and capital in tourism is assumed, then tourism output would expand by about $14 \%$, and the increase in tobacco manufacturing and footwear in export processing zones would be around 34 and $39 \%$, respectively.

| Footwear and Leather Manufacturing | -52.70 | -67.60 | -71.70 |
| :--- | ---: | ---: | ---: |
| Petroleum Refineries | 3.80 | 20.90 | 5.40 |
| Chemicals | -3.80 | -10.90 | -22.30 |
| Rubber and Plastic Products | -7.10 | -20.40 | -30.60 |
| Non-Metal Products | -7.50 | -12.80 | -24.00 |
| Metal Products | -16.50 | -36.00 | -44.30 |
| Other Manufacturing | -7.10 | -14.20 | -25.20 |
| Food Processing (EPZs) | 15.60 | 34.00 | 16.80 |
| Tobacco Manufacturing (EPZs) | 43.90 | 66.10 | 44.80 |
| Wearing Apparel (EPZs) | 26.70 | 48.10 | 29.10 |
| Footwear and Leather Manufacturing (EPZs) | 49.50 | 74.90 | 52.40 |
| Other Manufacturing (EPZs) | 12.40 | 31.10 | 14.30 |
| Hotels and Restaurants | 0.00 | 0.00 | 31.60 |
| Other Services | 1.00 | 3.00 | -10.20 |

36. If sector-specific capital were internationally mobile and rates of return were equalized for the same activities across countries in the baseline scenario, the increase in capital rentals in exportable activities would certainly attract foreign investment until capital rental differentials are eliminated. This would reinforce the short-run effect of trade liberalization on output of exportable activities. As a result, their demand for labor would increase further as capital and labor are complements in production. By the same token, the decline in output of import competing activities would be enhanced as a result of the reduction of the stock of sector-specific capital. The impact of changes in the stock of capital on nominal wages is thus ambiguous as it would depend upon the magnitudes of the changes in sectoral demands for labor.
37. The simulations of the impact of the Government's trade liberalization proposal on the economy are presented in Table 6. Relative value added prices for exportable activities would increase by about $12 \%$. The welfare gains to consumers under this scenario ( $+1.9 \%$ ) would be well below those of the free trade scenario. The difference that the government's proposal could make in the economy is given by eliminating the existing non-tariff barriers. If these quantitative restrictions are eliminated, then the antiexport bias would be further reduced by 6 percentage points and consumers' welfare would increase by about 2 percentage points (from $1.9 \%$ to $4.2 \%$ ). This could be achieved without any decline in real wages ${ }^{13}$.

Table 6: Impact of Trade Reforms on Relative Prices, Wages and Welfare
(in \%)

| Impact of Reforms on: | (a) | (b) |
| :--- | :--- | :--- |
| Relative Value Added Prices: |  |  |
| Import Substitution Activities | -9.20 | -12.31 |
| Exportable Activities | 12.20 | 15.35 |

[^6]| - Commodities | 8.77 | 11.92 |
| :--- | ---: | ---: |
| - Hotels |  |  |
| Implicit Tax on Trade | 16.82 | 19.99 |
| -21.31 | -27.66 |  |
| Value Added Prices of Non-Traded <br> Goods: <br> Paddy <br> Livestock <br> Services | -5.44 | -7.89 |
| Nominal Wages | -9.12 | -30.35 |
| Real Wages | -4.77 | -31.39 |
| -7.89 |  |  |
| Consumer Price Index | -5.30 | -7.40 |
| Consumers' Welfare | 1.80 | 2.60 |

Notes: (a) Existing QRs are maintained.
(b) QRs are eliminated.
38. The response of supply of exportable goods would be stronger (see Table 7) if existing quantitative restrictions are eliminated along with the reduction in import tariffs of this scenario. In particular, outputs of footwear and leather manufacturing, and tobacco manufacturing would expand by 25 and $23 \%$, respectively, compared with outputs of the baseline scenario. This would be mostly the result of releases of labor by paddy ( $-37 \%$ ), food processing ( $24 \%$ ), and rice milling ( $32 \%$ ) activities caused by reductions in their value added prices.

Table 7: Impact of Trade Reform Proposals on Output, Employment, and Capital Rentals
(in \%)

| Activities | Changes in Output |  | Changes inEmployment |  | $\begin{gathered} \text { Changes in } \\ \text { Return to Capital } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (a) | (b) | (a) | (b) | (a) | (b) |
| Rice | -2.60 | -16.80 | -6.60 | -37.40 | -11.50 | -42.00 |
| Exportable Agriculture | 2.90 | 3.90 | 10.20 | 13.70 | 4.30 | 5.30 |
| Other Agriculture | -2.20 | -3.50 | -10.10 | -16.20 | -14.90 | -22.30 |
| Livestock, Forestry and Fishing | -1.80 | -5.00 | -11.80 | -29.70 | -16.50 | -34.80 |
| Mining | 6.90 | 8.20 | 27.20 | 32.90 | 20.40 | 23.10 |
| Grain Mills | -2.80 | -18.20 | -5.30 | -32.10 | -10.30 | -37.10 |
| Food Processing | -3.30 | -9.20 | -8.90 | -23.70 | -13.80 | -29.30 |
| Beverages and Tobacco Manufacturing | -6.30 | -5.80 | -30.50 | -28.40 | -34.20 | -33.70 |
| Textiles and Wearing Apparel | -16.50 | -14.70 | -32.60 | -29.40 | -36.30 | -34.60 |
| Footwear and Leather Manufacturing | -32.60 | -29.50 | -44.80 | -40.90 | -47.70 | -45.20 |
| Petroleum Refineries | 0.90 | 1.50 | 4.70 | 8.20 | 0.90 | 0.20 |
| Chemicals | -3.10 | -1.90 | -8.80 | -5.60 | -13.70 | -12.50 |


| Rubber and Plastic Products | -4.80 | -3.80 | -14.20 | -11.30 | -18.70 | -17.80 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Non-Metal Products | -1.60 | 1.60 | -2.80 | 2.80 | -8.00 | -4.80 |
| Metal Products | -13.10 | -11.10 | -29.30 | -25.20 | -33.10 | -30.70 |
| Other Manufacturing | -3.90 | -1.60 | -8.00 | -3.40 | -13.90 | -10.50 |
| Food Processing (EPZs) | 6.10 | 8.50 | 12.60 | 17.70 | 6.60 | 9.10 |
| Tobacco Manufacturing (EPZs) | 15.80 | 22.50 | 22.70 | 32.80 | 16.20 | 23.00 |
| Wearing Apparel (EPZs) | 10.20 | 14.20 | 17.50 | 24.60 | 11.30 | 15.50 |
| Footwear and Leather Manufacturing (EPZs) | 17.90 | 25.30 | 25.80 | 36.80 | 19.20 | 26.80 |
| Other Manufacturing (EPZs) | 4.90 | 6.80 | 11.70 | 16.40 | 5.80 | 7.80 |
| Hotels and Restaurants | 0.00 | 0.00 | 0.00 | 0.00 | 19.10 | 20.50 |
| Other Services | 0.30 | 0.70 | 0.90 | 2.10 | -4.50 | -5.40 |

Notes: See Table 6.
39. If there are fiscal restrictions to trade liberalization policies requiring taxation of trade, the country would do much better in terms of consumers' welfare with a $10 \%$ uniform import tariff than under the government's proposals. Welfare of consumers would increase by about 5 percentage points over that of the baseline scenario. Under this alternative, relative value added prices of exportable activities would increase by about $17 \%$ and the remaining taxation of exports would be about 10 percentage points vis- $\grave{\alpha}$-vis the free trade scenario.

Table 8: $10 \%$ Uniform Import Duty - Impact on Relative Prices, Wages and Welfare
(in \%)

| Impact of Reforms on: | \% Change |
| :--- | ---: |
| Relative Value Added Prices: |  |
| Import-Substitution Activities | -15.68 |
| Exportable Activities: | 16.83 |
| - Commodities | 13.67 |
| - Tourism | 21.09 |
| Implicit Tax on Trade | -32.51 |
| Value Added Prices of Non-Traded | -10.17 |
| Goods: |  |
| Paddy |  |
| Livestock | -38.56 |
| Services | -40.32 |
| Nominal Wages | -7.85 |
| Real Wages | -9.50 |
| Consumer Price Index | 1.36 |
| Consumers' Welfare | -10.71 |

40. The supply responses of the activities to a $10 \%$ uniform import duty are presented in Table 9. It should not be surprising that the supply response of exportable activities is higher than under the two previous scenarios as a result of the further reduction of the anti-export bias. In particular, outputs of footwear and leather manufacturing, and tobacco manufacturing would increase by around 34 and $30 \%$, respectively. The increase in employment in these two sectors would range between 44 and $50 \%$. Activities such as
paddy and livestock would release labor by around 47 and $40 \%$ of their current employment levels, respectively; import-competing footwear would reduce its demand for labor by about $60 \%$.

Table 9: 10\% Uniform Import Tariff - Impact on Output, Employment and Capital Rentals
(in \%)

| Activities | Changes in <br> Output | Changes in <br> Employment | Changes in <br> Return to Capital |
| :--- | ---: | ---: | ---: |
| Rice | -22.10 | -47.10 | -52.10 |
| Exportable Agriculture | 4.40 | 15.40 | 4.50 |
| Other Agriculture | -4.60 | -20.70 | -28.30 |
| Livestock, Forestry and Fishing | -6.80 | -38.50 | -44.40 |
| Mining | 7.40 | 29.40 | 17.10 |
| Grain Mills | -24.00 | -41.00 | -46.60 |
| Food Processing | -12.60 | -31.60 | -38.10 |
| Beverages and Tobacco Manufacturing | -7.80 | -36.50 | -42.60 |


| Activities | Changes in <br> Output | Changes in <br> Employment | Changes in <br> Return to Capital |
| :--- | ---: | ---: | ---: |
| Textiles and Wearing Apparel | -22.80 | -43.30 | -48.70 |
| Footwear and Leather Manufacturing | -46.10 | -60.50 | -64.20 |
| Petroleum Refineries | 5.80 | 33.30 | 20.60 |
| Chemicals : | 0.20 | 0.50 | -9.00 |
| Rubber and Plastic Products | -4.40 | -12.80 | -21.10 |
| Non-Metal Products | 1.40 | 2.40 | -7.30 |
| Metal Products | -9.40 | -21.60 | -29.00 |
| Other Manufacturing | -0.40 | -0.90 | -10.30 |
| Food Processing (EPZs) | 11.10 | 23.50 | 11.80 |
| Tobacco Manufacturing (EPZs) | 30.10 | 44.40 | 30.70 |
| Wearing Apparel (EPZs) | 18.50 | 32.50 | 20.00 |
| Footwear and Leather Manufacturing (EPZs) | 33.50 | 49.40 | 35.20 |
| Other Manufacturing (EPZs) | 8.70 | 21.50 | 10.00 |
| Hotels and Restaurants | 0.00 | 0.00 | 19.00 |
| Other Services | 0.90 | 2.70 | -7.00 |

41. The responses of exports of mining, exportable agriculture, and export processing zones are presented in Table 10 using 1995 data as the base year. As the model used in the simulations is static in the sense that it does not explain any long run trend of the endogenous variables, the export response should be understood as a once-and-for-all reaction to changes in commercial policies over any trend value. The projections show that under free trade, exports of these commodities would expand by about $25 \%$ in the short run. If the government's trade reform proposal were implemented, then exports would expand by only about $9 \%$. Again, the country could do better in terms of export performance under the $10 \%$ uniform duty scenario as exports would expand by about $17 \%$.

Table 10: Projected Export Responses
(in \%)

| Scenario | Agriculture | Mining | EPZs | Total |
| :--- | ---: | ---: | ---: | ---: |
| Free Trade | 46.79 | 11.65 | 25.74 | 25.44 |
| Government's Proposal | 2.46 | 4.10 | 9.74 | 9.06 |
| Elimination of QRs | 19.65 | 5.20 | 13.59 | 13.19 |
| $10 \%$ Uniform Import Duty | 29.00 | 4.06 | 17.76 | 17.13 |

## V. Concluding Remarks

42. It has long been recognized that tariffs and non-tariff barriers on imports reduce the volume of trade. As the balance of trade is largely unaffected by commercial
policies, what happens to imports will also happen to exports. Simple accounting shows that if commercial policies reduce imports, then, the need of foreign exchange to purchase them is also diminished; consequently, exports will also be reduced as they are the ultimate source of foreign exchange.
43. It should also be recognized that this study only gives a quantitative evaluation of short run export supply response to changes in commercial policies. A diversity of dynamic effects has not been incorporated in this commercial policy evaluation because of the practical ways of incorporating them into the analytical framework used in the report. Following a more dynamic approach would have meant incorporating more assumptions and guesses about key economic and technological parameters.
44. As Prof. Harberger (1998) wisely points out, openness tends to grease the wheel of economic growth by making modern technology more profitable for domestic firms and by opening up the possibility frontier for specialization. Firms that currently have incentives to produce a variety of goods for the limited domestic market would find more profitable to specialize in a few products and importing others according to the local demand; these production rationalization would lead to efficiency gains that, in turn, would have the potential to make these firms to become exporters. These unaccounted factors would certainly provide additional impetus to economic growth.
45. With all its limitations, this study shows that although existing export incentives can compensate the impact of commercial policies on production costs of exportable commodities, the overall impact of protection policies on output of exportable activities can still be substantial. The main reason is that protection results in increases in prices of non-traded goods and in nominal wages. As a consequence, the value added prices of exportable goods (relative to those of import-competing and non-trade activities) decline and their output is reduced vis-à-vis those of a non-distorted environment such as free trade. Protection is not a free lunch for the economy because it is a non-zero sum game as the result of the costs imposed on consumers and of the resources misallocation costs. Exportable activities share a great deal of the burden that current protection policies impose on the economy.
46. The quantitative evaluation of current commercial policies indicates that there is an implicit tax on exportable activities of about $27 \%$ although the country has been able to successfully implement tax rebates for exports in processing zones. The current government's proposal would be a significant move in the right direction towards reducing the burden of this tax but it is a timid approach as measured by its welfare gains and export response compared to available alternatives. For instance, a $10 \%$ uniform import tariff along with the elimination of non-tariff barriers can do better in terms of welfare gains and export performance than the government's proposal. A simple explanation for this is that if there are fiscal revenue constraints that would require taxation of the country's volume of international trade, then an uniform import duty would further reduce distortions in relative prices for consumers and producers while preserving fiscal revenue.

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## ANNEX A

## A GE Model with Endogenous Capital Response: An Illustration

A1. In this Annex, the model of the main section is modified in order to simulate the impact of changes in the rates of return to sector-specific capital on the economy on capital accumulation in manufacturing, tourism and services activities ${ }^{14}$. This extension of the model specifies a simple relationship between the desired stock of capital and the real rate of return of the following type:
(a.1.) $\quad K_{j}^{d}=b_{j} .\left(1+r_{j}\right)$ where $b_{j}>0$, and $r_{j}$ is the rate of return to capital in activity $j$.

A2. In terms of changes of desired capital stock vis-à-vis the baseline scenario, equation (a.1) can be expressed as:

$$
\begin{equation*}
\left(1+k_{j}^{d}\right)=\frac{\left(1+K_{j}^{d}\right)}{\left(1+\overline{K_{j}^{d}}\right)}=\frac{\left(1+r_{j}\right)}{\left(1+\overline{r_{j}}\right)} \tag{a.2}
\end{equation*}
$$

A3. The results of incorporating equation (a.2) into the general equilibrium model of Section II are presented below for the free trade scenario. They show that relative value added prices of exportable activities would increase by about $20 \%$ and that the total taxation rate on trade is calculated at $41 \%$ compared to 22 and $48 \%$, respectively, under given stocks of sector-specific capital. In particular, the increase in value added prices of commodities and tourism would be about 14 and $26 \%$, respectively. Real wages, on the other hand, would increase by around $7 \%$ compared to the calculated short run response of around $5 \%$.

Table A.1: Free Trade Scenario - Impact on Relative Prices, Wages and Welfare

| (in \%) |  |
| :--- | ---: |
| Impact of Reforms on: | \% Change |
| Relative Value Added Prices: |  |
| Import-Substitution Activities | -21.82 |
| Exportable Activities: | 19.16 |
| - Commodities | 14.07 |
| - Tourism | 26.02 |
| Implicit Tax or Trade | -40.98 |
| Value Added Prices of Non- |  |
| Traded Goods: | -55.12 |
| Paddy | -77.56 |
| Livestock | -4.55 |
| Services | -9.60 |
| Nominal Wages $\cdots$ | 7.40 |
| Real Wages | -15.82 |
| Consumer Price Index | 12.90 |
| Consumers' Welfare |  |

[^7]A4. Output effects of trade liberalization with endogenous capital are presented in Table A.2. According to the results, expansion of tobacco manufacturing and footwear in export processing zones would reach around $70 \%$, and wearing apparel by about $40 \%$ as a result of additional investments. Tourism (hotels and restaurants) output would increase by about $30 \%$. Exports of agricultural commodities and mining, of export processing zones, and tourism are projected to expand by $38 \%$.

Table A.2: Free Trade Scenario - Impact on Output, Employment, and Capital Accumulation
(in \%)

| Activities | Changes in Output | Changes in Employment | Changes in the Stock of Capital |
| :---: | :---: | :---: | :---: |
| Rice | -36.20 | -68.30 | - |
| Exportable Agriculture | 5.00 | 17.90 | - |
| Other Agriculture | -7.00 | -29.90 | - |
| Livestock, Forestry and Fishing | -21.10 | W7TM -80.40 | - |
| Mining | 9.40 | 38.30 | - |
| Grain Mills | -39.90 | -47.20 | -30.90 |
| Food Processing | -44.00 | -55.30 | -36.50 |
| Beverages and Tobacco Manufacturing | -56.40 | -73.70 | -51.30 |
| Textiles and Wearing Apparel | -69.90 | -80.00 | -57.50 |
| Footwear and Leather Manufacturing | -88.90 | -92.70 | -74.40 |
| Petroleum Refineries | 3.50 | 13.40 | 1.30 |
| Chemicals | - -29.40 | C- -37.50 | -24.80 |
| Rubber and Plastic Products | -38.20 | -49.10 | -32.20 |
| Non-Metal Products | -39.10 | -45.40 | -29.80 |
| Metal Products | -62.90 | -74.50 | -52.00 |
| Other Manufacturing | -38.80 | -46.60 | -30.50 |
| Food Processing (EPZs) | 24.00 | 37.90 | 11.60 |
| Tobacco Manufacturing (EPZs) | 70.30 | 89.10 | 30.70 |
| Wearing Apparel (EPZs) | 41.40 | 58.00 | 19.50 |
| Footwear and Leather Manufacturing (EPZs) | 79.10 | 100.10 | 34.50 |
| Other Manufacturing (EPZs) | 19.20 | 33.10 | 9.70 |
| Hotels and Restaurants | 27.60 | 27.60 | 27.60 |
| Other Services | 0.80 | 6.40 | -1.90 |

[^8]
## Statistical Annex

Table B.1: Tariff Equivalents of Quantitative Restrictions Table B.2: Nominal Protection Rates of Manufacturing Activities Table B.3: Nominal Protection Rates of Agricultural Activities Table B.4: Import Tariffs on Imports of Inputs and Capital Goods

Table B.1: Tariff Equivalent of Quantitative Restrictions

| Commodity | Producer's Price | CIF Price | Tariff Equivalent |
| :--- | ---: | ---: | ---: |
| Corn | 4282.87 | 2312.91 | 85.17 |
| Green Beans | 14.61 | 8.62 | 69.55 |
| Garlic | 31.00 | 23.04 | 34.53 |
| Onions | 11.42 | 8.28 | 37.87 |
| Poultry | 21.72 | 12.43 | 74.82 |
| Milk in Powder $^{\text {a }}$ | 94.84 | 61.84 | 53.36 |
| Pasteurized Milk $^{6}$ | 19.82 | 13.36 | 48.36 |
| Sugar $^{\text {}}$ | 5489.01 | 3862.49 | 42.11 |
| Sugar $^{\text {}}$ | 6918.03 | 5025.21 | 37.67 |
| Rice | 8924.88 | 6240.66 | 43.01 |

Notes:
(a) Milk NIDO
(b) Milk RICA (uht)
(c) Sugar Crema
(d) Sugar Refino

Sources: Dominican Republic Customs data, US Customs data, and National Accounts.

Table B.2: Nominal Protection of Manufacturing Activities

| HS code | Product | NA Prod. codes | Activity Codes | Nom Prot* | tariffs 2000 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2012000 | Cortes de res | 200100 |  | 35.00 | 15.00 |
| 2032900 | cortes de cerdo | 200100 |  | 35.00 | 15.00 |
| 2072100 | cortes de pollo (estimated) | 200100 |  | 74.80 | 74.80 |
| 2090020 | Grasa | 200100 |  | 35.00 | 5.00 |
|  | Total | 200100 | 8 | 51.87 | 39.41 |
| 16010020 | Salchichas | 200200 |  | 45.80 | 15.00 |
| 16023100 | Jamon de pavo | 200200 |  | 45.80 | 15.00 |
| 16024100 | Jamon | 200200 |  | 45.80 | 15.00 |
| 16024900 | Salami | 200200 |  | 45.80 | 15.00 |
| 16010090 | Embutidos (salamis) | 200200 |  | 45.80 | 15.00 |
| 16024100 | Embutidos (jamones) | 200200 |  | 45.80 | 15.00 |
| 16010020 | Embutido (salchichas) | 200200 |  | 45.80 | 15.00 |
| 16010020 | Embutidos (prod. curados) | 200200 |  | 45.80 | 15.00 |
|  | Total | 200200 | 8 | 45.80 | 15.00 |
| 15079000 | Aceite de Soya | 210100 | 8 | 30.00 | 15.00 |
| 15171000 | Margarine | 210200 | 8 | 30.00 | 15.00 |
| 4011000 | Leche Pasteurizada (RICA U.T.H.) | 220100 | 8 | 48.36 | 48.36 |
| 4022110 | Leche en Polvo (NIDO) | 220200 | 8 | 53.00 | 53.00 |
|  | - |  |  |  |  |
| 4062000 | Queso picantino | 229900 |  | 45.80 | 15.00 |
| 4069030 | Queso Danes | 229900 | , | 45.80 | 15.00 |
| 4069090 | Queso Holandes | 229900 |  | 45.80 | 15.00 |
| 4029110 | Leche Evaporada | 229900 |  | 30.00 | 15.00 |
| 4029910 | Leche Condensada | 229900 | $\therefore$ | 30.00 | 15.00 |
| 4069020 | Queso | 229900 |  | 45.80 | 15.00 |
| 4069030 | Queso | 229900 |  | 45.80 | 15.00 |
| 4069090 | Queso | 229900 | , | 45.80 | 15.00 |
| 4064000 | Queso | 229900 |  | 45.80 | 15.00 |
| 21050000 | Ice Cream | 229900 |  | 35.00 | 15.00 |
| 4050020 | Butter oil | 229900 | - -2 | 20.00 | 15.00 |
|  | Total | 229900 | 8 | 37.13 | 15.00 |
|  |  |  |  |  |  |
| 10062000 | Arroz | 2301 | 6 | 43.00 | 43.00 |
| 10063000 |  |  |  |  | 20.00 |
| 10064000 | . |  |  |  | 20.00 |
|  | Sub-total | 230200 |  |  |  |
| 11010000 | Wheat Flour | 230200 | 6 | 18.80 | 5.00 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| 11022000 | Corn Flour | 239900 |  | 18.80 | 5.00 |
| 11031300 | Semola de maiz | 239900 |  | 15.00 | 5.00 |
|  | Total | 239900 | 8 | 17.14 | 5.00 |
|  |  |  |  |  |  |
| 19051000/5 | Pan | 240100 | 8 | 45.80 | 15.00 |
| 4000 |  |  |  |  |  |
|  |  |  |  |  |  |
|  | * |  |  |  |  |
| 19052000 | Galletas | 249900 |  | 35.00 | 15.00 |
| 19059090 | Picaderas patatas | 249900 | - | 35.00 | 15.00 |
|  | Total | 249900 | 8 | 35.00 | 15.00 |





| 29173200 |  | 350100 |  | 5.00 | 0.00 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 29173410 |  | 350100 |  | 5.00 | 0.00 |
| 29173490 |  | 350100 |  | 5.00 | 5.00 |
| 29173500 |  | 350100 |  | 5.00 | 0.00 |
| 28011000 | Cloro liquido o en polvo o en plastilla | 350100 |  | 10.00 | 5.00 |
| 28112100 | Acido forico | 350100 |  | 10.00 | 0.00 |
| 29163100 | Benzonato de sodio | 350100 |  | 3.00 | 0.00 |
| 29221100 | Monoetalonamina (MEA) | 350100 |  | 3.00 | 0.00 |
| 32049000 | Color amarillo | 350100 |  | 15.00 | 0.00 |
| 32049000 | Color rojo | 350100 |  | 15.00 | 0.00 |
| 35079090 | Aditivo brillador de botellas | 350100 |  | 20.00 | 0.00 |
| 28365000 | Carbonato de calcio | 350100 |  | 10.00 | 0.00 |
| 28042100 | Gas Argon Comprimido | 350100 |  | 10.00 | 5.00 |
|  | Total | 350100 | 13 | 10.07 | 1.83 |
|  |  |  |  |  |  |
| 31029000 | Abono Nitrogenado | 350200 |  | 5.00 | 0.00 |
| 31049090 | Abono Potasico | 350200 |  | 5.00 | 0.00 |
| 31051000 | Abono N-P-K | 350200 |  | 5.00 | 0.00 |
| 31055100 | Abono N-P | 350200 |  | 5.00 | 0.00 |
| 31059020 | Abono N-P | 350200 |  | 3.00 | 0.00 |
| 31059090 | Abono Mezcla de Microelementos | 350200 |  | 5.00 | 0.00 |
| 31021000 | Urea | 350200 |  | 0.00 | 0.00 |
|  | Total | 350200 | 13 | 3.08 | 0.00 |
|  |  |  |  |  |  |
| 38081090 | Insecticides | 350300 |  | 0.00 | 0.00 |
| 38082020 | Fungicidas | 350300 |  | 0.00 | 0.00 |
| 38083090 | Herbicides | 350300 |  | 0.00 | 0.00 |
|  | Total | 350300 | 13 | 0.00 |  |
|  |  |  |  |  |  |
| 39031900 |  | 350400 |  | 10.00 | 0.00 |
| 39032010 |  | 350400 |  | 10.00 | 0.00 |
| 39039010 |  | 350400 |  | 10.00 | 5.00 |
| 39042110 |  | 350400 |  | 10.00 | 0.00 |
| 39042120 |  | 350400 |  | 10.00 | 0.00 |
| 39042210 |  | 350400 |  | 10.00 | 5.00 |
| 39042220 |  | 350400 |  | 10.00 | 0.00 |
| 39043020 |  | 350400 |  | 10.00 | 0.00 |
| 39044010 |  | 350400 |  | 10.00 | 0.00 |
| 39051100 |  | 350400 |  | 10.00 | 0.00 |
| 39051900 |  | 350400 |  | 10.00 | 0.00 |
| 39059000 |  | 350400 |  | 10.00 | 5.00 |
| 39061000 |  | 350400 |  | 10.00 | 0.00 |
| 39069010 |  | 350400 |  | 10.00 | 0.00 |
| 39069090 |  | 350400 |  | 10.00 | 0.00 |
| 39075000 |  | 350400 |  | 10.00 | 0.00 |
| 39079100 |  | 350400 |  | 10.00 | 5.00 |
| 39079900 |  | 350400 |  | 10.00 | 0.00 |
| 39093000 |  | 350400 |  | 10.00 | 5.00 |
| 39094000 |  | 350400 |  | 10.00 | 0.00 |
| 39095000 |  | 350400 |  | 10.00 | 0.00 |
| 39111090 |  | 350400 |  | 10.00 | 3.00 |
| 39121100 | Productos de polietileno | 350400 |  | 10.00 | 0.00 |
| 39079900 | Preformas p/fabricación botellas pláscas(PET) | 350400 |  | 10.00 | 0.00 |
| 39051100 | Polimeros de acetato de Vinilo | 350400 |  | 10.00 | 0.00 |


| 39043020 | Compuesto de Pvc | 350400 |  | 10.00 | 0.00 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 39041000 | Resina de Pvc | 350400 |  | 10.00 | 0.00 |
| 39075000 | RESINAS ALCIDICAS | 350400 |  | 10.00 | 0.00 |
| 39094000 | RESINAS FENOLICAS | 350400 |  | 10.00 | 0.00 |
| 39095000 | PULIURETANOS | 350400 |  | 10.00 | 0.00 |
| 39061000 | POLIMEROS ACRILICOS | 350400 |  | 10.00 | 0.00 |
| 39051900 | POLIMEROS DE ACETATO DE VINILO O | 350400 |  | 10.00 | 0.00 |
| 39079100 | NO SATURADOS | 350400 |  | 10.00 | 5.00 |
| 39079900 | LOS DEMAS | 350400 |  | 10.00 | 0.00 |
|  | Total | 350400 | 14 | 10.00 | 0.04 |
|  |  |  |  |  |  |
| 32089010 | Pinturas de Agua | 350500 |  | 25.00 | 10.00 |
| 32091010 | Pinturas de Aceite | 350500 |  | 25.00 | 10.00 |
| 32091010 | Barnices | 350500 |  | 25.00 | 10.00 |
| 32091020 | Barniz | 350500 |  | 25.00 | 10.00 |
| 32149000 | Compuesto o pegamento | 350500 |  | 25.00 | 10.00 |
| 32091020 | Barniz para imprenta | 350500 |  | 25.00 | 10.00 |
| 32099010 | Pinturas y barnises a base de polimeros sinteticos o naturales modific. (Pintura) | 350500 |  | 25.00 | 10.00 |
| 32149000 | Masilla, cemento de resina y otros mastiques (Los demas) | 350500 |  | 25.00 | 10.00 |
| 32099020 | Barnices (los demas barnices) | 350500 |  | 25.00 | 10.00 |
|  | Total | 350500 | 13 | 25.00 | $\cdots$ |
|  |  |  |  |  |  |
| 30021020 |  | 350600 |  | 5.00 | 0.00 |
| 30049090 | Soluciones Intravenosas/Sueros | 350600 |  | 5.00 | 0.00 |
| 29224290 | Acido malico | 350600 |  | 3.00 | 0.00 |
| 29393000 | Aspartame | 350600 |  | 3.00 | 0.00 |
| 30059090 | Guantes Desechables | 350600 |  | 10.00 | 0.00 |
|  | Total | 350600 | 13 | 5.05 |  |
|  |  | C |  |  |  |
| 3401 | Jabones solidos para lavar | 350700 |  | . |  |
| 34011100 | Jabones | 350700 |  | 30.00 | 15.00 |
| 34029090 | Detergentes | 350700 |  | 40.40 | 0.00 |
| 33051000 | Shampoo | 350800 |  | 30.00 | 15.00 |
| 33052000 | Desrizados | 350800 |  | 30.00 | 15.00 |
| 33059000 | Rinse | 350800 |  | 30.00 | 15.00 |
| 33061000 | Cremas Dentales | 350800 |  | 40.40 | 15.00 |
|  | Total | 350900 | 13 | 34.37 | 12.45 |
|  |  |  |  |  |  |
| 33021000 | Nectares | 359900 |  | 20.00 | 5.00 |
| 35061000 | Colas y Adhesivos | 359900 |  | 25.00 | 15.00 |
| 35052000 | Colas | 359900 |  | 25.00 | 10.00 |
| 35069100 | Adhesivos a base de caucho o de materias plasticas | 359900 |  | 25.00 | 10.00 |
| 35069900 | Los demas | 359900 |  | 25.00 | 10.00 |
| 35019010 | Colas de caseina | 359900 |  | 25.00 | 10.00 |
| 35019090 | Los demas | 359900 |  | 20.00 | 5.00 |
| 33021000 | Extractos de cola, lima-limon, franbuesa, uva, fruit punch, te, piña, etc. | 359900 |  | 20.00 | 5.00 |
| 35052000 | COLAS (COLA BLANCA) (2) | 359900 |  | 25.00 | 10.00 |
| 35052000 | colas-cola para encuadernacion | 359900 |  | 25.00 | 10.00 |
| 35069100 | Adhesivos a base de cauchos o de materias plasticas (incluidas las resinas artificales | 359900 |  | 25.00 | 10.00 |
| 35061000 | Adhesivos y colas | 359900 |  | 25.00 | 15.00 |
| 35030020 | COLAS (PEGAMENTOS) | 359900 |  | 25.00 | 0.00 |
| 35069100 | CEMENTOS EN BASE A POLIMEROS DE | 359900 |  | 25.00 | 10.00 |





|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 87071000 |  | 490100 |  | 30.00 | 5.00 |
| 87079010 |  | 490100 |  | 30.00 | 5.00 |
| 87079020 |  | 490100 |  | 30.00 | 5.00 |
|  | Total | 490100 | 17 | 30.00 |  |
|  |  |  |  |  |  |
| 94013000 | Asientos giratorios | 500100 |  | 30.00 | 15.00 |
| 94014000 | Asiento-Camas | 500100 |  | 30.00 | 15.00 |
| 94015000 | Asientos Rattan | 500100 |  | 35.00 | 15.00 |
| 94016100 | Asientos armazon madera | 500100 |  | 35.00 | 15.00 |
| 94016900 |  | 500100 |  | 35.00 | 15.00 |
| 94017100 | Asientos armazon de metal | 500100 |  | 30.00 | 15.00 |
| 94017900 |  | 500100 |  | 30.00 | 15.00 |
| 94018000 | Otros Asientos | 500100 |  | 30.00 | 15.00 |
| 94019010 | Partes de Asientos | 500100 |  | 30.00 | 15.00 |
| 94019090 |  | 500100 |  | 30.00 | 10.00 |
| 94031000 | Muebles Metalicos de Oficina | 500100 |  | 30.00 | 15.00 |
| 94032000 | Otros Muebles Metalicos | 500100 |  | 29.96 | 15.00 |
| 94033000 | Muebles de oficina de madera | 500100 |  | 35.00 | 15.00 |
| 94034000 | Muebles de madera de cocina | 500100 |  | 35.00 | 15.00 |
| 94035000 | Muebles de madera dormitorio | 500100 | W) | 35.00 | 15.00 |
| 94036000 | Muebles Tapizados | 500100 | C | 35.00 | 15.00 |
| 94037000 | Muebles de Plastico | 500100 |  | 30.00 | 15.00 |
| 94038000 | Muebles de otras Materias | 500100 |  | 35.00 | 15.00 |
| 94039090 | Partes: Otras | 500100 | $\square$ | 30.00 | 15.00 |
| 9404!000 | Somieres | 500100 |  | 30.00 | 15.00 |
| 94042100 | Colchones de caucho/plastico | 500100 |  | 30.00 | 15.00 |
| 94042910 | Colchones de resortes metalicos | 500100 |  | 30.00 | 15.00 |
|  | Total | 500100 | 17 | 31.19 | 14.97 |
|  |  |  |  |  |  |
| 96061000 | Botones sin Forro | 509900 | - . | 20.00 | 0.00 |
| 96062100 | Botones | 509900 |  | 20.00 | 0.00 |
|  | Total | 500900 | -17 | 20.00 |  |
|  | Grand Total | : |  | 33.99 |  |
| 27100019 | Gasolina | 340100 |  | 5.00 | 0.00 |
| 27100050 | Gas-Oil | 340200 |  | 5.00 | 0.00 |
| 27100060 | Fuel-Oil | 340300 |  | 5.00 | 0.00 |
| 27111900 | Gas Liquado | 340400 |  | 5.00 | 0.00 |
| 27100030 | Kerosene | 340500 |  | 5.00 | 0.00 |
| . | Total | 340500 | 12 | 5.00 | 0.00 |
|  | Total Nominal Protection Rate for Manufacturing |  |  | 32.47 | 'i7.68 |
|  |  |  |  |  |  |
| (**) Includes differentials in vat and selectivo al consumo |  |  |  |  |  |

Table B.3: Nominal Protection of Agricultural Activities

| Prod. Code | Producto | Activ. Code | Nom. Prot. | Total Prot. | Tariff 2000 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 10200 | Maiz en grano | 3 | 85.17 | 85.17 | 85.17 |
| 10300 | Sorgo | 3 | 5.00 | 13.40 | 5.00 |
| 30100 | Maní en cáscara | 3 | 5.00 | 13.40 | 5.00 |
| 30200 | Fruto de palma africana | 3 | 5.00 | 13.40 | 5.00 |
| '39900 | Otras semillas oleaginosas | 3 | 5.00 | 13.40 | 5.00 |
| 40200 | Cabuya o sisal | 3 | 5.00 | 13.40 | 5.00 |
| 50100 | Habichuelas* | 3 | 69.55 | 69.55 | 69.55 |
| 50200 | Guandules | 3 | 25.00 | 35.00 | 15.00 |
| 59900 | Otras leguminosas | 3 | 25.00 | 35.00 | 15.00 |
| 60100 | Yuca | 3 | 25.00 | 35.00 | 15.00 |
| 60200 | Batata | 3 | 25.00 | 35.00 | 15.00 |
| 60300 | Papas | 3 | 25.00 | 35.00 | 15.00 |
| 60400 | Name | 3 | 25.00 | 35.00 | 15.00 |
| 60500 | Yautía | 3 | 25.00 | 35.00 | 15.00 |
| 60600 | Cebolla y cebollín* | 3 | 37.87 | 37.87 | 37.87 |
| 60700 | Ajos* | 3 | 34.53 | 34.53 | 34.53 |
| 60800 | Gengibre | 3 | 25.00 | 35.00 | 15.00 |
| 69900 | Otros tubérculos, bulbos y raíces | 3 | 25.00 | 35.00 | 15.00 |
| 70100 | Tomate | 3 | 25.00 | 35.00 | 10.00 |
| 70200 | Lechuga | 3 | 25.00 | 35.00 | 15.00 |
| 70300 | Auyama | 3 | 25.00 | 35.00 | 15.00 |
| 70400 | Ajies | 3 | 25.00 | 35.00 | 15.00 |
| 70500 | Berenjena | 3 | 25.00 | 35.00 | 15.00 |
| 70600 | Zanahoria | 3 | 25.00 | 35.00 | 15.00 |
| 70700 | Repollo | 3 | 25.00 | 35.00 | 15.00 |
| 70800 | Remolacha | 3 | 25.00 | 35.00 | 15.00 |
| 70900 | Rábano | 3 | 25.00 | 35.00 | 15.00 |
| 71000 | Pepino | 3 | 25.00 | 35.00 | 15.00 |
| 71100 | Molondrones | 3 | 25.00 | 35.00 | 15.00 |
| 71200 | Chayote | 3 | 25.00 | 35.00 | 15.00 |
| 79900 | Otras hortalizas | 3 | 25.00 | 35.00 | 15.00 |
| 80100 | Plátano | 3 | 25.00 | 35.00 | 15.00 |
| 80200 | Guineos | 3 | 25.00 | 35.00 | 15.00 |
| 80300 | Piña | 3 | 25.00 | 35.00 | 15.00 |
| 80400 | Aguacate | 3 | 25.00 | 35.00 | 15.00 |
| 80500 | Cítricos | 3 | 25.00 | 35.00 | 15.00 |
| 80600 | Lechosa | 3 | 25.00 | 35.00 | 15.00 |
| 80700 | Melón | 3 | 25.00 | 35.00 | 15.00 |
| 80800 | Coco | 3 | 35.00 | 45.80 | 15.00 |
| 89900 | Otras frutas |  |  |  |  |
| 90100 | Orégano |  |  |  |  |
| 90200 | Achiote o bija |  |  |  |  |
| 90300 | Plantas vivas y ornamentales |  |  |  |  |
| 99900 | Otros productos agrícolas n.e.p. | 3 | 25.00 | 35.00 | 15.00 |
| 99900 |  |  |  |  |  |
| 99900 |  |  |  |  |  |
|  | Total |  | 31.35 | 39.56 | 22.63 |

(*) Tariff Equivalent.
Total protection rates include VAT and excise taxation differentials


Table B.4: Import Tariffs on Inputs and Capital Goods
(in \%)

| Description | Tariff Rates |
| :---: | :---: |
| Cereals | 0.00 |
| Export Crops | 0.00 |
| Oilseeds | 4.97 |
| Textile Fibers | 0.00 |
| Leguminous | 25.00 |
| Root Crops | 10.40 |
| Vegetables | 25.00 |
| Fruits | 35.00 |
| Other agricultural products | 11.14 |
| Live animals | 3.82 |
| Other animal products | 13.89 |
| Forestry | 11.95 |
| Fisheries | 10.00 |
| Mineral coal | 5.00 |
| Petroleum | 5.00 |
| Metallic minerals | 5.00 |
| Stone, sand and clay | 5.50 |
| Salt | 9.16 |
| Other minerals | 5.00 |
| Slaughtering | 15.04 |
| Animal and vegetable oils and fats | 11.51 |
| Dairy products | 19.84 |
| Grain mills | 6.45 |
| Bakery 111VC1G | 40.00 |
| Sugar refining | 23.24 |
| Other food products | 12.06 |
| Alcoholic beverages | 27.12 |
| Non-alcoholic beverages | 30.00 |
| Tobacco manufacturing | 20.00 |
| Textiles, garments, and leather | 23.37 |
| Wood products | 16.28 |
| Paper pulp, paper packing | 9.41 |
| Printing | 20.25 |
| Petroleum refining | 18.61 |
| Chemical products | 8.62 |
| Rubber products | 19.92 |
| Plastic products | 23.44 |
| Non-metal industries | 18.81 |
| Iron and Steel basic products | 13.24 |
| Non-ferrous products | 12.47 |
| Metal products | 22.16 |
| Machinery of general use | 14.26 |
| Machinery for particular uses | 8.17 |
| Household equipment | 26.02 |
| Office equipment | 8.36 |
| Electrical machinery | 20.02 |


| Radio, TV and communications equipment | 18.05 |
| :--- | :--- |
| Watches, optical instruments | 13.99 |
| Transport equipment | 17.34 |
| Furniture and other manufacturing | 26.38 |
| Metal and non-metal waste | 12.01 |
| Average Tariff Rate | 15.69 |

Notes: The weights for the average tariff rate are those of intermediate consumption


[^0]:    The author is very grateful to Ms. F. Alcantara and R. Blondet (Central Bank of the Dominican Republic, Department of National Accounts), Ms. M. Lizardo (ONAPLAN) and to Mr. R. Mye (International Trade Administration, US Department of Commerce) for their valuable contributions to this report.

[^1]:    The assessment of the impact of changes in commercial policies on the economy is thus limited to short run effects as no capital accumulation and technological change are allowed in the model.

[^2]:    ${ }^{2}$ Import prohibitions that have been eliminated comprise those that were enacted by presidential decrees. The remaining prohibitions are contained in laws granting the issue of import licensing to different government bodies.
    ${ }^{3}$ No agreement has yet been reached with the WTO on binding tariff rates for imports outside the quota system.

[^3]:    4 The 1995 production matrix was used to calculate the output-weighted nominal protection rates for the activities. Within each activity, locally produced commodities were identified and the corresponding import tariff rates allocated to each of them and weighted by imports as the matrix contains data only about production at two digit level of the local classification of products.

    Other agricultural activities such as paddy and livestock, are classified in this report as non-traded goods as there are no reported imports of these commodities. In the case of livestock, imports of live animals are mostly breeding stocks. Sugar cane, coffee and cocoa are, on the other hand, exportable commodities.

[^4]:    6 These broad categories are consumer, intermediate and capital goods, and passenger motor cars. The latter are included in the consumer good category. BEC codes also classify imports by degree of processing (primary and manufactured products) for consumer and intermediate goods.

    This mapping along with customs data were kindly provided by the Department of National Accounts of the Central Bank of the Dominican Republic.

[^5]:    8 The $10 \%$ uniform import duty is included in the simulations as a $n^{\text {th }}$ best alternative to free trade under fiscal revenue constraints where the order of $n$ is determined by maximizing consumers' welfare through the simulations.
    9 L. Sjaastad and K. Clements (1984) report similar values (.60) of the incidence of trade taxation on exportable activities for an average of several countries although the methodology is different than the one used in this study.
    10 In the case of livestock, forestry and fishing, the sectoral output is dominated by livestock, of which production of poultry is one of the most important components.

[^6]:    13 Actually, real wages would increase if quantitative restrictions are eliminated.

[^7]:    14 It is assumed that return to capital in mining and agriculture is mostly land rental and as such assumed given by the force of nature.

[^8]:    L:\EndatalWORD\RDTRADE.DOC\March 11, 1999.

