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OPTIONS FOR TRADE LIBERALIZATION IN THE URUGUAY ROUND NEGOTIATIONS

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Introduction

As the world proceeds with the eighth GATT (Uruguay) round of multilateral trade negotiations, it is important to consider the potential economic effects of different negotiating options that are available to the United States and other major trading countries. In this paper, we report on a series of computational experiments involving alternative scenarios for trade liberalization, using the Michigan Model of World Production and Trade. The Michigan Model is well suited for this kind of analysis since it is a multi-country, multi-sectoral computational model covering the eighteen major developed and sixteen major developing countries and allowing for a variety of complex general equilibrium interactions, both globally and within individual countries.

In the previous GATT rounds, efforts were made to reduce existing nominal tariffs, and, particularly in the Tokyo Round that was concluded in 1979, several agreements (codes) were negotiated involving a variety of nontariff measures. The GATT codes were designed inter alia to limit the introduction of new barriers and to increase transparency in the use of existing nontariff measures by the major trading countries, thereby lowering trading costs and improving market access. However, little progress was made in reducing or eliminating existing nontariff barriers (NTBs) affecting trade in agricultural or manufactured products. Furthermore, because of the special and differential treatment afforded to developing countries in the GATT, these countries were not obligated to reciprocate the tariff reductions effected by the developed countries. This differential treatment did not carry over to the GATT codes, however, since participation in the benefits of many of the codes was made conditional on the acceptance of code

authority and discipline, which was something that most developing countries were unprepared to accept.

With the negotiations now past the half-way mark and scheduled for conclusion at the end of 1990, it is an opportune time to focus attention on various negotiating options. The negotiating agenda for the Uruguay Round is rather ambitious. It covers such traditional items as the reduction or elimination of existing tariffs and NTBs on manufactures and agricultural products and unfinished business from the Tokyo Round such as the negotiation of a safeguards code. There are also several new agenda items, including rules governing rights to intellectual property, investment performance requirements, and the liberalization of trade and investment in service industries.

The United States and other major trading countries involved in the Uruguay Round negotiations may have different interests with respect to individual agenda items, and it will be necessary for each country to weigh the potential benefits and costs of the various options open to them in the negotiations. It may be difficult, however, to assess the options in a precise and comprehensive manner because of the lack of data and the qualitative nature of some of the agenda items at issue. Nonetheless, in view especially of the importance of merchandise trade in the economies of the major trading countries, it is worthwhile to assess the potential economic effects of alternative liberalization scenarios involving the elimination of existing tariffs and NTBs. Such quantitative information on trade liberalization may then be merged with qualitative judgments on other issues in order to define what the overall interests of individual nations may be as final agreements are sought and the Uruguay Round negotiations are concluded.

Turning now to the task at hand, we present in the next section a brief description of the Michigan Model and the data that provide the basis for our subsequent analysis. Thereafter, we present the results of various scenarios for the multilateral removal of tariffs and NTBs by the major industrialized and developing countries. Since the results are voluminous, we concentrate our discussion on the effects that the different

negotiating options may have for the United States especially, mentioning other nations or regions when appropriate. We then bring together the various results for the United States and note where the greatest potential benefits might be realized as well as the problems of adjustment that might be experienced for the different liberalization scenarios considered. Some conclusions and implications for policy are presented in the final section.

Description of the Michigan Model and Data

The Michigan Model was developed originally to analyze the economic effects of the Tokyo Round, and it has been used subsequently to analyze a variety of other issues. Since space does not permit us to present the model, we refer the reader to Deardorff and Stern (1986) for details on the structure, implementation, and applications of the model.[1] Some brief comments on the measurement of tariffs and NTBs to be used in our analysis may be useful however.

Our data on tariffs for the major industrialized countries come from the GATT Secretariat and are based on post-Tokyo Round (1987) rates. These were available at the line-item level of the Brussels Tariff Nomenclature (BTN) and were aggregated using own-country total imports as weights for each of the 22 tradable industries in each industrialized country in the model.

In the basic version of the model, existing NTBs in industrialized countries are represented by the fractions of 1980 trade in each sector and country that were covered by any kind of NTB. However, this representation of NTBs does not enable us to capture the economic effects that would be experienced if the NTBs themselves were reduced or removed. It is necessary for this purpose to have direct estimates of the price or quantity effects associated with particular NTBs by sector. Such estimates are very difficult to obtain, however, for a variety of reasons that are discussed at length in Deardorff and Stern (1985).[2] In the absence of accurate and reliable estimates, we have constructed "high" and "low" approximations of the ad valorem equivalents of selected NTBs by major sector and country, ranging from 1973 to the early 1980s. These high and low

approximations are presented in Deardorff and Stern (1989).[3] They were constructed using price differentials between domestic and foreign goods drawn from a variety of sources and some approximations using the component weights of the NTB trade coverage indexes.

As explained in Deardorff and Stern (1986), the Michigan Model permits a variety of assumptions to be implemented as regards exchange rates, flexibility of wages, and the determination of aggregate expenditure. The assumptions used in the present paper should be spelled out before we proceed. For the scenarios to be reported below, we have modelled each country with a flexible exchange-rate regime since otherwise the removal of tariffs and/or NTBs would not have a complete effect in developing countries especially where import licensing constrained the availability of foreign exchange. Nominal wages of labor in all countries are taken as fixed. This by itself would leave scope for changes in aggregate employment. However, as we have done in other studies, we neutralize such effects by having aggregate expenditure adjust so as to stabilize aggregate employment. Thus, we assume the existence of a successful policy of macroeconomic stabilization in each country.

Presentation of Computational Results

Let us turn now to our results. In our computations we explored the economic effects of several different liberalization scenarios. These scenarios were chosen to illustrate what might be expected to occur if it were possible to eliminate completely existing tariffs and/or NTBs in the world's major industrialized countries. We realize of course that the scenarios selected may not in fact correspond to what has been proposed or may actually be implemented in the Uruguay Round negotiations. Nonetheless our results may be useful both in helping the United States and other nations choose among the available options that may best serve their own interests and in developing a consensus about which options might be mutually beneficial for the various nations participating in the negotiations. The scenarios to be analyzed are as follows:

1. Elimination of all post-Tokyo Round (1987) tariffs in the 18 major industrialized countries.

2. Elimination of NTBs in the major industrialized countries (excluding agriculture and textiles and clothing).

3. Elimination of agricultural NTBs in the major industrialized countries, modeled as domestic production subsidies.

4. Elimination of NTBs on textiles and clothing in the major industrialized countries.

5. Elimination of all tariffs and NTBs in the major industrialized countries, with agricultural NTBs modeled as domestic production subsidies (scenarios 1 + 2 + 3 + 4).

Since the individual scenarios differ somewhat in terms of the assumptions made in implementing the model, we shall discuss the results of each of them separately. The results are then presented side by side, and an effort is made to highlight the main differences among them. In all cases, the results are based on 1980, which is the reference year for the data used in the model.

1. Elimination of Post-Tokyo Round Tariffs in the Major Industrialized Countries

In this scenario, we eliminated the post-Tokyo Round (1987) tariffs for the 18 major industrialized countries in the model. Existing NTBs in the industrialized countries are assumed to remain intact and all countries are assumed to have flexible exchange rates. The overall results are summarized in Table 1. The principal findings are as follows:

1. Based on 1980 levels, exports will rise by around $56 billion for all the countries listed, which is about a 4.1% increase. U.S. exports rise by $9.5 billion and imports by $9.9 billion.

2. We have already noted that aggregate expenditure is permitted to adjust endogenously to prevent any change in total employment from occurring. As an indication of labor-market dislocation and aggregate structural adjustment, we have calculated the

"Gross Change in Employment," which is the sum of all positive sectoral employment changes for a country, and is also shown as a percentage of each country's 1980 labor force. The former figure represents the total number of workers in each country who would have to change jobs if post-Tokyo Round tariffs were eliminated. It includes those who might have to move only between the export and home sectors of their industries. For the United States, the gross change in employment is 282 thousand workers, which is 0.28% of the 1980 U.S. labor force. The total for the European Economic Community is 722 thousand workers, which is 0.67% of 1980 employment. For individual EEC-member countries, the percentages range from 0.59 for the United Kingdom to 1.25 for Ireland. The total for Japan is 255 thousand workers, which is 0.46% of the 1980 labor force.

By assuming that the existing tariffs are removed all at once, we are abstracting from the process of adjustment that will occur through time. In this connection, it is important to note that it is a common practice to implement trade liberalization gradually over a period of years. Thus, the Tokyo Round tariff reductions were phased in over a period of seven years, from 1980 to 1987. The case for gradualism can be made on a variety of grounds. First, there may be distortions in the economy that impede labor and capital from making socially correct calculations concerning the sectors in which they can earn maximum returns. Second, the government may wish to mitigate the economic losses that factor owners may experience in protected industries. Finally, if resources in the protected industries become unemployed as the result of liberalization, it may be desirable to liberalize gradually in order to minimize the loss of output.

If, in this light, the post-Tokyo Round tariff reductions were to be phased in over a period of several years, the aggregate results suggest that the adjustment of employment might not add materially to normal labor-market turnover within and between industries. Any serious disruptions in labor markets would therefore be less likely to occur. This would also be the case to the extent that adjustment took place in the context of a growing world. However, as will be noted below, disaggregated results by

sector do not fully support such a conclusion since there are numerous sectors in which the *relative* changes in employment are sufficiently large to suggest that there could indeed be difficulties in adjustment.

As for the major developing countries, the gross employment changes recorded in Table 1 are all comparatively small.

3. The terms of trade for the United States show a small improvement of 0.34%. There are comparably small improvements and declines for the other industrialized countries. Some of the changes for the developing countries are larger, being in excess of one percent for Argentina and Turkey. It is noteworthy from the mixed signs for the industrialized countries that these countries as a group have not succeeded in uniformly improving their own terms of trade via their tariffs.

4. The U.S. dollar will depreciate (by 0.5%), as will the French franc (0.2%), German mark (0.5%), Italian lira (0.4%), and Japanese yen (0.5%). The most notable currency appreciations are for Belgium-Luxembourg (0.9%) and Ireland (1.8%). The currencies of all the developing countries appreciate, which is the principal reason why their exports are shown to decline.

5. Import prices fall, contributing to a fall of 0.1% in consumer prices in the United States. Price declines for most other industrialized countries are significantly greater, ranging from around 0.6% to 2.6%. Prices also fall, though by a relatively small amount, in most of the developing countries.

The country results in Table 1 mask much industry detail that our model is well able to calculate. While these detailed results are too voluminous to present here, it appears that absolute and relative employment effects are comparatively small for the United States. However, for several other countries, the positive and negative percentage employment changes in several industrialized countries are sufficiently large that they might signal sectors in which labor adjustment would present difficulties. This is particularly likely to be the case if there are factor market distortions that hinder labor

mobility and if there is a mismatch in labor skills between the industries that would expand or contract in response to tariff elimination so that unemployment may occur. Again, if tariff elimination were staged over a period of years, the difficulties would be lessened, but they might not be fully resolved in certain individual sectors. In contrast, large percentage changes in net employment are not so prevalent for the developing countries, reflecting the fact that those countries will in general be less materially affected by tariff elimination in the industrialized countries.

2. Elimination of NTBs in the Major Industrialized Countries (Excluding Agriculture and Textiles and Clothing)

Having focused thus far on the effects of eliminating tariffs in the major industrialized and developing countries, we turn next to an analysis of the effects of eliminating existing NTBs in the industrialized countries. We first consider all NTBs except for those applying to agriculture and textiles and clothing, which are the focus of the following scenarios. As already mentioned, we have constructed sets of "high" and "low" NTB ad valorem equivalents, the latter based on an adjustment for the percentage of trade covered by NTBs. In what follows, we report the results based on the "low" estimates, which we regard as the more plausible. All other NTBs are assumed unchanged as are all tariffs in this scenario.

In all of our NTB elimination scenarios, we decided to exclude the petroleum sector even though our NTB trade coverage indexes indicated the presence of some type of barrier. Our reasoning was that petroleum imports are monitored or controlled for a variety of reasons, perhaps most importantly national defense. Since, in our view, the underlying motivations involving petroleum do not reflect the usual protectionist considerations, it seemed reasonable to treat the petroleum sector as a special case.

We should also note that we modeled the existing nontariff restrictions affecting imports of automobiles from Japan and textiles and clothing from the developing countries from the export side in terms of an export tax rather than as an ad valorem equivalent

duty on imports. The reason is that our model does not distinguish imports by country of origin, and therefore we are unable to represent from the demand side the bilateral characteristics of the current arrangements that restrict imports of automobiles and textiles and clothing.

The results for this scenario involving the elimination of NTBs, excluding agriculture and textiles and clothing, are summarized in Table 2. The principal findings are as follows:

1. Exports increase in total by $22.5 billion, which is about 1.7% above the 1980 level. The largest increases are for the United States, France, Japan, West Germany, and Italy. The exports of the developing countries increase only slightly.

2. The gross change in employment, and thus the amount of labor adjustment required, is largest for the United States, followed by Japan, France, West Germany, and Italy.

3. Japan's terms of trade decline by 0.55%. The terms of trade of the smaller industrialized countries improve, as do the terms of trade of the developing countries, except Hong Kong, South Korea, and Taiwan.

4. The Japanese yen appreciates by nearly 0.2%. Australia, Denmark, and Ireland show an appreciation of their currencies, while the U.S. dollar depreciates.

5. Prices fall by comparatively small percentages in all the industrialized countries. The largest decline is in the case of Belgium-Luxembourg.

The positive sectoral net employment effects, which are not reported here, are most pronounced for iron and steel products especially in Belgium-Luxembourg and West Germany, agriculture and food products, nonelectric machinery, and metal products in France, metals products and machinery in Italy, agriculture and food products, machinery, textiles, miscellaneous manufactures, and chemicals in the United States, and agriculture and food products in Canada, Australia, and the Netherlands. Since we modeled Japan as removing the export tax on its transport equipment sector, the result is a substantial net

increase in employment in this sector. Japan experiences net declines in employment in most other sectors.

The net percentage changes in employment, which are also not reported here, are fairly large in a number of sectors in the industrialized countries and suggest that short-run adjustment difficulties might be experienced unless the barriers were eliminated in stages.

3. Elimination of Agricultural NTBs in the Major Industrialized Countries, Modeled as Domestic Production Subsidies

In this scenario, we eliminated the agricultural NTBs based on the measures of Producer Subsidy Equivalents (PSEs) calculated for 1984–86 by the Organization for Economic Cooperation and Development (OECD). For this purpose, we assumed that these PSEs are subsidies that apply directly to domestic production and, since they may leave consumer prices unchanged, they cannot be interpreted clearly as ad valorem equivalents of NTBs. In using the PSEs, it is necessary to determine whether they apply to all of agriculture or only to some part thereof. Since it appears from the details in the OECD source that the coverage is less than 100% of the agricultural sector, and also because the agricultural sector in our model includes fisheries and forestry as well as agriculture, we thought it appropriate to scale down the PSEs.

The effects of elimination of production subsidies are naturally somewhat different from the effects of reducing tariffs as in our first scenario. In general, the main effects to be expected from elimination of production subsidies are a substantial rise in prices, both at home and on world markets, and some decline in output. One does not necessarily expect a systematic effect on trade. If subsidies are eliminated in only some countries and not others, for example, as is the case here, then there may not be substantial effects on trade. The rise in world prices will induce net additions to supply from those countries that were not using subsidies in the first place, and a major effect of the elimination of subsidies will therefore be to redirect demand towards imports from such countries and

away from both domestic output and imports from other previously subsidizing countries. Thus we expect the elimination of agricultural subsidies in the developed countries to cause expansion of agricultural exports from developing countries to developed countries, and a contraction of agricultural output for both export and home use in the latter. Finally, to the extent that subsidies are initially smaller in some industrialized countries than in others, the former may experience a net expansion of the sector much like countries which had no subsidies at all.

The summary results for this scenario are contained in Table 3. The principal findings are as follows:

1. Overall imports expand by $5.6 billion for the industrialized countries, with the largest increases for Japan ($2.8 billion), Italy ($633 million), France ($610 million), and Switzerland ($520 million). Exports expand by $7.1 billion, with the largest increase for Japan ($3.8 billion).

2. For the industrialized countries, Japan has the largest gross change in employment of 2.0 million workers, which was 3.6% of its total 1980 employment. Relatively large gross changes in employment were recorded also for several of the European Community countries, and for Finland, Norway, and Switzerland. The gross employment changes in the developing countries are relatively small.

3. Japan's terms of trade decline by 0.70%. Terms-of-trade improvements are evident for Australia, Canada, Denmark, Ireland, the Netherlands, Finland, New Zealand, Norway, and the United States. Several of the developing countries show improved terms of trade, in particular Argentina, Brazil, Colombia, Greece, India, Mexico, and Turkey.

4. Japan's currency is seen to depreciate by 2.5%, and there are depreciations for a number of the European countries. These depreciations serve in turn to reduce the imports and to increase the exports of these countries. Australia experiences an appreciation of its currency (1.1%) as do New Zealand and the United States. The trade effects in these cases are opposite to the ones in which the currency has depreciated. All

of the developing countries experience an appreciation of their currencies, which serves to reduce their exports, and the rise in the world prices of agricultural products results in lower imports in several of these countries.

5. The assumed removal of the production subsidies is seen to increase domestic prices significantly in most of the industrialized countries, with the largest increases in Japan (2.6%) and Switzerland. The price changes in the developing countries are comparatively small since no changes are assumed to be made in their domestic agricultural subsidies.

The sectoral impacts on agriculture are sizable in many countries for the obvious reason that we are assuming that a subsidy on all domestic agricultural production is being removed. The detailed employment results, which are not included here, indicate that in Japan there is a net decline in agricultural employment of 28.4% and a decline of 28.1% in Switzerland. There are sizable declines in the other European countries as well. The United States is the only industrialized country that experiences a net increase in agricultural employment.

It is also noteworthy that there are sizable expansionary effects in other sectors, including nontraded services that reflect the differential changes in agricultural prices relative to the prices of manufactures and nontradables. There are positive employment effects in agriculture and in food and kindred products and negative effects in the other sectors in most of the developing countries. What comes through very clearly therefore in this scenario is that there would be very sizable intersectoral adjustments in employment if existing agricultural production subsidies were to be eliminated all at once.

4. Elimination of NTBs on Textiles and Clothing in the Major Industrialized Countries

We have already mentioned that it is difficult to use our model to analyze bilateral import policies such as the Multifibre Arrangement (MFA) that restricts the quantities of textiles and clothing that developing countries can export to individual

industrialized countries. What we have elected to do therefore was to model the MFA restrictions as an export tax on textiles and clothing in the developing countries represented in the model. For this purpose, we constructed weighted averages of the ad valorem equivalents of restrictions on imports of clothing by the industrialized countries from Hong Kong, South Korea, and Taiwan, and we used these weighted averages to represent export taxes on clothing for the three countries. The same rate was also applied to textiles. For the remaining developing countries, we used the average of the rates calculated for South Korea and Taiwan. It was assumed that there were no NTBs affecting imports of textiles and clothing from the industrialized countries. All other NTBs and tariffs were assumed unchanged and all exchange rates were flexible.

The summary results are listed in Table 4. The principal findings are as follows:

1. There are only minor changes in the total trade of the industrialized countries, while the total trade of the developing countries increases by around $1.5 billion. Removing the export tax on textiles and clothing tends to lower the world price in these sectors. Imports of these goods rise in the industrialized countries, and this results in a depreciation of their currencies, with the further effect of reducing their imports overall. Exports of the industrialized countries tend to fall because of the decline in world prices. The increase in exports of the developing countries causes their currencies to appreciate, and this in turn increases their imports. The result therefore is that both exports and imports increase for the developing countries while there are negligible changes in the trade of the industrialized countries.

2. The gross absolute employment changes are the largest in India, Hong Kong, South Korea, and Taiwan, and there are substantial percentage increases as well.

3. The terms of trade decline to a small extent for most of the developing countries and change only marginally for the industrialized countries.

4. We have already noted that the currencies of the industrialized countries depreciate while the currencies of the developing countries appreciate.

5. Prices tend to rise in the industrialized countries because of the currency depreciation and to fall in the developing countries because of the currency appreciation.

The sectoral results for the industrialized countries indicate small absolute net declines in employment in textiles and clothing. But the percentage changes in these sectors are fairly substantial in a number of countries. There is evidently reallocation of employment to the other sectors in most instances.

There are sizable absolute net increases in employment in textiles and clothing in several of the developing countries. The percentage effects are quite large in many cases not only in textiles and clothing but in other sectors as well. Substantial intersectoral adjustment problems would be bound to occur in the developing countries therefore if the restrictions on their textile and clothing exports were eliminated all at once.

5. Elimination of All Tariffs and NTBs in the Major Industrialized Countries, with Agricultural NTBs Modeled as Domestic Production Subsidies (Scenarios 1 + 2 + 3 + 4)

In this scenario, we combined complete removal of tariffs with removal of all NTBs by the industrialized countries. This scenario thus incorporates the earlier results for scenarios 1, 2, 3, and 4.

The summary results are contained in Table 5. The principal findings are as follows:

1. Based on 1980 levels, exports will rise by nearly $70 billion, which is a 5.1% increase. U.S. exports and imports rise by around $9 billion. The comparatively small changes in the trade of the developing countries reflect especially the responses to the appreciation of their currencies that would be experienced in the context of this broad liberalization.

2. The gross change in employment for the United States is 285 thousand workers, which is 0.29% of the 1980 U.S. labor force. The results for the other industrialized countries range from less than 1% to 3.7% of 1980 employment, and, for the developing countries, from 0.17% to 14.7%.

3. The terms of trade improve for Australia, Canada, Denmark, Ireland, the Netherlands, Finland, New Zealand, Norway, and the United States, and they decline for the other industrialized countries. The terms of trade improve noticeably for Argentina, Brazil, Mexico, and Turkey, and there are lesser improvements and declines for the remaining developing countries.

4. The U.S. dollar depreciates by 0.3%. The Japanese yen also depreciates by 2.9%, and there are depreciations for several other industrialized countries. The currencies of the smaller industrialized countries appreciate. The currencies of the developing countries appreciate for the most part, ranging from 1.0% for Argentina and Mexico to 9.2% for Hong Kong.

5. Import price declines lead consumer prices to fall by 0.2% in the United States. The declines are more substantial in some other industrialized countries. Prices increase especially in Japan, Finland, Norway, and Switzerland.

The sectoral results, which are not reported here, indicate that the United States will have positive net employment changes in agriculture especially and to a lesser extent in food products, paper, chemicals, machinery, and mining and quarrying. There are net declines in the remaining U.S. industries. The details for the other industrialized countries and the developing countries indicate that substantial labor market adjustments might result from liberalization in a number of sectors.

We have assumed in all of our scenarios that the developing countries hold their tariffs constant, which is an option that has been available to them in previous GATT negotiations. The same is true for developing country NTBs. The choice of whether or not to liberalize may be less applicable in the Uruguay Round, however, as the major developing countries have come under increasing pressure to assume full obligations under the GATT and to reduce their trade barriers. We have made some calculations of what might happen if the major developing countries were to eliminate their tariffs and NTBs, and the results suggest that there would be a considerable expansion of trade overall. The

precise impacts across sectors would depend upon differences in the levels of existing barriers and upon the response of exchange rates to the assumed liberalization. But it seems clear from our various scenarios that there might well be considerable dislocations in labor markets in many countries and that it might be desirable accordingly to phase in the liberalization over an extended period in an effort to mitigate any adjustment costs that might occur.

Comparisons of Alternative Liberalization Scenarios

In order to provide some overall perspective on the results, we have prepared Table 6, which reports results for the United States for all five scenarios side by side for the net percentage changes in employment. These results provide some indication of the labor market adjustment problems that might be experienced in the United States due to trade liberalization. It is evident from Table 6 that the United States would experience a net percentage increase in employment in agriculture, food products, wood and paper products, and mining and quarrying in every case. There are positive and negative signs for the other sectors across all the scenarios. What emerges clearly therefore is that the greatest employment gains for the United States would be realized especially from agricultural liberalization, whereas employment in most other major sectors would vary depending upon the particular negotiating option chosen for eliminating tariffs and NTBs.

Concluding Comments and Implications for Policy

The purpose of our analysis has been to identify how the sectors in the United States and the other major industrialized and developing countries might be affected by various options for liberalizing tariffs and NTBs in the course of the Uruguay Round negotiations.

It is especially clear from our analysis that there would be sectors in individual countries in which employment might expand as a result of liberalization in the Uruguay Round and, by the same token, there would be other sectors that might experience

reductions in employment. This is to be expected insofar as the tariffs and NTBs of the major industrialized countries would be more or less restrictive relative to each other and, accordingly, there would be differential impacts across sectors. Indeed, it is precisely these differential sectoral impacts that the Michigan model has been designed to identify.

We have already mentioned that the various options that we have considered have been assumed to be implemented all at once rather than being phased in over a period of years. One of our chief findings is that, in a number of the scenarios, the percentage changes in employment are relatively sizable, which indicates that there might be possible labor market pressures that would be experienced in particular sectors. Such pressures would presumably be reflected in wage adjustments and/or unemployment, although in actuality the effects involved would be intermingled with the labor market changes that would occur in response to economic growth and cyclical developments of the economy. The issue here is whether it would be feasible and desirable to consider using adjustment assistance measures designed to mitigate the possible negative employment impacts that might result from trade liberalization in particular sectors. An argument for devising such special measures is that this might be helpful in obtaining support from particular sectors that would experience the most difficult adjustments. But it is also the case that it is by no means an easy task to disentangle the effects on employment resulting from trade liberalization from the effects arising from cyclical and longer-term economic influences.

Even though there are numerous instances of sizable net employment changes at the sectoral level in individual countries, our results suggest at the same time that there are many sectors in which the net employment changes are relatively rather small for the different liberalization options analyzed. To understand why this is the case, the first thing to point out is that reductions in tariffs and NTBs are themselves quite small. Thus, the average post-Tokyo Round (1987) tariffs are on the order of about 5% overall for the major industrialized countries, and the average ad valorem equivalents of NTBs are also

relatively low, except for France and to a lesser extent, Japan.[4] The relatively low ad valorem tariff rates reflect the reductions in these rates that have been achieved as the result of the seven rounds of multilateral negotiations that have taken place under GATT auspices in the past forty years. The ad valorem equivalents of NTBs that we have calculated involve an adjustment for the percentage of trade covered by NTBs in the industry categories used in the model.

As mentioned in the Introduction, there are numerous items on the agenda of the Uruguay Round negotiations. Individual nations/regions will obviously have different interests as far as particular agenda items are concerned. The interests of the United States appear to be concentrated especially in agricultural liberalization and in the development of new rules governing international services transactions and intellectual property rights. As efforts are made to guide the Uruguay Round negotiations to some concrete areas of agreement in 1990, the United States and the other major trading countries will consider possible tradeoffs among the various negotiating items of greatest interest to them.

It is conceivable that some progress might be made in dismantling existing NTBs and, at the same time, working out arrangements to provide more assured access of developing country exports of both manufactures and agricultural products into the markets of the United States and other industrialized countries. The types of calculations that we have presented in our paper may thus be useful in helping to identify those sectors in the United States and other countries that are potential beneficiaries from greater liberalization as well as sectors that could be vulnerable to the increased competitive pressures that liberalization may engender.

Footnotes

[1]See Alan V. Deardorff and Robert M. Stern, *The Michigan Model of World Production and Trade: Theory and Applications* (Cambridge: The MIT Press, 1986).

[2]Alan V. Deardorff and Robert M. Stern, "Methods of Measurement of Nontariff Barriers," United Nations Conference on Trade and Development, UNCTAD/ST/MD/28, United Nations, Geneva, 1985.

[3]Alan V. Deardorff and Robert M. Stern, "A Computational Analysis of Alternative Scenarios for Multilateral Trade Liberalization," in process, 1989.

[4]See the tables of tariff rates and NTB tariff equivalents in Ibid.

TABLE 1

SUMMARY OF EFFECTS ON THE MAJOR INDUSTRIALIZED AND DEVELOPING COUNTRIES DUE TO ELIMINATION OF POST TOKYO ROUND TARIFFS IN DEVELOPED COUNTRIES

	VALUE OF CHANGE IN EXPORTS		VALUE OF CHANGE IN IMPORTS		GROSS CHANGE IN EMPLOYMENT*		% CHANGE IN	PCT CHANGE IN EFF.	PCT CHANGE IN
	$ MILL.	PCT	$ MILL.	PCT	OOO WKR	PCT	TERMS OF TRADE	EX.RATE#	PRICES+
INDUSTRIALIZED COUNTRIES									
AUSTRALIA	2345.5	11.0	2472.3	12.4	95.0	1.51	0.54	-1.0	-1.2
AUSTRIA	2533.4	14.5	2434.3	10.0	80.1	2.61	-0.21	-0.0	-2.3
CANADA	2587.0	4.1	2670.5	4.6	69.1	0.65	0.05	0.7	-0.7
EUROPEAN COMMUNITY									
BELGIUM LUXEMBOURG	2162.7	3.4	2026.4	2.8	40.0	1.02	-0.11	0.9	-1.9
DENMARK	693.0	4.2	701.1	3.6	24.2	1.01	0.21	0.3	-1.4
FRANCE	5498.1	5.0	5421.0	4.0	148.3	0.70	0.12	-0.2	-0.8
GERMANY	8676.2	4.6	8416.8	4.5	173.3	0.62	-0.16	-0.5	-0.9
IRELAND	322.0	3.8	305.4	2.7	14.3	1.25	0.11	1.8	-2.6
ITALY	4088.8	5.3	3753.1	3.8	129.8	0.63	-0.17	-0.4	-0.8
NETHERLANDS	2183.6	3.0	2172.2	2.8	44.0	0.90	0.03	0.5	-1.5
UNITED KINGDOM	5093.4	4.5	4939.8	4.2	147.9	0.59	-0.10	-0.0	-1.0
TOTAL EC	28717.6	4.4	27735.8	3.9	721.8	0.67	-0.06	-0.2	-1.0
FINLAND	982.8	7.0	942.0	6.0	45.2	2.06	-0.20	1.2	-2.0
JAPAN	6820.1	5.3	6332.7	4.5	254.9	0.46	-0.29	-0.5	-0.6
NEW ZEALAND	559.7	10.7	572.7	10.4	23.6	1.86	0.28	-2.2	-0.6
NORWAY	526.2	2.9	514.9	3.0	12.9	0.68	-0.13	0.2	-0.7
SWEDEN	958.5	3.2	874.7	2.6	37.8	0.89	-0.18	0.3	-1.0
SWITZERLAND	1083.4	3.7	971.6	2.7	26.0	0.86	-0.18	0.3	-0.9
UNITED STATES	9507.9	4.5	9888.1	4.0	282.3	0.28	0.34	-0.5	-0.1
TOTAL INDUSTRIALIZED	56622.3	4.7	55409.5	4.2	1648.5	0.58	0.06	-0.3	-0.6
DEVELOPING COUNTRIES									
ARGENTINA	-61.1	-0.8	12.5	0.1	49.2	0.52	1.18	0.5	0.1
BRAZIL	-49.0	-0.2	-87.6	-0.4	46.8	0.11	0.05	0.5	-0.0
CHILE	-4.5	-0.1	-22.9	-0.5	4.4	0.13	-0.36	0.5	-0.1
COLOMBIA	2.9	0.3	-11.2	-0.3	5.8	0.11	0.53	0.4	-0.0
GREECE	4.6	0.1	-34.7	-0.3	8.6	0.22	0.17	0.5	-0.0
HONG KONG	11.9	0.1	-45.3	-0.2	27.2	1.33	0.17	1.2	-0.3
INDIA	-16.5	-0.2	-6.2	-0.1	119.1	0.05	0.39	0.7	-0.0
ISRAEL	-12.6	-0.2	-28.6	-0.4	3.5	0.28	0.14	0.5	-0.0
SOUTH KOREA	-13.0	-0.1	-99.0	-0.4	32.4	0.24	-0.18	1.0	-0.1
MEXICO	-38.0	-0.4	-42.2	-0.3	41.1	0.21	0.35	0.7	0.0
PORTUGAL	8.5	0.2	-52.0	-0.6	6.8	0.17	-0.20	0.2	0.1
SINGAPORE	-62.2	-0.3	-77.2	-0.3	7.1	0.67	0.17	0.7	-0.0
SPAIN	-11.2	-0.1	-166.3	-0.5	11.0	0.10	-0.07	0.4	0.0
TAIWAN	-40.0	-0.2	-40.8	-0.3	24.9	0.36	-0.26	0.8	0.1
TURKEY	-2.2	-0.1	-7.3	-0.1	20.3	0.14	1.09	0.5	-0.1
YUGOSLAVIA	2.2	0.0	-56.2	-0.3	16.6	0.20	0.03	0.5	-0.0
TOTAL LDC'S	-280.1	-0.2	-764.8	-0.3	424.9	0.09	0.27	0.6	0.0
ALL COUNTRIES	56342.2	4.1	54644.7	3.5	2073.4	0.21	0.10	-0.2	-0.5

*REFERS TO SUM OF CHANGES IN THE HOME AND EXPORT SECTORS WITHIN INDUSTRIES.
#POSITIVE = APPRECIATION. +INDEX OF IMPORT AND HOME PRICES.

TABLE 2

SUMMARY OF EFFECTS ON THE MAJOR INDUSTRIALIZED AND DEVELOPING COUNTRIES DUE TO ELIMINATION OF NONTARIFF BARRIERS IN OTHER THAN AGRICULTURE, TEXTILES AND CLOTHING IN DEVELOPED COUNTRIES

	VALUE OF CHANGE IN EXPORTS		VALUE OF CHANGE IN IMPORTS		GROSS CHANGE IN EMPLOYMENT*		% CHANGE IN TERMS OF TRADE	PCT CHANGE IN EFF. EX.RATE#	PCT CHANGE IN PRICES+
	$ MILL.	PCT	$ MILL.	PCT	000 WKR	PCT			
INDUSTRIALIZED COUNTRIES									
AUSTRALIA	373.3	1.8	490.9	2.5	23.3	0.37	0.54	0.5	-0.3
AUSTRIA	182.5	1.0	160.2	0.7	10.3	0.33	-0.04	-0.1	-0.2
CANADA	151.1	0.2	193.5	0.3	20.4	0.19	0.06	0.1	-0.0
EUROPEAN COMMUNITY									
BELGIUM LUXEMBOURG	1413.9	2.2	1355.0	1.9	28.1	0.72	-0.06	0.0	-0.9
DENMARK	149.1	0.9	197.4	1.0	8.9	0.37	0.36	0.8	-0.4
FRANCE	4017.7	3.6	3852.9	2.9	82.7	0.39	-0.07	-0.1	-0.5
GERMANY	2538.7	1.3	2077.8	1.1	60.7	0.22	-0.25	0.0	-0.2
IRELAND	35.4	0.4	70.7	0.6	5.2	0.45	0.52	0.9	-0.3
ITALY	2029.7	2.6	1812.4	1.8	63.1	0.31	-0.18	-0.3	-0.4
NETHERLANDS	1054.9	1.4	1161.0	1.5	23.8	0.49	0.17	0.4	-0.5
UNITED KINGDOM	1683.7	1.5	1560.1	1.3	58.8	0.24	-0.10	-0.3	-0.3
TOTAL EC	12923.0	2.0	12087.3	1.7	331.3	0.31	-0.12	-0.1	-0.4
FINLAND	172.6	1.2	165.8	1.1	4.7	0.22	-0.02	0.0	-0.2
JAPAN	3339.7	2.6	2583.8	1.8	106.0	0.19	-0.55	0.2	-0.1
NEW ZEALAND	13.5	0.3	68.1	1.2	7.1	0.56	1.05	0.3	0.1
NORWAY	180.9	1.0	207.7	1.2	7.7	0.40	0.13	0.3	-0.4
SWEDEN	173.7	0.6	96.2	0.3	12.8	0.30	-0.23	-0.3	-0.1
SWITZERLAND	521.9	1.8	503.4	1.4	15.9	0.53	-0.01	0.1	-0.6
UNITED STATES	4164.8	2.0	3897.2	1.6	120.8	0.12	-0.08	-0.3	-0.1
TOTAL INDUSTRIALIZED	22196.9	1.9	20454.2	1.6	660.3	0.23	-0.14	-0.1	-0.2
DEVELOPING COUNTRIES									
ARGENTINA	25.0	0.3	78.1	0.7	27.1	0.29	0.73	0.2	0.0
BRAZIL	1.0	0.0	92.3	0.4	106.6	0.24	0.54	0.5	-0.1
CHILE	4.4	0.1	6.0	0.1	1.8	0.05	0.08	0.2	-0.1
COLOMBIA	4.5	0.4	0.5	0.0	3.0	0.05	0.09	-0.0	0.0
GREECE	11.6	0.2	16.0	0.2	6.9	0.18	0.34	0.2	-0.0
HONG KONG	9.3	0.1	-31.1	-0.1	3.8	0.19	-0.08	-0.1	0.0
INDIA	15.9	0.2	19.9	0.2	138.0	0.05	0.18	0.3	-0.0
ISRAEL	5.9	0.1	-1.6	-0.0	1.5	0.12	0.00	0.1	-0.0
SOUTH KOREA	16.7	0.1	-16.7	-0.1	10.4	0.08	-0.10	0.0	-0.0
MEXICO	34.0	0.4	68.7	0.6	17.2	0.09	0.44	0.4	-0.1
PORTUGAL	13.4	0.3	4.0	0.0	2.5	0.06	0.10	0.1	-0.0
SINGAPORE	-0.2	-0.0	3.2	0.0	4.2	0.39	0.10	0.2	-0.1
SPAIN	75.2	0.4	8.5	0.0	5.8	0.05	-0.09	0.0	-0.0
TAIWAN	8.7	0.0	23.0	0.2	9.4	0.14	0.04	0.1	-0.0
TURKEY	16.4	0.6	11.0	0.1	13.3	0.09	0.38	0.2	-0.1
YUGOSLAVIA	38.3	0.4	21.3	0.1	12.2	0.15	0.02	0.1	-0.1
TOTAL LDC'S	280.1	0.2	303.1	0.1	363.9	0.08	0.28	0.2	-0.0
ALL COUNTRIES	22477.0	1.7	20757.2	1.3	1024.2	0.11	-0.07	-0.0	-0.2

*REFERS TO SUM OF CHANGES IN THE HOME AND EXPORT SECTORS WITHIN INDUSTRIES.
#POSITIVE = APPRECIATION. +INDEX OF IMPORT AND HOME PRICES.

TABLE 3

SUMMARY OF EFFECTS ON THE MAJOR INDUSTRIALIZED AND DEVELOPING COUNTRIES DUE TO ELIMINATION OF AGRICULTURAL SUBSIDIES IN DEVELOPED COUNTRIES

	VALUE OF CHANGE IN EXPORTS		VALUE OF CHANGE IN IMPORTS		GROSS CHANGE IN EMPLOYMENT*		% CHANGE IN TERMS OF TRADE	PCT CHANGE IN EFF. EX.RATE#	PCT CHANGE IN PRICES+
	$ MILL.	PCT	$ MILL.	PCT	000 WKR	PCT			
INDUSTRIALIZED COUNTRIES									
AUSTRALIA	-89.2	-0.4	75.7	0.4	29.6	0.47	0.78	1.1	0.3
AUSTRIA	230.3	1.3	214.1	0.9	56.6	1.84	-0.08	-0.4	1.1
CANADA	-130.6	-0.2	39.2	0.1	31.0	0.29	0.27	-0.0	0.4
EUROPEAN COMMUNITY									
BELGIUM LUXEMBOURG	151.3	0.2	77.5	0.1	20.5	0.52	-0.10	0.2	0.4
DENMARK	-9.4	-0.1	29.2	0.2	16.6	0.69	0.27	-0.1	0.9
FRANCE	671.5	0.6	610.0	0.5	208.7	0.99	-0.03	-0.1	0.8
GERMANY	340.5	0.2	-246.9	-0.1	61.0	0.22	-0.31	0.3	0.3
IRELAND	51.3	0.6	71.0	0.6	17.0	1.48	0.27	-1.1	1.6
ITALY	942.1	1.2	633.2	0.6	300.0	1.46	-0.33	-0.7	1.3
NETHERLANDS	14.0	0.0	62.8	0.1	42.5	0.87	0.08	-0.5	0.9
UNITED KINGDOM	458.2	0.4	235.1	0.2	85.5	0.34	-0.19	0.2	0.4
TOTAL EC	2619.6	0.4	1471.9	0.2	751.8	0.73	-0.17	-0.1	0.6
FINLAND	84.5	0.6	89.8	0.6	38.0	1.74	0.05	-0.6	1.5
JAPAN	3750.2	2.9	2795.9	2.0	1993.9	3.60	-0.70	-2.5	2.6
NEW ZEALAND	-27.2	-0.5	14.8	0.3	3.9	0.31	0.80	0.7	0.3
NORWAY	298.8	1.6	322.1	1.9	71.4	3.73	0.12	-0.9	1.9
SWEDEN	-13.0	-0.0	-51.6	-0.2	6.4	0.15	-0.12	0.5	0.1
SWITZERLAND	579.4	2.0	519.6	1.4	78.5	2.60	-0.20	-1.1	2.2
UNITED STATES	-215.4	-0.1	134.1	0.1	76.3	0.08	0.18	0.7	0.0
TOTAL INDUSTRIALIZED	7087.6	0.6	5625.6	0.4	3137.5	1.20	-0.08	-0.1	0.7
DEVELOPING COUNTRIES									
ARGENTINA	-20.3	-0.3	86.5	0.8	39.2	0.42	1.33	0.8	0.0
BRAZIL	-21.3	-0.1	32.9	0.1	69.1	0.16	0.33	0.9	-0.1
CHILE	-0.1	-0.0	0.7	0.0	2.8	0.08	0.04	0.8	-0.1
COLOMBIA	1.3	0.1	8.6	0.2	3.4	0.06	0.45	0.5	-0.0
GREECE	-4.7	-0.1	7.5	0.1	6.8	0.18	0 33	1.1	-0.0
HONG KONG	0.7	0.0	-59.3	-0.3	2.9	0.14	-0.34	0.4	0.1
INDIA	0.0	0.0	23.5	0.3	124.0	0.05	0.37	1.0	-0.0
ISRAEL	-6.5	-0.1	-13.2	-0.2	2.2	0.18	-0.05	0.6	0.0
SOUTH KOREA	-9.2	-0.1	-87.5	-0.4	25.3	0.19	-0.36	1.2	-0.0
MEXICO	-0.3	-0.0	49.0	0.4	25.2	0.13	0.57	0.5	-0.0
PORTUGAL	1.6	0.0	-16.9	-0.2	4.6	0.12	-0.10	0.8	0.0
SINGAPORE	-17.8	-0.1	-0.8	-0.0	4.3	0.40	0.13	1.1	-0.1
SPAIN	20.6	0.1	-43.4	-0.1	9.4	0.08	-0.12	0.7	-0.0
TAIWAN	25.3	0.1	-17.9	-0.1	17.1	0.25	-0.27	0.9	0.0
TURKEY	-5.1	-0.2	22.4	0.3	17.0	0.12	1.06	1.1	-0.1
YUGOSLAVIA	16.8	0.2	3.0	0.0	15.6	0.19	-0.05	0.8	-0.0
TOTAL LDC'S	-18.9	-0.0	-4.8	-0.0	368.9	0.08	0.35	0.8	-0.0
ALL COUNTRIES	7068.7	0.5	5620.8	0.4	3506.4	0.35	-0.01	0.0	0.6

*REFERS TO SUM OF CHANGES IN THE HOME AND EXPORT SECTORS WITHIN INDUSTRIES.
#POSITIVE = APPRECIATION. +INDEX OF IMPORT AND HOME PRICES.

TABLE 4

SUMMARY OF EFFECTS ON THE MAJOR INDUSTRIALIZED AND DEVELOPING COUNTRIES DUE TO ELIMINATION OF NONTARIFF BARRIERS IN TEXTILES AND CLOTHING IN DEVELOPED COUNTRIES

	VALUE OF CHANGE IN EXPORTS		VALUE OF CHANGE IN IMPORTS		GROSS CHANGE IN EMPLOYMENT*		% CHANGE IN	PCT CHANGE IN EFF.	PCT CHANGE IN
	$ MILL.	PCT	$ MILL.	PCT	000 WKR	PCT	TERMS OF TRADE	EX.RATE#	PRICES+
INDUSTRIALIZED COUNTRIES									
AUSTRALIA	-5.8	-0.0	4.8	0.0	2.1	0.03	0.05	-0.2	0.0
AUSTRIA	-9.2	-0.1	-13.5	-0.1	4.9	0.16	-0.02	-0.2	0.1
CANADA	-6.3	-0.0	7.4	0.0	2.2	0.02	0.02	-0.0	0.0
EUROPEAN COMMUNITY									
BELGIUM LUXEMBOURG	14.4	0.0	2.2	0.0	2.0	0.05	-0.01	-0.1	0.0
DENMARK	0.0	0.0	-1.0	-0.0	0.7	0.03	0.00	-0.1	0.0
FRANCE	18.3	0.0	-10.3	-0.0	13.2	0.06	-0.02	-0.1	0.0
GERMANY	19.1	0.0	10.4	0.0	7.6	0.03	-0.01	-0.1	0.0
IRELAND	-1.5	-0.0	-1.5	-0.0	0.6	0.06	0.01	-0.1	0.0
ITALY	10.1	0.0	-48.5	-0.0	7.4	0.04	-0.06	-0.1	0.0
NETHERLANDS	-12.7	-0.0	-0.1	-0.0	1.8	0.04	0.02	-0.1	0.0
UNITED KINGDOM	31.6	0.0	30.3	0.0	8.8	0.04	0.00	-0.2	0.0
TOTAL EC	79.2	0.0	-18.3	-0.0	42.2	0.04	-0.01	-0.1	0.0
FINLAND	-7.0	-0.0	-13.9	-0.1	4.4	0.20	-0.04	-0.2	0.1
JAPAN	-4.9	-0.0	-92.6	-0.1	14.6	0.03	-0.06	-0.5	0.0
NEW ZEALAND	-2.0	-0.0	-3.0	-0.1	1.2	0.10	-0.02	-0.2	0.0
NORWAY	-5.0	-0.0	4.8	0.0	1.0	0.05	0.05	-0.0	0.0
SWEDEN	7.2	0.0	5.4	0.0	3.8	0.09	-0.00	-0.1	0.0
SWITZERLAND	-12.6	-0.0	-13.7	-0.0	2.8	0.09	0.00	-0.2	0.0
UNITED STATES	2.9	0.0	-15.5	-0.0	26.9	0.03	0.00	-0.3	0.0
TOTAL INDUSTRIALIZED	36.6	0.0	-148.4	-0.0	106.2	0.04	-0.01	-0.2	0.0
DEVELOPING COUNTRIES									
ARGENTINA	21.4	0.3	25.1	0.2	13.2	0.14	0.06	0.0	0.0
BRAZIL	41.9	0.2	29.8	0.1	37.7	0.09	-0.04	0.1	-0.0
CHILE	3.0	0.1	3.2	0.1	1.0	0.03	0.01	0.1	-0.0
COLOMBIA	27.4	2.7	25.3	0.7	17.7	0.33	-0.11	0.7	-0.1
GREECE	10.7	0.2	4.9	0.0	30.7	0.80	-0.06	0.4	-0.1
HONG KONG	723.9	5.3	701.0	3.2	306.9	14.98	-0.17	8.8	-5.0
INDIA	101.6	1.5	93.6	1.0	473.9	0.18	-0.09	0.7	-0.0
ISRAEL	31.2	0.6	27.1	0.3	9.0	0.72	-0.04	1.0	-0.4
SOUTH KOREA	305.8	1.8	273.5	1.2	117.6	0.86	-0.17	1.6	-0.7
MEXICO	19.9	0.2	21.8	0.2	14.4	0.07	0.04	0.1	-0.0
PORTUGAL	91.0	2.0	81.8	0.9	19.9	0.51	-0.14	1.9	-0.9
SINGAPORE	-157.6	-0.8	-160.5	-0.7	29.3	2.73	-0.00	-0.1	-0.6
SPAIN	75.1	0.4	56.4	0.2	8.7	0.08	-0.04	0.2	-0.1
TAIWAN	139.2	0.8	121.6	0.9	125.3	1.83	-0.11	0.5	-0.3
TURKEY	33.1	1.1	27.5	0.4	35.8	0.25	-0.07	0.4	-0.1
YUGOSLAVIA	40.2	0.4	32.0	0.2	36.0	0.44	-0.04	0.3	-0.1
TOTAL LDC'S	1507.9	0.9	1364.1	0.6	1277.2	0.27	-0.04	0.5	-0.2
ALL COUNTRIES	1544.5	0.1	1215.8	0.1	1383.4	0.22	-0.02	-0.1	-0.0

*REFERS TO SUM OF CHANGES IN THE HOME AND EXPORT SECTORS WITHIN INDUSTRIES.
#POSITIVE = APPRECIATION. +INDEX OF IMPORT AND HOME PRICES.

TABLE 5

SUMMARY OF EFFECTS ON THE MAJOR INDUSTRIALIZED AND DEVELOPING COUNTRIES DUE TO ELIMINATION OF AGRICULTURAL SUBSIDIES, ALL TARIFFS AND NTBS IN DEVELOPED COUNTRIES

	VALUE OF CHANGE IN EXPORTS		VALUE OF CHANGE IN IMPORTS		GROSS CHANGE IN EMPLOYMENT*		% CHANGE IN TERMS OF TRADE	PCT CHANGE IN EFF. EX.RATE#	PCT CHANGE IN PRICES+
	$ MILL.	PCT	$ MILL.	PCT	OOO WKR	PCT			
INDUSTRIALIZED COUNTRIES									
AUSTRALIA	2025.3	9.5	2342.6	11.8	73.1	1.17	1.46	0.5	-0.9
AUSTRIA	1827.5	10.5	1768.3	7.2	69.3	2.26	-0.07	-0.7	-0.6
CANADA	2448.5	3.9	2633.9	4.6	67.1	0.63	0.25	0.6	-0.4
EUROPEAN COMMUNITY									
BELGIUM LUXEMBOURG	3304.8	5.2	3135.4	4.4	59.9	1.53	-0.17	0.5	-1.9
DENMARK	769.4	4.7	889.3	4.6	24.0	1.00	0.92	1.0	-0.9
FRANCE	9117.2	8.2	8862.6	6.6	265.5	1.26	-0.04	-0.7	-0.3
GERMANY	9441.8	5.0	8477.4	4.6	189.8	0.68	-0.53	-0.2	-0.7
IRELAND	358.3	4.2	427.5	3.8	16.0	1.40	1.11	1.6	-1.0
ITALY	5768.6	7.4	5171.6	5.3	330.9	1.61	-0.50	-1.2	0.2
NETHERLANDS	3494.6	4.8	3731.0	4.9	57.0	1.17	0.38	1.0	-1.4
UNITED KINGDOM	5903.3	5.2	5571.3	4.8	176.2	0.71	-0.26	-0.3	-0.6
TOTAL EC	38157.9	5.8	36266.2	5.1	1119.2	1.06	-0.24	-0.3	-0.6
FINLAND	781.0	5.5	772.0	4.9	35.1	1.60	0.02	-0.9	0.4
JAPAN	10195.2	7.9	8490.2	6.1	2047.0	3.70	-1.21	-2.9	2.2
NEW ZEALAND	371.3	7.1	490.3	8.9	22.2	1.75	2.32	-0.7	-0.2
NORWAY	993.1	5.4	1028.0	6.1	65.3	3.41	0.14	-0.8	0.9
SWEDEN	865.9	2.9	725.7	2.2	32.6	0.77	-0.38	0.3	-0.6
SWITZERLAND	1664.7	5.6	1610.9	4.5	80.0	2.65	-0.02	-1.0	1.0
UNITED STATES	8942.9	4.2	9154.1	3.7	284.9	0.29	0.23	-0.3	-0.2
TOTAL INDUSTRIALIZED	68273.2	5.7	65282.1	5.0	3895.8	1.45	-0.14	-0.7	-0.0
DEVELOPING COUNTRIES									
ARGENTINA	11.6	0.1	178.5	1.7	117.8	1.26	2.30	1.0	0.2
BRAZIL	-55.0	-0.3	122.7	0.5	260.0	0.59	1.13	1.8	-0.2
CHILE	5.0	0.1	-1.0	-0.0	5.7	0.17	-0.04	1.1	-0.3
COLOMBIA	32.5	3.2	19.7	0.6	19.5	0.36	0.27	1.2	-0.1
GREECE	3.1	0.1	-0.1	-0.0	42.8	1.12	0.69	1.7	-0.2
HONG KONG	739.3	5.4	564.2	2.6	300.5	14.67	-0.67	9.2	-4.7
INDIA	110.8	1.6	127.7	1.4	733.4	0.28	0.53	2.1	-0.1
ISRAEL	25.4	0.5	8.7	0.1	11.0	0.87	0.12	2.0	-0.5
SOUTH KOREA	308.0	1.8	153.4	0.7	114.8	0.84	-0.58	3.2	-0.7
MEXICO	29.3	0.3	97.2	0.8	64.3	0.33	1.01	1.0	-0.0
PORTUGAL	108.8	2.4	58.2	0.6	20.4	0.52	-0.07	2.7	-0.8
SINGAPORE	-254.5	-1.3	-244.3	-1.0	33.1	3.09	0.29	1.4	-0.7
SPAIN	157.1	0.8	-31.2	-0.1	23.0	0.21	-0.21	1.1	-0.1
TAIWAN	125.6	0.7	109.6	0.8	124.2	1.82	-0.28	1.8	-0.3
TURKEY	39.1	1.3	43.0	0.6	64.4	0.45	1.50	1.7	-0.2
YUGOSLAVIA	71.2	0.7	22.2	0.1	53.7	0.66	0.08	1.3	-0.2
TOTAL LDC'S	1457.3	0.9	1228.3	0.5	1988.6	0.42	0.68	1.6	-0.2
ALL COUNTRIES	69729.9	5.1	66509.8	4.3	5884.4	0.67	-0.01	-0.3	-0.0

*REFERS TO SUM OF CHANGES IN THE HOME AND EXPORT SECTORS WITHIN INDUSTRIES.
#POSITIVE = APPRECIATION. +INDEX OF IMPORT AND HOME PRICES.

Table 6

Net Percentage Changes in Employment in United States
Due to Each of Five Scenarios for Changes in Tariffs and/or NTBs

		1 DC Tariffs	2 DC NTBs Agric. & Text.	3 Agric. Only	4 Text. Only	5 DC Tar. All Sectors
Traded Goods						
Agr., For., & Fishing	(1)	2.68	0.74	1.54	0.11	2.98
Food, Bev., & Tobacco	(310)	0.20	0.88	0.11	0.04	1.74
Textiles	(321)	-1.14	0.39	-0.05	-1.15	-1.11
Wearing Apparel	(322)	-5.24	0.13	-0.40	-1.03	-1.39
Leather Products	(323)	0.60	1.46	-0.34	1.10	2.59
Footwear	(324)	1.26	-0.08	-0.20	0.09	0.76
Wood Products	(331)	0.08	0.15	0.49	0.04	0.80
Furniture & Fixtures	(332)	0.24	0.12	-0.04	0.07	0.46
Paper & Paper Products	(341)	0.59	0.25	0.08	0.01	0.85
Printing & Publishing	(342)	0.02	-0.94	-0.12	0.03	-0.99
Chemicals	(35A)	0.83	0.54	-0.30	0.02	1.06
Petrol. & Rel. Prod.	(35B)	1.62	1.44	0.74	0.32	2.96
Rubber Products	(355)	-1.80	0.30	-0.89	0.07	-2.37
Nonmetallic Min. Prod.	(36A)	-1.04	0.10	-0.32	0.02	-1.28
Glass & Glass Products	(362)	-0.64	0.48	-0.95	0.03	-1.22
Iron & Steel	(371)	-0.37	-1.95	-0.50	0.04	-2.98
Nonferrous Metals	(372)	-0.10	0.93	-0.73	0.16	-0.67
Metal Products	(381)	0.40	0.13	-0.35	0.05	-0.00
Nonelectric Machinery	(382)	0.46	0.18	-0.39	0.03	0.24
Electric Machinery	(383)	0.53	0.41	-0.29	0.04	0.73
Transportation Equip.	(384)	0.75	-0.62	-0.14	0.02	-0.79
Miscellaneous Manufac.	(38A)	-0.74	0.42	-0.55	0.13	-0.64
Total Traded		0.23	0.18	0.00	-0.05	0.30
Nontraded Goods						
Mining & Quarrying	(2)	1.40	1.07	0.51	0.30	2.18
Electric, Gas & Water	(4)	-0.16	-0.19	-0.10	0.01	-0.40
Construction	(5)	-0.00	-0.05	0.00	0.01	-0.00
Wholesale & Ret. Trade	(6)	-0.10	-0.05	-0.03	0.01	-0.13
Transp., Stor., & Com.	(7)	-0.04	-0.05	-0.02	0.01	-0.09
Fin., Ins. & Real Est.	(8)	-0.14	-0.12	0.01	0.03	-0.20
Comm., Soc.&Pers.Serv.	(9)	-0.10	-0.09	0.01	0.01	-0.13
Total Nontraded		-0.07	-0.06	0.00	0.02	-0.10
Total, All Industries		0.00	0.00	0.00	0.00	0.00