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A COMPUTATIONAL ANALYSIS OF ALTERNATIVE SAFEGUARDS POLICY SCENARIOS IN INTERNATIONAL TRADE*

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I. Introduction

Nations may at times be subjected to a sudden surge of imports that can be disruptive to firms and workers in an import-competing industry. It is in recognition of the possible adjustment problems that can occur in these circumstances that safeguards or escape clause arrangements have become part of national trade laws and have been incorporated into the Articles of the General Agreement on Tariffs and Trade (GATT). These formal arrangements have often been bypassed by the use of other means of "administered protection" in the importing countries, but it remains that case that an import surge routinely gives rise to some sort of protective response in the affected country or countries. As efforts are renewed in the Uruguay Round of Multilateral Trade Negotiations to agree on a revision of the GATT that will regularize these safeguards responses, we believe it to be useful to examine the implications, both for the world economy and for the protected industries, of the systematic use of safeguards policies of various types. In this paper, therefore, we use the Michigan Model of World Production and Trade to calculate the effects on trade and employment of a variety of safeguards scenarios.

Even though temporary safeguards protection in the form of a tariff or quota is condoned in the event of an import surge, the United States and other industrialized countries have frequently opted instead to rely on special measures of administered protection that bypass the type of investigation, responsibilities, and actions envisaged in escape clause arrangements. Administered protection often includes the investigation of allegations of unfair trading practices and the imposition of antidumping or countervailing duties. In an increasing number of cases, too, it involves the implementation of voluntary

export restraints (VERs) that establish limits on market share or the quantities of particular goods that individual countries are permitted to supply to importing nations. In most of these cases, while the administrative procedures tend to be more lax than is required of safeguards actions under the GATT, the end result is a policy that is functionally equivalent to a tariff or quota in its effects on trade and employment. Therefore our analysis in terms of these two policy tools may be understood to encompass both GATT-sanctioned safeguards and administered protection, when the latter is in fact a response to an import surge.

The GATT rules governing emergency protection are contained chiefly in Article XIX, which specifies the criteria to be used in establishing cause and serious injury and allows exporting countries to retaliate in case the importing country does not provide acceptable compensation to exporters for the reduction in trade. Further, it is expected that emergency protection should be applied on a nondiscriminatory basis in accordance with general GATT principles.[1] The decisions by the United States and other industrialized countries to bypass Article XIX procedures and obligations in favor especially of VERs reflect a greater governmental willingness to ease the process by which import-competing industries are able to obtain protection and at the same time to provide compensation on a selective basis to foreign exporters by permitting them to capture the quota rents.

The increasing disregard and devaluation of the GATT rules on safeguards protection have been widely acknowledged for some time. Efforts were made in the 1970s in the Tokyo Round of Multilateral Trade Negotiations to reach an agreement on safeguards, but the issues of selectivity and compensation could not be resolved to the satisfaction of the interested parties, chiefly the European Community (EC), which favored selectivity, and the United States, which favored nondiscrimination. Discussions on

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[1]For more extended treatment of safeguards issues and GATT procedures, see Jackson (1986), Richardson (1988), and Hoekman (1988a,b).

safeguards were continued after the conclusion of the Tokyo Round negotiations in 1979, but an agreement was still not possible. The issue of safeguards was thus placed formally on the agenda of the Uruguay Round negotiations that were launched officially in 1986 and are currently under way.

Continuing access to the import markets of the advanced countries is of crucial importance especially to the newly industrializing countries (NICs) that have now become major exporters of manufactured goods, and to other developing countries that may similarly pursue export expansion in manufactures in the not too distant future. If an agreement on safeguards is to be reached in the Uruguay Round, it will be necessary to resolve existing differences among the advanced industrialized countries pertaining to the questions of selectivity or nondiscrimination and compensation. In this connection, Hoekman (1988a, p. 207) has noted that the EC and the United States may have moderated their positions on safeguards taken in the Tokyo Round negotiations. Yet, as he and others have noted, progress on a safeguards agreement would be enhanced if the NICs in particular were to offer reciprocal concessions so that goods and services from the industrialized countries would have increased access to the NIC domestic markets.[2]

While it seems reasonably clear what an agreement on safeguards would involve, what is less clear are the conditions under which safeguards action would be introduced and especially the economic effects that different types of safeguards measures would have when implemented unilaterally or multilaterally. In order to investigate these matters, we have used the Michigan Model of World Production and Trade to analyze the effects of alternative safeguards policies that might be undertaken by the United States and other industrialized countries in response to an exogenous surge in imports of wearing apparel from developing countries. Our objective is to explore the general equilibrium effects of safeguards policies across both industries and countries, taking into account the possibility

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[2]Note, however, Hindley's (1988) argument that developing countries should be careful what they give up in return for a more viable safeguards code, since they may be better off under the current arrangements that rely on VERs.

that an import surge is likely to affect not just one country but many and consequently that safeguards actions will be taken by many countries together. Further, we wish to analyze the differences between alternative trade policies and domestic policies that might be used for safeguards purposes.

The remainder of the paper is structured as follows. In Section II, we present a brief description of the essential features of the Michigan Model for the benefit of readers who are not familiar with it and to highlight those features of the Model that pertain to the computational analysis of the alternative safeguards scenarios. In Section III, we describe the safeguards experiments and alternative policies in some detail. Our computational results are presented in Section IV, and we make some concluding comments in Section V.

II. Simplified Description of the Michigan Model

Since the theoretical structure and equations of the Michigan Model are described in detail in Deardorff and Stern (1986, pp. 9–36 and 235–47), we present here accordingly an overview of the model and call attention to its most important features.

Structure of the Michigan Model

The Model is best thought of as composed of two parts: the country system and the world system. The country system contains separate blocks of equations for individual sectors for each country, and the world system contains a single set of equations for individual sectors for the world as a whole. The country blocks are used first to determine each country's supplies and demands for goods and currencies on world markets, as functions of exogenous variables, such as tariffs, and of world prices and exchange rates. These functions for each country are then combined to provide the input to the world system that permits world prices and exchange rates to be determined. These variables are finally entered back into the separate country blocks to obtain values for other country-specific variables.

The world system is much simpler than the country system. We start with the export-supply and import-demand functions from the country equations that depend on both world prices and exchange rates. To get world prices we simply add these supplies and demands for all countries and set the difference equal to net demand from the rest of the world. To get exchange rates, when these are flexible, we likewise add the values of these excess supplies for a given country for all industries and equate the resulting trade balances to exogenously given net capital flows. As mentioned, once we obtain the world prices for each traded-good industry and the exchange rate for each country, we can enter them into the separate country blocks in order to determine the rest of the relevant country-specific variables.

The aggregate behavior of the Model depends crucially on what is assumed about aggregate expenditure. Since our objective is to concentrate on microeconomic and intersectoral issues, we wanted a neutral characterization of macroeconomic policy such that aggregates would remain largely unaffected when allowing for some policy change. At various times, we have either treated aggregate nominal expenditure as essentially exogenous, or, alternatively, let aggregate expenditure vary endogenously so as to maintain aggregate employment unchanged.[3] It is this latter assumption that underlies all of the experiments that are described below.

In designing the Michigan Model, the objective was to take into account as many as possible of the interconnections among industries and countries at the microeconomic level. This enables us to examine a variety of economic issues that most other existing models cannot address, either because they are too highly aggregated, or because they are specified only in partial-equilibrium terms. By the same token, however, the Michigan Model is far too large to be able to say anything concrete without further specification of

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[3]In both cases, while we do not require equilibrium in individual labor markets, we also do not attempt to model disequilibrium explicitly in terms of which side of the market is rationed and how that rationing may give rise to changes in "effective" supply and demand in other markets.

its parameters. Thus, to implement the Model, we need a realistic selection of countries and industries using, as far as possible, actual data to generate the parameters.

Data and Parameters

The current version of the Model includes 22 tradable and 7 nontradable industries in 18 industrialized and 16 developing countries, plus an aggregate sector representing the rest of the world.[4] We use a base of 1976 data on trade, production, and employment for all 34 countries, plus tariffs and constructed measures of NTBs for the 18 industrialized countries.[5]

Trade, Production, and Employment

The import and export data are adapted from United Nations trade tapes, with concordances that relate the Standard International Trade Classification (SITC) to our International Standard Industrial Classification (ISIC) industry categories. Information on the gross value of production and employment by ISIC sector is directly calculated or estimated from United Nations, *Yearbook of Industrial Statistics*, from Organization for Economic Cooperation and Development (OECD) publications on national accounts and labor statistics, and from various national statistical sources.

Nontariff Barriers

NTBs in the Model are represented in two forms: as coverage indexes and as tariff equivalents. The coverage indexes serve to reflect the role of existing NTBs when other barriers are removed. The tariff equivalents, on the other hand, permit analysis of the removal of the NTBs themselves.

The coverage indexes are meant to measure the extent to which imports are subject to nontariff restrictions (e.g., quotas, health regulations, etc.). A value of 100 percent

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[4]The countries are listed in Table 1, and the industries are listed in Table 4.

[5]We are currently updating the data base to 1980 and making a number of improvements in the input-output coverage for individual countries.

indicates that all trade in a given sector/country is covered by NTBs; zero denotes that no NTBs are present. The calculations are based on data in Murray and Walter (1978), who recorded the value of 1973 imports for a given country and SITC commodity category that was subject to some type of NTB, as identified in underlying documents prepared by the U.S. Department of State and UNCTAD. We in turn aggregated their results and concorded them with our ISIC classification. The indexes were updated to take into account more recent restrictions on such products as footwear, iron and steel, and television receivers. The indexes for textiles (ISIC 321) and wearing apparel (ISIC 322) are based upon the proportion of each country's imports in these sectors from all of the world's nonindustrialized countries. The resulting indexes, which are available from the authors on request, are intended to represent the percentage of trade subject to NTBs of all kinds as of the late 1970s.[6] These indexes are used in the basic version of the Model to generate endogenous implicit tariff variables that serve to limit the responsiveness of trade to changes in policies on the assumption that the NTBs remain in place. We shall return to the interpretation of these indexes in our experiments below.[7]

Exchange Rates

In the basic version of the Michigan Model, the exchange regimes of most developing countries are characterized in terms of a system of import licensing with exchange-rate pegging. The purpose was to capture elements of the existing NTBs in these countries.

Input-Output Tables

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[6]We are currently updating the NTB coverage indexes using more recent information compiled by the UNCTAD Secretariat and made available by the World Bank.

[7]We have constructed ad valorem tariff equivalents of existing NTBs by sector for the major industrialized countries and for a subset of the developing countries included in the Model. However, we do not use these ad valorem equivalents for the experiments in this paper. For a description of the procedures that we followed in constructing these estimates and the sources utilized, see Deardorff and Stern (1988, App. B).

Our input-output coverage currently includes the 1972 input-output table for the United States, the 1976 table for Canada, the 1975 table for Japan, and the 1970 national tables for each of the industrialized EEC-member countries. The U.S. table is applied to the remaining industrialized countries. We use the 1977 table for Israel and the 1970 table for Brazil. The Brazilian table is applied to the remaining developing countries. Each of the national tables used is of necessity concorded to our ISIC classification.

Coefficients and Elasticities

In general, the coefficients of explanatory variables that appear in the Model are calculated from our data on production, trade, and employment by sector in each country, from the input-output matrices, and from relevant published estimates of demand and substitution elasticities. The import-demand elasticities used in the Model are based upon the "best guesstimates" of U.S. import-demand elasticities calculated by Stern et al. (1976).[8] Using the import-demand elasticities together with data on trade we calculate the implied elasticities of substitution in demand between imports and home-produced goods in each country. The implicit import-demand elasticities in other countries are derivable from the common elasticities of substitution and differ across countries due to their differences in shares of trade.[9] We use elasticities of substitution between capital and labor in each sector, based upon Zarembka and Chernicoff (1971). These were estimated from U.S. data, but are assumed in our Model to apply for all countries.

Solution Procedure

Given appropriate data and parameter estimates for the countries and sectors noted, solution of the Model is, in principle, straightforward. By differentiating the equations of

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[8]These are currently being updated using more recent information.

[9]Use of these elasticities is subject to the limitation that they are valid, at most, only for the range of prices for which they were estimated. This should not be a problem for the results reported here, however, for which individual prices changed in most cases on average by only a few percent.

the Model, we obtain a system of linear equations relating changes in all of the variables of the system. The coefficients in each of these linear equations are evaluated using the data and elasticity information collected. All that remains is to solve the system. Since the system is linear, it can in principle be solved by any of a variety of means.

In our solution procedure, we have devised several Fortran subroutines that process large partitioned matrices in which many of the partitioned blocks contain only zeros, and which avoid costly but meaningless computations involving these zeros. We use a Fortran programming technique known as dynamic dimensioning to avoid wasting computer-memory space on these empty blocks, even as the contents of all blocks change during the course of the solution. We apply these techniques first to each of the 34 countries separately to solve for their net exports in terms of world prices, exchange rates, and exogenous variables. We then use the world system equations to complete the solution.

III. Modeling an Import Surge and Alternative Safeguards Responses

Our procedure is to assume that there is a surge of imports in a particular sector. We then solve for the effects of this import surge on trade and employment for all sectors and countries in the Model. We use the results of this solution to construct a variety of safeguards policies responding to the import surge, based on the effects that the surge has been calculated to have in the absence of any response. These responses are then introduced into the Model together with the import surge itself, in order to calculate the effects of the two together. In our results, accordingly, we will compare the trade and employment effects of the alternative response scenarios, comparing both among the response scenarios and with the effects of the surge by itself.

The Import Surge

Just exactly what constitutes an import surge is not altogether clear. It could involve a substantial increase in imports by a single country of a narrowly defined product from an individual supplying country. Alternatively, there could be a substantial increase

in imports by several countries at the same time of an entire class of products from several supplying countries. We have chosen this broader conception of an import surge. We thus assume that there is a ten percent increase in the total imports of wearing apparel (ISIC 322) by all 18 of the industrialized countries included in the Michigan Model. The increased imports are treated as coming from outside the developing countries that are already included in the Model, reflecting our perception that increased competition in the apparel industry is likely to come from countries that are even less developed than those that appear explicitly in our Model.[10]

In addition to modeling a shift in supply, we include a shift in importing-country demand of a size comparable to the import surge itself. The reason for doing this has to do with the structure of the Michigan Model, in which rather aggregated industries are modeled as producing homogeneous products competing together on a single world market. If we model an import surge as a supply shift alone, then we are implicitly having the new imports compete on a par with the goods that are already being exported by all countries in the Model, and this suggests a closeness of competition with exports that we believe to be misleading. What in our view is likely to happen instead is that new imports that give rise to safeguards responses tend to be closer substitutes for goods produced for the domestic market than for exports, and thus there is a sense in which a surge of imports can be thought of as changing the composition or definition of an aggregated imported good. It is to capture this change in composition that we include a shift in demand as a part of the definition of the import surge.

Specifically, for the surge of imports in wearing apparel, we therefore introduce two changes into the model. The first is an outward shift in supply of apparel coming into the

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[10]We have also analyzed import surges of transportation equipment (ISIC 384) and iron and steel (ISIC 371) as coming from the major NICs—Brazil, South Korea, Mexico, Taiwan, and Yugoslavia—included in our Model. In these cases, increased competition is likely to come from countries that have already become fairly industrialized. Since the analysis of alternative safeguards policies turned out to be broadly similar to what will be presented below for the surge in apparel imports, we decided not to include these other cases in our discussion here. For those interested, the results are available on request.

world market from the rest-of-world sector, the increase being calculated as ten percent of the total imports of apparel by all 18 industrialized countries of the model. Second, and simultaneously, we assume a ten percent upward shift in demand for imports of apparel, at the expense of demand for domestically produced apparel, in all 18 industrialized countries of the model.

The Safeguards Responses

In Section IV below we report the results for the surge in apparel imports for each of nine scenarios. The first scenario will be the effects of the surge by itself, denoted as "no response." The remaining eight scenarios will all reflect some sort of implicit or explicit response to the import surge, and are explained as follows.

Existing Quotas

As already noted, the Michigan Model includes a facility by which the presence of existing nontariff restrictions on trade can be taken into account. This facility makes use of damping coefficients that reduce the responsiveness of trade to changes in the determinants of trade below what this responsiveness would be if trade were free or distorted only by tariffs. As mentioned above, these coefficients have been inferred in an approximate way from inventories of NTBs and other sources, together with corresponding trade coverage.

Since these NTB inventories and the calculated trade coverage coefficients include the presence of both orderly marketing arrangements and VERs that presumably already serve a safeguards function, we have set the coefficients back to zero in our modeling of an import surge with "no response" mentioned above. However, our second scenario seeks to capture the safeguard effects of these existing arrangements by permitting the damping coefficients to re-assume their values in our data base, while making no other changes in the form of an explicit safeguards response. Thus, the scenario headed "existing quotas" reflects the effects of an import surge, assuming that the changes in imports have been

partially damped by the presence of existing quantitative restrictions. We cannot determine, unfortunately, how accurate this attempt to model such restrictions may be, since as noted in Deardorff and Stern (1985) the data on which these coefficients are based may not clearly capture the price and quantity effects involved.

Unilateral U.S. Tariff

In seeking next to model more deliberate safeguards responses, we first consider a unilateral U.S. tariff on the industry in which the surge occurs. Our procedure here is to have policy makers make a somewhat naive calculation of the tariff that would be needed to offset the import surge. Specifically, using the own elasticity of import demand that is contained in our data base, it is assumed that the U.S. policy makers calculate, on a partial equilibrium basis, the tariff that would be needed to reduce imports by the amount that they rose in the first, no-response, scenario. This tariff is then included together with the modeling of the import surge itself in a new run of the Model that produces the effects of both together. It is to be expected that the actual change in imports under this situation will not be reduced entirely to zero, since the actual change depends on general equilibrium considerations that were absent from the calculation of the policy response itself.

Unilateral U.S. Quota

As an alternative to the tariff, we have also modeled a safeguards response that takes the form of a quota. Formally this is done by setting the damping parameter to nearly unity, thus preventing any change in imports at all from occurring. The coefficient cannot be set to exactly unity for technical reasons in the Model, but a value of 0.99 seems close enough to capture the spirit of a comprehensive quota.

It should be noted that there is nothing in the Michigan Model to prevent tariffs and quotas from being equivalent, so long as they are set at appropriate levels. Thus the differences between the quota and tariff safeguards scenarios here are more appropriately regarded as differences arising from the level of protection, rather than the method used.

However, the approach does illustrate the important point that the quantitative effects of a tariff may be difficult to ascertain in advance, whereas the quantitative effects of a quota are more likely known. Therefore, as noted in Deardorff (1987a,b), a quota provides a more certain means of achieving a given level of quantitative protection than does a tariff.

Multilateral Tariff and Quota

Our fifth and sixth scenarios repeat what was done with the U.S. tariff and quota respectively, this time assuming however that all of the countries that were subject to the import surge calculate and use the policies at the same time. In the case of safeguards tariffs, this means that all 18 industrialized countries of the Model implement tariffs that are calculated individually to offset their respective increases in imports from scenario 1. We would expect these tariffs to be even less successful in offsetting the surge than a unilateral tariff, since they are set by each country without regard to the effects that other countries' tariffs will have on themselves.

Unilateral U.S. Domestic Subsidy

In the preceding scenarios, the assumed safeguard responses to an import surge involved the use of a trade policy, that is, existing quotas or the imposition of explicit tariffs or quotas for safeguards purposes. It is often argued that maintainance of domestic output or employment in an industry would be better accomplished, in terms of economic efficiency and welfare, by the use of a domestic subsidy instead of a trade policy. In addition, there is growing sentiment in the policy community that safeguards remedies should foster adjustment to the changed market conditions, and this too suggests policies that are directed more at the domestic industry than at trade. For both of these reasons we decided to run three additional scenarios in which the safeguards response takes the form of a domestic policy.

Thus scenario 7 assumes that the safeguard response takes the form of a unilateral U.S. subsidy to production for both the home and export sectors that are separately

distinguished in our Model. The production subsidy for the home sector is modeled as though it would be fully reflected in a fall in domestic price to demanders. More precisely, the home-sector subsidy is set equal to the percentage decline in home-sector output from the no-response scenario divided by the home-sector elasticity of demand. The subsidy for export production is determined as the percentage change in export-sector output from the no-response scenario divided by the supply elasticity of the sector. This would exactly offset the change in export output assuming partial equilibrium and that the world price is unresponsive to the subsidy.[11]

Multilateral Domestic Subsidy

Scenario 8 assumes that all 18 industrialized countries respond together to the import surge by providing domestic subsidies to home-sector and export production. These subsidies are calculated for each country as just mentioned for the United States.

Multilateral Employment Subsidy

We would like ideally to model a subsidy directly to employment, but that is unfortunately not possible given the structure of our Model. What we can do is to have wages in each industry adjust endogenously to maintain industry employment constant. This is equivalent to having endogenous wage subsidies in each industry that maintain constant employment. While our approach here is plausible, it is far from satisfactory for several reasons. First, we are forced to assume that the policy is being applied in all sectors, not just the one that has been subjected to the import surge. Second, the policy is assumed to be applied in all countries, so that we cannot undertake a unilateral version of this type of response. Finally, since the policy is being designed to be effective ex post,

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[11]The reason for defining the home-sector subsidy differently than the export-sector subsidy should be explained. Supply and demand elasticities are such that home prices respond more than output to a subsidy, and thus what is needed is a subsidy that will stimulate demand appropriately. That is, when a production subsidy is used in the home sector, it primarily lowers price to demanders, so that the change in equilibrium output depends more on the demand elasticity than on the supply elasticity.

rather than ex ante as in the case of the tariff and production subsidy, it is in this sense *too* successful. Granting all of these points, this scenario is nonetheless interesting if we interpret it as a kind of benchmark case of complete and perfect safeguards action in all sectors and countries at once.

IV. Computational Results

The results of our scenarios are reported in Tables 1–4. The first column in each table reports results for the import surge alone, while the remaining eight columns report results for the surge together with either existing quotas or one of the alternative safeguards responses discussed above.

Effects of an Import Surge with No Response

As column 1 of Table 1 indicates, our attempt to increase apparel imports by ten percent in the industrialized countries did not lead to an increase of exactly ten percent in all of the countries. The increases varied from a low of 7.14% in Belgium-Luxembourg to a high of 11.16% in New Zealand. This variation among countries in their response to the cheapening of apparel prices on the world market—which is common to all—is a result of a variety of general equilibrium interactions within the economies, but depends most importantly on differences in the elasticities of import demand among the countries. The decline in world apparel prices is also seen to have had a minor effect in increasing imports into some of the developing countries.

While the imports themselves are often the focus of much discussion in policy circles, it is presumably the effects on employment that are the more direct reason for using a policy response. Thus, in Table 2 we report the net percentage changes in employment in the wearing apparel industry for all of the countries in the Model for each of the scenarios. In the first column of Table 2, we see the declines in employment that one would expect to result from an import surge, though the percentage changes are in most cases a good deal smaller than the increases in imports in Table 1 that appeared to be their cause.

This is not surprising for at least two reasons. First, apparel imports in most of the countries constitute a good deal less than half of the domestic market, so that a ten percent increase in imports, even if it were to displace an equal amount of domestic production, would displace less than ten percent of it. And second, imports are less than perfect substitutes for domestically produced goods, so that the displacement of domestic production is even less. Thus, for example, we find the import surge leading to only a 1.65% reduction in apparel employment in the United States. This, incidentally, corresponds to an employment reduction of approximately 20 thousand workers. These same factors that explain why the employment reductions are often small also explain why some countries experience considerably greater employment reductions in the apparel industry. In Norway, for example, 62% of apparel is imported, so that the approximately nine percent increase in imports there leads to a greater percentage decline in employment of more than 14 percent.

The net employment changes reported in Table 2 include changes in both the home (or import-competing) sector and the export sector. Because the surge in imports into the world market causes some reduction in the world price of apparel in these calculations, there is some tendency for each country's exports of apparel to drop and for there to be a reduction in employment in the export sector as well as in the home sector. It is the drop in exports of apparel that accounts for the employment reductions that appear in Table 2 for nearly all of the developing countries. Many of these countries are substantial exporters of wearing apparel, of course, and their declines in exports reduce employment even though in many cases they are protected from the direct effects of the import surge by import licensing. Only in Argentina and Chile, where exports of apparel account for a very small percentage of output, does employment in the apparel industry fail to decline.

Some idea of the importance of changes in exports in the industrialized countries is given in Table 3, which reports the percentage change in exports for the apparel sector in each country for each of the scenarios. The declines in exports for the "no response"

scenario are especially noteworthy for New Zealand, the United States, Australia, Finland, and France. The variations across countries here reflect differences in their assumed supply elasticities, as well as differences in the extent to which reductions in apparel prices on the world market feed through into the input prices of the countries' industries. In the United States and New Zealand, for example, comparatively small import shares in the apparel industry prevent the drop in world price from appreciably reducing the prices of inputs to apparel production from the apparel industry itself, a reduction that moderates the decline in production for export in many of the other countries.

A final thing to consider in a general equilibrium calculation of the effects of an import surge is the effects across other industries. Net percentage changes in sectoral employment are reported in Table 4 for the United States for each of the 22 tradable and 7 nontradable industries of the Michigan Model.[12] Not surprisingly, these percentage changes are quite small for all industries. They are not without interest, however. It is notable, for example, that the import surge in apparel, which reduces employment there, causes a small expansion of employment in almost every other sector of the economy. The chief exception in the "no response" scenario is in textiles, which is closely related to apparel. Thus, since the apparel industry draws almost a quarter of its inputs from the textile industry, when the import surge, coming from outside the system onto the world market, reduces output in the apparel industry it also reduces that industry's purchases from the textile industry and causes employment to decline there as well.

Effects of Trade Policy Safeguards Responses

Imports of wearing apparel by the industrialized countries are currently restricted by the Multifiber Arrangement (MFA). We represent the MFA in terms of the damping coefficients for wearing apparel (ISIC 322) that have been calculated for use in the Model. These reflect the proportion of industrialized country (1976) imports of wearing apparel

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[12]The results for other countries are available on request.

from the developing countries. The effects of these damping coefficients are reflected in the differences between columns 1 and 2 of Tables 1-4. The U.S. damping coefficient, for example, is 66%, and in Table 1 reduces the import surge into the U.S. from about 11% to 4%.

The employment effects in Table 2 suggest that, while in most of the larger industrialized countries the employment reductions are reduced by existing quotas, it is notable that employment reductions are increased in many of the smaller countries. In the Netherlands, Norway, and Sweden, for example, where employment reductions due to the import surge would already have been in excess of ten percent, the existing quotas make the employment reductions even larger. This is not a result of their small size, however, so much as it is that these countries are assumed in our Model to have smaller than average coverage by existing NTBs. Thus one can say that the existing quota arrangements put the burden of adjustment to a worldwide import surge more upon those countries whose existing quota arrangements are the least restrictive.

Still more of the burden of this adjustment is put on the developing countries. As indicated also in Table 2, all of the developing countries suffer a greater loss of employment in the apparel industry (or in the case of Argentina, a smaller gain) when the developed countries use existing quotas as a means of protection. The lesson, of course, is that existing quotas—and safeguards generally, as we shall see—force the burden of adjusting to an import surge onto the countries which do not or cannot make use of these policies, and particularly onto those whose role as exporters renders import protection less meaningful.

Suppose now that we assume that there are no existing quotas and that the object is to design and implement some safeguards trade policy response to mitigate the effects of an import surge. The results of a unilateral U.S. tariff in conjunction with the import surge are shown, for example, in column 3 of Tables 1-4. This tariff, which has been calculated to offset completely the nearly eleven percent reduction in U.S. imports reported

in column 1 if all other things remain constant, does not succeed in reducing the import surge to zero because all other things do not remain constant. In particular, the drop in the world price stimulates U.S. apparel imports somewhat and, together with other general equilibrium interactions, leaves the United States with a 1.65% rise in imports.

This is nonetheless a substantial reduction in U.S. imports compared to the "no response" scenario, and what is especially noteworthy is that it comes at the expense of a rise in apparel imports in all of the other industrialized countries. This in turn, in Table 2, means that while the U.S. tariff lessens the employment effect of the import surge at home, it exacerbates the employment declines abroad. Indeed, the small percentage saving in U.S. apparel employment that is achieved by the unilateral tariff comes at the expense of increased employment dislocation in many other countries that are larger, in percentage terms, than the saving in the United States.

These same effects appear even more strongly when the United States uses a unilateral quota. Here, as indicated in column 4 of Tables 1–4, the direct control of import quantities prevents the import surge on the world market from causing any change in U.S. imports at all (except for a tiny increase that reflects our Model's technical inability to allow for a 100% restriction on trade). The difference between the unilateral tariff and quota scenarios is in a sense an artificial one, since it merely means that we did not select a tariff in column 3 that was large enough ex post to prevent an increase in imports. But as we have mentioned before, the difference is also important realistically since it may be impossible to set tariffs in advance to achieve quantitative import targets with any accuracy.

Consider next the two multilateral scenarios in columns 5 and 6 of Tables 1–4. These scenarios succeed in damping imports still further, in all of the industrialized countries, as compared to the existing quota arrangements noted in column 2 of Table 1. Here, unlike the existing quota scenario, all of the industrialized countries implement

safeguards restrictions that are more or less on a par with one another, differing only to the extent that the initial surge would have affected them differently in column 1.

Not surprisingly, these multilateral safeguards policies put most or all of the burden of adjustment to the import surge onto exports. What is surprising is that almost all of this burden falls on the exports of the industrialized countries themselves, rather than on the developing countries. The latter face a drop in the world price of apparel, and their exports do indeed decline, by a rather uniform amount determined by the elasticity of their response to that world price. In the industrialized countries, on the other hand, much larger reductions in exports show up in Table 3, and the sizes of these reductions vary considerably across the countries.

The reason for this result is the role that the apparel industry plays in providing inputs to its own production. Restrictions on imports—both tariffs and quotas—raise the prices of these inputs without providing any advantage at all to exporters who must sell on the world market. Thus while safeguards protection may do a reasonable job of protecting output and employment in the import competing part of the industry, exports get squeezed between the lower world price due to the import surge and higher input prices due to the protection. It is therefore perhaps not so surprising after all that the industrialized country exports decline as much as they are shown to in Table 3.

These declines in exports, in turn, explain why in Table 2 the overall reductions in employment in the apparel industry are not always improved by multilateral safeguards. The multilateral quota scenario, for example, in column 6 of Table 2, reduces the employment loss as compared to the no response scenario in column 1 for Australia, Canada, Germany, Italy, the Netherlands, the United Kingdom, Japan, Norway, and the United States, but it worsens employment in the industry for all of the other industrialized countries.

The results of scenarios 3–6 thus suggest that the use of import protection as a means of "safeguarding" employment in import-sensitive industries is a questionable

practice even when practiced by only one country, since it shifts the burden of adjustment onto other countries. Furthermore, when protective safeguards actions are taken by countries multilaterally in the same industry, then even the beneficial effects in the protecting countries will be to some extent undermined. This is especially the case since the protective policies serve to raise input prices in the protecting countries and thus will also have adverse effects on employment and output in export sectors, perhaps even in the same industry that was initially seeking protection. It is not clear therefore that countries as a group will gain from collectively pursuing protective safeguards policies.

Effects of Domestic Policy Safeguards Responses

Suppose now that domestic policies rather than trade policies are to be used for safeguards purposes. The results for the three domestic policy scenarios that we were able to implement are summarized in columns 7–9 of Tables 1–4. If the United States were to implement a subsidy unilaterally to maintain output in the home and export sectors affected by the 10 percent import surge in wearing apparel, it can be seen in column 7 of Table 1 that U.S. imports would rise by 7.5 percent. This is in contrast to the effects of the tariff and quota actions that limit the rise in U.S. imports more fully. But, as before, the unilateral U.S. policy shifts the burden of adjustment onto other countries. This action slightly increases U.S. employment in wearing apparel but exacerbates the decline in employment in the other industrialized countries especially in comparison to the no response scenario. U.S. exports can be seen in Table 3 to rise by 3.2 percent while the exports of the other countries decline. Finally, in column 7 of Table 4, we see that the negative impact on the U.S. textile industry is avoided, although there are some minor negative employment effects in other sectors due to the input-price effects that occur.

When multilateral domestic subsidies are used in the industrialized countries, in scenario 8 in Table 1, U.S. imports rise by 9.4 percent, only slightly less than in the "no response" scenario, while the imports of many of the other industrialized countries also decline by a small amount in comparison to the no response scenario. What is especially

striking is that the multilateral domestic subsidies are noticeably more effective in limiting the decline in employment (Table 2) in the industrialized countries themselves and in the developing countries in comparison to scenarios 5 and 6, which involve multilateral tariffs and quotas. This is apparently because the decline in exports (Table 3) is now much smaller. The multilateral subsidy thus seems capable of achieving what trade policies could not: a marked improvement in the employment situation in all developed countries.[13]

Finally, in scenario 9, where wage flexibility is permitted so as to keep employment constant in all sectors in all countries, the results in Tables 2 and 4 merely verify what has been assumed. But what is more interesting is the effect of wage flexibility on apparel imports, noted in Table 1. Imports are greater in all the industrialized countries in this scenario than in all the others, including the "no response" run. What is apparently happening is that the import surge is now being met by a more flexible response in the import-competing sectors of the industrialized countries, where wage reductions permit them to remain competitive. But that means in turn that they continue to supply more apparel to the world market, where the price must therefore fall by more than it did in the other scenarios. This in turn is what stimulates imports. It is interesting though, in Table 3, that the increases in supplies to the world market are by no means from all countries. There are instead positive and negative changes in apparel exports for different countries, with only the total averaging out to an increase for the group as a whole. In particular, U.S. apparel exports drop noticeably.

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[13]There is an interesting difference in the employment effects of the trade policies and the subsidy policies that is worth noting. Since trade policies act as taxes on tradable sectors, they tend to cause expansion of employment in the nontradable sectors. The subsidies do just the opposite. Thus, while the declines in employment are not very large, they are consistent, with all nontradables experiencing a contraction of employment under the two subsidy schemes.

V. Conclusion

Our conception of an import surge and alternative safeguards responses is perhaps broader than what some observers may have in mind. That is, rather than focusing on the effects of an import surge in a narrowly defined product category involving some particular exporting country and importing country, we view an import surge in sectoral terms coming from an increased supply on the world market by a number of exporting countries and affecting all the major industrialized countries at the same time. Our approach seems suitable for wearing apparel, which is something that many developing countries now supply in large amounts to the industrialized countries and that could be supplied in even larger amounts if conditions permitted. It is becoming apparent that there are also other products that developing countries are capable of producing and exporting in great volume and to many countries, including footwear, iron and steel, electronic products, and automobiles. Even where particular instances of safeguard protection have seemed to be bilateral in nature, there has been a tendency for the exporting country, once constrained, to look for alternative export markets in third countries. It therefore seems plausible to us to conceive of an import surge in broad, sectoral terms coming from a number of supplying countries and impinging on all of the industrialized countries at the same time. Our Model could be used in principle to analyze import surges in other sectors so long as it was assumed that the products involved were perfect substitutes in the world market.

In considering the design of a safeguards agreement in the Uruguay Round negotiations, our analysis suggests that unilateral safeguards measures may shift adjustment burdens onto other countries and that sectoral tariffs and quotas may be particularly detrimental to the importing countries' own interests, insofar as their exports will be adversely affected. The safeguards policy that appears to work best in terms of mitigating employment declines due to a broad import surge is when all the industrialized importing countries act together to subsidize domestic output. In designing a safeguards

agreement, it might be desirable accordingly to rule out tariff and quota measures and instead to specify that domestic subsidies be used. Of course, such assistance should be made available only for a limited period of time in order to encourage adjustment and avoid long lasting protection for any industry. In addition, it would be necessary to coordinate any such recommendation in favor of subsidies with provisions of the GATT subsidies code, which otherwise might lead to a plethora of self-defeating countervailing duties.

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Table 1

Percentage Changes in Imports of
Wearing Apparel (ISIC 322)
Due to Each of Nine Scenarios in Response
to a Ten Percent Surge in Imports of Wearing Apparel

	1	2	3	4	5	6	7	8	9
	No Response	Existing Quotas	Uni-lateral U.S. Tariff	Uni-lateral U.S. Quota	Multi-lateral Tariff	Multi-lateral Quota	Uni-lateral U.S. Subsidy	Multi-lateral Subsidy	Flexible Wages
Industrialized Countries									
Australia	10.67	5.33	11.54	11.75	3.52	0.06	11.19	8.53	13.52
Austria	9.01	7.60	9.13	9.16	1.41	0.02	9.08	4.21	11.55
Canada	10.50	5.69	11.37	11.57	3.39	0.06	11.02	9.20	12.40
European Community									
Belgium Luxembourg	7.14	6.97	7.43	7.49	2.33	0.05	7.31	5.34	9.44
Denmark	7.46	5.51	7.85	7.93	2.92	0.06	7.69	5.85	9.41
France	10.51	8.13	11.24	11.41	3.06	0.05	10.94	8.39	12.78
Germany	8.74	5.49	9.33	9.47	3.63	0.06	9.09	7.29	10.38
Ireland	8.15	8.73	8.64	8.76	3.33	0.06	8.44	6.64	10.06
Italy	10.72	7.74	11.54	11.73	3.15	0.05	11.20	11.20	14.14
Netherlands	7.73	6.38	8.04	8.11	2.56	0.05	7.91	5.02	9.65
United Kingdom	9.93	4.77	10.70	10.88	3.62	0.06	10.39	8.53	11.46
Total EC	8.34	7.39	8.86	8.98	3.25	0.06	8.65	6.81	10.25
Finland	9.93	6.57	9.99	10.00	0.64	0.01	9.97	5.59	12.39
Japan	11.04	4.42	11.99	12.21	3.44	0.06	11.60	11.54	15.59
New Zealand	11.16	9.12	12.04	12.24	2.78	0.05	11.69	12.53	14.71
Norway	8.77	7.43	9.12	9.20	2.84	0.04	8.98	4.08	9.94
Sweden	8.87	6.05	9.15	9.21	2.26	0.04	9.04	4.13	11.10
Switzerland	8.99	7.87	9.35	9.43	2.80	0.04	9.20	4.45	11.01
United States	10.82	4.38	1.65	0.02	3.52	0.06	7.48	9.44	14.21
Total Industrialized	8.95	7.27	9.44	9.56	3.00	0.05	9.24	6.42	11.05
Developing Countries									
Argentina	0.23	0.22	0.22	0.22	0.22	0.20	0.22	0.19	0.15
Brazil	0.10	0.09	0.11	0.11	0.08	0.06	0.10	0.07	-0.03
Chile	-0.10	-0.04	-0.25	-0.29	0.07	0.11	-0.24	-0.20	-0.02
Colombia	0.12	0.07	0.09	0.08	0.05	-0.01	0.09	0.04	-0.09
Greece	-0.06	-0.12	-0.05	-0.05	-0.17	-0.26	-0.05	-0.13	-0.31
Hong Kong	0.10	0.31	0.20	0.23	0.42	0.66	0.16	0.36	0.60
India	0.01	-0.10	-0.05	-0.06	-0.16	-0.28	-0.03	-0.13	-0.15
Israel	0.98	2.95	1.92	2.14	4.07	6.48	1.54	3.56	7.45
South Korea	-0.14	-0.54	-0.33	-0.37	-0.75	-1.20	-0.26	-0.65	-0.97
Mexico	0.94	2.96	1.91	2.14	4.10	6.58	1.52	3.59	9.45
Portugal	-0.07	-0.15	-0.08	-0.08	-0.20	-0.30	-0.07	-0.17	-0.28
Singapore	0.21	0.73	0.45	0.51	1.02	1.64	0.36	0.89	2.40
Spain	0.02	0.02	0.05	0.06	0.01	-0.01	0.04	0.01	-0.06
Taiwan	-0.07	-0.35	-0.22	-0.26	-0.49	-0.82	-0.17	-0.43	-0.79
Turkey	-0.02	-0.03	0.01	0.02	-0.05	-0.07	0.01	-0.01	-0.20
Yugoslavia	0.93	2.86	1.85	2.06	3.94	6.29	1.48	3.44	7.11
Total LDC's	0.24	0.67	0.45	0.50	0.91	1.43	0.37	0.80	1.91
All Countries	8.67	7.06	9.15	9.26	2.93	0.10	8.96	6.24	10.75

Table 2

Net Percentage Changes in Employment in Wearing Apparel (ISIC 322) Due to Each of Nine Scenarios in Response to a Ten Percent Surge in Imports of Wearing Apparel

	1	2	3	4	5	6	7	8	9
	No Response	Existing Quotas	Uni-lateral U.S. Tariff	Uni-lateral U.S. Quota	Multi-lateral Tariff	Multi-lateral Quota	Uni-lateral U.S. Subsidy	Multi-lateral Subsidy	Flexible Wages
Industrialized Countries									
Australia	-2.08	-1.57	-2.27	-2.32	-1.43	-0.59	-2.19	-0.03	0.0
Austria	-7.13	-12.31	-9.35	-9.86	-16.71	-16.48	-8.47	-1.39	0.0
Canada	-3.05	-2.24	-3.28	-3.34	-1.85	-0.51	-3.19	-1.07	0.0
European Community									
Belgium Luxembourg	-7.96	-10.35	-9.05	-9.29	-12.08	-10.30	-8.61	-5.95	-0.0
Denmark	-7.04	-8.54	-7.89	-8.08	-9.22	-7.29	-7.55	-4.64	0.0
France	-2.76	-4.36	-3.66	-3.87	-4.93	-5.90	-3.30	-1.99	0.0
Germany	-5.04	-4.80	-5.52	-5.63	-4.65	-2.69	-5.33	-2.46	0.0
Ireland	-4.55	-5.95	-5.26	-5.42	-5.56	-4.76	-4.97	-3.17	0.0
Italy	-1.27	-2.62	-1.95	-2.11	-3.29	-4.64	-1.67	-1.88	0.0
Netherlands	-12.38	-14.49	-13.45	-13.70	-15.40	-10.58	-13.02	-5.90	0.0
United Kingdom	-3.03	-2.71	-3.47	-3.57	-2.85	-2.18	-3.29	-1.76	0.0
Total EC	-5.60	-6.18	-6.25	-6.40	-6.45	-4.75	-5.99	-3.07	0.0
Finland	-3.79	-11.74	-7.09	-7.83	-16.94	-21.65	-5.78	-2.82	0.0
Japan	-1.51	-1.18	-1.74	-1.80	-1.26	-0.98	-1.65	-1.00	0.0
New Zealand	-0.69	-1.76	-1.22	-1.35	-2.27	-3.48	-1.01	-1.21	0.0
Norway	-14.46	-16.17	-15.51	-15.75	-16.12	-9.16	-15.09	-1.03	0.0
Sweden	-11.19	-15.58	-12.92	-13.31	-18.40	-14.61	-12.23	-1.45	0.0
Switzerland	-6.82	-9.29	-8.05	-8.33	-10.07	-9.18	-7.55	-0.36	0.0
United States	-1.65	-1.35	-0.92	-0.34	-1.45	-1.02	0.33	-0.19	0.0
Total Industrialized	-5.61	-6.63	-6.31	-6.44	-7.13	-5.65	-5.92	-2.25	0.0
Developing Countries									
Argentina	0.40	0.37	0.38	0.37	0.37	0.31	0.37	0.31	0.0
Brazil	-0.05	-0.14	-0.09	-0.10	-0.19	-0.30	-0.07	-0.17	0.0
Chile	0.02	-0.03	0.06	0.08	-0.09	-0.14	0.06	0.02	0.0
Colombia	-0.13	-0.44	-0.28	-0.31	-0.62	-0.99	-0.22	-0.54	0.0
Greece	-0.45	-1.54	-0.93	-1.05	-2.15	-3.44	-0.74	-1.88	0.0
Hong Kong	-0.46	-1.50	-0.95	-1.07	-2.06	-3.28	-0.76	-1.84	0.0
India	-0.83	-2.88	-1.80	-2.03	-4.00	-6.35	-1.42	-3.50	0.0
Israel	-0.30	-0.90	-0.58	-0.65	-1.24	-1.96	-0.47	-1.10	0.0
South Korea	-0.87	-3.00	-1.89	-2.13	-4.15	-6.58	-1.49	-3.64	0.0
Mexico	-0.11	-0.34	-0.22	-0.24	-0.46	-0.73	-0.17	-0.41	0.0
Portugal	-0.70	-2.43	-1.49	-1.67	-3.40	-5.44	-1.17	-2.99	0.0
Singapore	-0.83	-2.82	-1.77	-1.99	-3.91	-6.23	-1.40	-3.49	0.0
Spain	-0.15	-0.53	-0.32	-0.36	-0.74	-1.20	-0.26	-0.65	0.0
Taiwan	-0.76	-2.71	-1.71	-1.93	-3.75	-5.99	-1.34	-3.31	0.0
Turkey	-0.27	-0.95	-0.57	-0.64	-1.33	-2.13	-0.45	-1.16	0.0
Yugoslavia	-0.37	-1.17	-0.75	-0.84	-1.62	-2.56	-0.60	-1.42	0.0
Total LDC's	-0.43	-1.49	-0.91	-1.02	-2.09	-3.34	-0.72	-1.83	0.0
All Countries	-0.97	-2.02	-1.47	-1.58	-2.61	-3.58	-1.25	-1.87	0.0

Table 3

Percentage Changes in Exports of
Wearing Apparel (ISIC 322)
Due to Each of Nine Scenarios in Response
to a Ten Percent Surge in Imports of Wearing Apparel

	1	2	3	4	5	6	7	8	9
	No Response	Existing Quotas	Uni-lateral U.S. Tariff	Uni-lateral U.S. Quota	Multi-lateral Tariff	Multi-lateral Quota	Uni-lateral U.S. Subsidy	Multi-lateral Subsidy	Flexible Wages
Industrialized Countries									
Australia	-4.26	-17.77	-9.69	-10.91	-24.10	-34.12	-7.57	-7.72	-6.36
Austria	-1.89	-13.38	-6.38	-7.40	-25.64	-29.42	-4.61	-2.85	9.86
Canada	-1.92	-7.72	-4.41	-4.98	-10.79	-16.69	-3.41	-6.77	2.46
European Community									
Belgium Luxembourg	-0.12	-2.60	-1.13	-1.36	-5.86	-8.18	-0.72	-2.42	6.44
Denmark	0.02	-2.98	-0.92	-1.13	-5.19	-7.66	-0.54	-2.08	6.18
France	-2.42	-9.30	-5.35	-6.02	-13.64	-19.93	-4.18	-6.13	0.53
Germany	-0.34	-3.50	-1.39	-1.64	-5.25	-8.17	-0.97	-2.41	4.76
Ireland	-0.24	-2.36	-1.21	-1.43	-4.55	-7.16	-0.82	-2.35	3.73
Italy	-0.92	-3.10	-1.88	-2.10	-4.39	-6.77	-1.49	-2.46	-0.94
Netherlands	0.07	-4.85	-1.51	-1.88	-9.85	-12.96	-0.88	-3.20	15.75
United Kingdom	-1.13	-4.65	-2.52	-2.84	-6.42	-9.87	-1.96	-3.44	2.21
Total EC	-0.34	-4.08	-1.68	-1.99	-7.27	-10.38	-1.14	-2.95	7.98
Finland	-3.22	-14.76	-7.86	-8.90	-22.50	-29.15	-6.03	-4.19	0.86
Japan	-1.59	-5.11	-3.15	-3.51	-6.98	-10.87	-2.52	-4.52	-4.71
New Zealand	-5.11	-16.43	-10.60	-11.83	-22.24	-33.26	-8.46	-13.79	-14.15
Norway	-1.76	-16.47	-6.52	-7.59	-31.09	-35.22	-4.65	-2.08	60.38
Sweden	-1.23	-17.63	-5.86	-6.91	-29.43	-32.84	-4.04	-2.66	25.01
Switzerland	-1.90	-14.81	-6.70	-7.77	-25.84	-33.43	-4.78	-3.03	17.02
United States	-4.43	-18.16	-13.45	-13.32	-24.16	-34.56	3.21	-9.39	-10.99
Total Industrialized	-0.85	-7.05	-3.05	-3.55	-12.00	-15.89	-2.16	-3.49	10.03
Developing Countries									
Argentina	-0.28	-1.00	-0.61	-0.69	-1.39	-2.25	-0.48	-1.24	-3.92
Brazil	-0.28	-1.01	-0.63	-0.71	-1.41	-2.28	-0.49	-1.24	-3.24
Chile	-0.34	-1.05	-0.76	-0.86	-1.40	-2.24	-0.62	-1.35	-3.09
Colombia	-0.26	-0.99	-0.62	-0.70	-1.40	-2.26	-0.48	-1.23	-2.52
Greece	-0.28	-0.97	-0.58	-0.65	-1.36	-2.18	-0.46	-1.18	-0.88
Hong Kong	-0.16	-0.52	-0.33	-0.37	-0.72	-1.15	-0.26	-0.64	-0.00
India	-0.29	-1.01	-0.63	-0.71	-1.41	-2.26	-0.50	-1.23	-0.03
Israel	-0.32	-0.97	-0.63	-0.70	-1.32	-2.08	-0.51	-1.16	-1.40
South Korea	-0.30	-1.06	-0.66	-0.75	-1.47	-2.35	-0.52	-1.29	-0.04
Mexico	-0.33	-1.03	-0.67	-0.75	-1.42	-2.24	-0.54	-1.25	-2.71
Portugal	-0.28	-0.98	-0.60	-0.67	-1.37	-2.21	-0.47	-1.21	-0.24
Singapore	-0.29	-0.98	-0.62	-0.69	-1.37	-2.20	-0.49	-1.22	-0.01
Spain	-0.28	-1.00	-0.61	-0.69	-1.40	-2.25	-0.48	-1.23	-2.34
Taiwan	-0.27	-0.95	-0.60	-0.68	-1.32	-2.13	-0.47	-1.17	-0.04
Turkey	-0.28	-1.00	-0.61	-0.68	-1.41	-2.26	-0.48	-1.23	-1.68
Yugoslavia	-0.31	-0.97	-0.63	-0.70	-1.33	-2.10	-0.50	-1.17	-1.20
Total LDC's	-0.28	-0.99	-0.62	-0.70	-1.38	-2.22	-0.49	-1.22	-1.22
All Countries	-0.57	-4.13	-1.88	-2.18	-6.90	-9.32	-1.36	-2.40	4.62

Table 4

Net Percentage Changes in Employment in United States Due to Each of Nine Scenarios in Response to a Ten Percent Surge in Imports of Wearing Apparel

		1 No Response	2 Existing Quotas	3 Uni-lateral U.S. Tariff	4 Uni-lateral U.S. Quota	5 Multi-lateral Tariff	6 Multi-lateral Quota	7 Uni-lateral U.S. Subsidy	8 Multi-lateral Subsidy	9 Flexible Wages
Traded Goods										
Agr., For., & Fishing	(1)	0.11	0.10	0.08	0.06	0.10	0.08	0.06	0.06	0.0
Food, Bev., & Tobacco	(310)	0.01	0.01	0.00	-0.01	0.01	0.01	-0.02	-0.01	0.0
Textiles	(321)	-0.38	-0.38	-0.32	-0.21	-0.41	-0.32	0.01	-0.04	0.0
Wearing Apparel	(322)	-1.65	-1.35	-0.92	-0.34	-1.45	-1.02	0.33	-0.19	0.0
Leather Products	(323)	-0.01	-0.08	-0.26	-0.32	-0.05	-0.05	-0.14	-0.07	0.0
Footwear	(324)	0.03	0.01	0.00	-0.01	0.01	0.00	-0.01	-0.00	0.0
Wood Products	(331)	0.04	0.03	0.00	-0.01	0.04	0.03	-0.00	0.00	0.0
Furniture & Fixtures	(332)	0.03	0.02	0.01	-0.00	0.02	0.02	-0.01	0.00	0.0
Paper & Paper Products	(341)	0.02	0.01	-0.02	-0.03	0.02	0.02	-0.00	0.00	0.0
Printing & Publishing	(342)	0.01	0.01	0.01	-0.00	0.01	0.01	-0.01	-0.00	0.0
Chemicals	(35A)	0.01	0.00	-0.02	-0.02	0.00	0.01	0.02	0.02	0.0
Petrol. & Rel. Prod.	(35B)	-0.01	-0.03	-0.06	-0.08	-0.02	-0.02	-0.06	-0.04	0.0
Rubber Products	(355)	0.07	0.06	0.02	0.00	0.07	0.06	0.02	0.03	0.0
Nonmetallic Min. Prod.	(36A)	0.04	0.03	0.01	-0.00	0.03	0.02	-0.01	0.00	0.0
Glass & Glass Products	(362)	0.04	0.03	0.01	-0.01	0.04	0.03	0.00	0.01	0.0
Iron & Steel	(371)	0.10	0.09	0.05	0.03	0.10	0.09	0.05	0.05	0.0
Nonferrous Metals	(372)	0.08	0.07	0.02	-0.01	0.09	0.07	0.02	0.03	0.0
Metal Products	(381)	0.07	0.06	0.04	0.02	0.06	0.06	0.02	0.03	0.0
Nonelectric Machinery	(382)	0.12	0.11	0.07	0.05	0.12	0.11	0.07	0.07	0.0
Electric Machinery	(383)	0.09	0.08	0.05	0.04	0.09	0.07	0.04	0.05	0.0
Transportation Equip.	(384)	0.10	0.10	0.08	0.06	0.10	0.09	0.06	0.07	0.0
Miscellaneous Manufac.	(38A)	0.07	0.06	0.03	0.01	0.07	0.06	0.04	0.04	0.0
Total Traded		-0.04	-0.03	-0.03	-0.01	-0.04	-0.02	0.05	0.02	0.0
Nontraded Goods										
Mining & Quarrying	(2)	0.03	0.01	-0.03	-0.06	0.02	0.01	-0.04	-0.02	0.0
Electric, Gas & Water	(4)	0.03	0.02	0.02	0.00	0.03	0.02	-0.02	-0.01	0.0
Construction	(5)	0.01	0.01	0.01	0.00	0.01	0.00	-0.02	-0.01	0.0
Wholesale & Ret. Trade	(6)	0.01	0.01	0.01	0.00	0.01	0.01	-0.01	-0.01	0.0
Transp., Stor., & Com.	(7)	0.01	0.01	0.01	0.00	0.01	0.01	-0.01	-0.00	0.0
Fin., Ins. & Real Est.	(8)	0.02	0.02	0.02	0.00	0.02	0.01	-0.02	-0.01	0.0
Comm., Soc.&Pers.Serv.	(9)	0.01	0.01	0.01	0.00	0.01	0.01	-0.02	-0.01	0.0
Total Nontraded		0.01	0.01	0.01	0.00	0.01	0.01	-0.02	-0.01	0.0
Total, All Industries		0.00	0.00	0.00	0.0	0.00	0.00	0.0	0.0	0.0

DATE DUE

Oct 23			