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Industrial Protection in the Developed Countries

Bela and Carol Balassa

MUCH has been said in recent years about growing industrial protectionism in the developed countries, but little effort has been made to assess quantitatively the increases in protection that have actually occurred. This article will provide estimates for the major developed countries (the United States, the European Community and Japan) on changes in their tariffs and non-tariff measures affecting manufactured imports in general and imports from the developing countries in particular. The protection of agricultural products, however, will not be considered.¹

TARIFF REDUCTIONS IN THE TOKYO ROUND NEGOTIATIONS

In the framework of the Kennedy Round of multilateral trade negotiations, conducted under the auspices of the General Agreement on Tariffs and Trade (GATT) in 1964-67, tariff rates were lowered by 50 per cent across-the-board, with exceptions made for so-called sensitive items — such as steel, textiles, clothing and footwear. As a result of these changes, average tariffs on the total imports of manufactured products declined by 41 per cent in the United States, 40 per cent in the European Community and 42 per cent in Japan. Since reductions were smaller on several products of export interest to the developing countries, the average tariff on manufactured products imported from these countries decreased to a lesser extent, by 31 per cent in the United States, 36 per cent in the Community and 35 per cent in Japan.²

Following these reductions, average tariffs on manufactured products, weighted by total imports, were 7.0 per cent in the United States, 8.3 per cent in the European Community and 10.0 per cent in Japan.³ Tariff averages, however, were generally higher on industrial products imported from the developing

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countries, on which smaller reductions were agreed in the Kennedy Round negotiations as well as in the course of the earlier tariff negotiations (Table 1).

In the Tokyo Round negotiations of 1973-79, the United States proposed an across-the-board tariff cut of 60 per cent, whereas the European Community put forward a 'harmonisation' formula aimed at reducing high tariffs to a greater extent than low tariffs. The position taken by the Community reflected the desire for an evening-out of the tariff structure in the United States which earlier occurred in the Community where the common external tariff was set as the average of tariffs in the individual member countries.

In the event, a compromise Swiss formula was adopted, involving tariff reductions calculated as the ratio of the pre-Tokyo Round tariff to itself plus 14 per cent. Under the formula, a 20 per cent duty was to be reduced by 59 per cent; a 10 per cent duty, by 42 per cent; and a 5 per cent duty, by 26 per cent. But exceptions were again made for sensitive items such as textiles, clothing and footwear.

The tariff reductions which were agreed in the Tokyo Round negotiations will be fully implemented in the second half of the 1980s, although advance reductions have been made by the European Community and Japan. Once the reductions are completed, tariff averages weighted by the total imports of manufactured products will decline by 30 per cent in the United States, 28 per cent in the Community and 46 per cent in Japan (see Table 1). In the case of Japan, additional tariff reductions on machinery and transport equipment will have contributed to the results, but the extent of the decrease in tariffs is considerably smaller if comparisons are made with the duties actually applied rather than with legal tariffs.⁴

As in the Kennedy Round negotiations, tariff reductions have been smaller than the average on imports from the developing countries, which supply a high proportion of sensitive items. Reductions in most-favoured-nation (MFN) tariffs weighted by the imports of manufactured products from developing countries will be 24 per cent in the case of the United States, 25 per cent in the European Community and 32 per cent in Japan.⁵

Following these reductions, tariffs on manufactured products, weighted by total imports, will average 4.9 per cent in the United States, 6.0 per cent in the European Community and 5.4 per cent in Japan.⁶ The corresponding averages, weighted by imports from the developing countries, will be higher: 8.7 per cent in the United States, 6.7 per cent in the Community and 6.8 per cent in Japan.

Jeffrey Nugent, of the University of Southern California, has shown that for a given tariff average the protective effect of tariffs is the higher, the greater is their dispersion.⁷ The dispersion of tariffs will be reduced to a considerable extent once the Tokyo Round agreement has been fully implemented, especially in Japan, but in the latter case the change will again be much smaller if comparisons are made with the tariffs actually applied before the Tokyo Round negotiations (Table 2). The dispersion of post-Tokyo Round tariffs remains the most pronounced in the

TABLE 1
 Tariff Averages Before and After the Implementation of the Tokyo Round Agreement and Percentage Changes in Tariffs in the Major Developed Countries

	<i>Tariffs on total imports</i>												<i>Tariffs on imports from developing countries</i>		
	<i>Raw materials</i>			<i>Semi-manufactures</i>			<i>Finished manufactures</i>			<i>Semi- and finished manufactures</i>			<i>Semi- and finished manufactures</i>		
	<i>Pre-</i>	<i>Post-</i>	<i>% change</i>	<i>Pre-</i>	<i>Post-</i>	<i>% change</i>	<i>Pre-</i>	<i>Post-</i>	<i>% change</i>	<i>Pre-</i>	<i>Post-</i>	<i>% change</i>	<i>Pre-</i>	<i>Post-</i>	<i>% change</i>
United States															
Weighted	0.9	0.2	77	4.5	3.0	33	8.0	5.7	29	7.0	4.9	30	11.4	8.7	24
Simple	3.3	1.8	45	10.0	6.1	39	13.0	7.0	46	11.6	6.6	43	12.0	6.7	44
European Community															
Weighted	0.2	0.2	15	5.8	4.2	27	9.7	6.9	29	8.3	6.0	28	8.9	6.7	25
Simple	1.9	1.6	16	8.9	6.2	30	9.9	7.0	29	9.4	6.6	30	8.5	5.8	32
Japan															
Weighted	1.5	0.5	67	6.6	4.6	30	12.5	6.0	52	10.0	5.4	46	10.0	6.8	32
Simple	2.5	1.4	45	9.8	6.3	36	11.6	6.4	45	10.8	6.4	41	11.0	6.7	39

Source: *The Tokyo Round of Multilateral Trade Negotiations*, Supplementary Report by the Director-General of the GATT (Geneva: GATT Secretariat, 1980) pp. 33-37.

United States, thereby increasing the protective effect of the American tariff compared with that of the other major developed countries.

As is well known, averaging tariffs by import value introduces a downward bias in the calculations, for high tariffs are given a small weight and low tariffs are given a large weight. An alternative is to calculate a simple average of tariffs. These averages show larger tariff reductions for the United States and the European Community, and smaller reductions for Japan, than the weighted averages. At the same time, the unweighted averages are uniformly higher than the weighted averages (Table 1). While the unweighted averages do not involve a downward bias, they are subject to the shortcoming of giving equal weight to all tariff items (irrespective of their relative importance), when the number of items varies to a considerable extent among product categories, with textiles and clothing accounting for nearly one third of the total. Also, comparisons of unweighted tariff averages for total imports and for imports from the developing countries, as published by the GATT Secretariat, have little economic meaning.⁸

TABLE 2

Percentage Distribution of Tariffs for Industrial Products, including Raw Materials, in the Major Developed Countries Before and After the Implementation of the Tokyo Round Agreement

Tariff	<i>Pre-Tokyo Round</i>				<i>Post-Tokyo Round</i>		
	<i>United States</i>	<i>European Community</i>	<i>Japan</i>		<i>United States</i>	<i>European Community</i>	<i>Japan</i>
			<i>Legal</i>	<i>Applied</i>			
Free	26.1	35.4	53.1	59.4	31.0	37.9	56.3
0.1-5	32.2	7.4	8.4	7.8	44.1	19.0	25.2
5.1-10	26.7	31.2	22.1	23.5	17.8	32.5	14.6
10.1-15	6.1	17.2	9.0	7.1	1.9	9.1	2.9
15.1-20	3.5	8.6	5.1	1.6	2.2	1.3	0.8
20.1-25	1.9	0.2	1.5	0.5	0.8	0.2	0.1
25.1-30	0.8	—	0.7	0.1	1.2	—	0.1
30.1-35	1.2	—	—	—	0.9	—	—
35.1-40	1.1	—	0.1	—	0.0	—	—
40.1-45	0.4	—	—	—	0.1	—	—
45.1-50	0.0	—	—	—	—	—	—
Over 50	—	—	—	—	—	—	—
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: 'Reports on Results of MTN', Office of the United States Trade Representative, Executive Office of the President, Washington, mimeograph, June 1979.

Irrespective of the averaging procedure employed, it is apparent that tariffs have a tendency to escalate from lower to higher degrees of fabrication, thereby raising the effective rate of protection (protection of value added). In the major

developed countries, post-Tokyo Round weighted averages of tariff rates are 0.5 per cent or less on raw materials, 3-5 per cent for semi-manufactures and 5-7 per cent for finished manufactures (Table 1). Tariff escalation does not continue, however, to machinery and transport equipment. Tariffs on these products, exported chiefly by developed countries, are lower than tariff averages for all finished manufactures and, to an even greater extent, tariffs on products of interest to the developing countries, such as clothing, footwear and travel goods.

TABLE 3
Sectoral Tariff Averages for the Developed Countries combined, Before and After the Implementation of the Tokyo Round Agreement

	<i>Import-weighted averages</i>			<i>Simple averages</i>		
	<i>Before</i>	<i>After</i>	<i>% change</i>	<i>Before</i>	<i>After</i>	<i>% change</i>
Textiles and clothing						
Raw materials	1.1	0.8	25	3.7	2.9	21
Semi-manufactures	14.7	11.5	22	13.7	9.6	30
Finished manufactures	20.6	16.7	19	17.6	11.8	33
Leather, footwear, rubber and travel goods						
Raw materials	0.2	0.0	80	2.0	1.0	50
Semi-manufactures	6.8	4.4	35	6.9	4.5	35
Finished manufactures	11.5	10.2	11	14.4	10.2	29
Wood, pulp, paper and furniture						
Raw materials	0.4	0.2	54	1.3	0.7	46
Semi-manufactures	3.1	1.9	38	6.3	3.7	41
Finished manufactures	7.1	4.2	41	8.6	5.1	41
Base metals						
Raw materials	0.3	0.0	82	0.5	0.2	61
Semi-manufactures	4.3	3.2	26	7.0	4.6	34
Finished manufactures	9.4	5.9	37	10.2	6.1	40
Chemicals						
Semi-manufactures	7.8	5.0	36	10.2	6.2	39
Finished manufactures	10.5	6.0	43	11.1	6.2	44
Non-electrical machinery						
Finished manufactures	7.7	4.1	47	8.1	4.4	46
Electrical machinery						
Finished manufactures	9.2	6.1	34	13.2	5.0	42
Transport equipment						
Finished manufactures	7.8	5.0	36	10.0	6.5	35

Source: *The Tokyo Round of Multilateral Trade Negotiations*, Supplementary Report by the Director-General of the GATT (Geneva: GATT Secretariat, 1980) pp. 33-37.

Thus, as shown in Table 3, there is a considerable degree of tariff escalation for individual product categories. And while quantitative limitations in the framework of the Multi-fibre Arrangement (MFA) represent the binding constraint in the case

of textiles and clothing, tariff escalation tends to discriminate against finished goods within this category. More generally, the escalation of tariffs discriminates against the imports of processed goods from the developing countries.

At the same time the finished manufactures of interest to the developing countries are subject to higher tariffs than other finished products. And although these countries receive preferential treatment under the Generalised System of Preferences (GSP), the imports of textiles, clothing and shoes are not covered by the system and products which came to be imported in larger quantities are also excluded.⁹ The developing countries, however, have benefited from MFN-type tariff reductions that have been unilaterally extended to them.

All in all, following the implementation of the Tokyo Round agreement, tariffs on manufactured goods will be lowered to a considerable extent, thereby extending the tariff reductions that had begun on an item-by-item basis in the period following World War II and continued with across-the-board reductions (with some exceptions) following the Dillon Round negotiations (1960-61) and the Kennedy Round negotiations. In fact, while tariff reductions in the post-war period were originally aimed at reversing increases in protection during the depression of the 1930s, tariffs fell below these levels at the end of the 1950s and declined to a considerable extent afterwards.¹⁰

But from the mid-1960s the United States and the European Community imposed quantitative limits on imports of textiles and clothing, first from Japan and subsequently from the developing countries. Furthermore, non-tariff measures were applied to the imports of certain manufactured goods from Japan in the second half of the 1960s and such restrictions came into greater use after 1973.

In the next section non-tariff restrictions on manufactured products which were in effect at the end of 1980 and the barriers imposed (or removed) in 1981, 1982 and 1983 will be briefly described. In addition, alternative ratios will be used to indicate the scope of these restrictions in the United States, the European Community and Japan. Then, in the final section, an attempt will be made to evaluate the restrictive effects of non-tariff measures in these countries.

NON-TARIFF MEASURES AFFECTING TRADE

The non-tariff measures considered here include global and bilateral import quotas, import licensing, orderly marketing arrangements (OMAs) 'voluntary' export-restraint agreements (VERs), safeguard measures and the restrictive application of standards. The discussion will not cover production and export subsidies or anti-dumping and countervailing measures. The trade implications of subsidies are difficult to gauge, while anti-dumping and countervailing actions have been assumed to offset distortions introduced by exporters.

Non-tariff restrictions may pertain to all imports or to imports from particular sources. The United States and the European Community limit the imports of textiles and clothing originating in developing countries in the framework of the MFA; in several other cases, restrictions are targeted against particular suppliers.

Apart from the MFA, non-tariff restrictions in effect at the end of 1980 in the United States included an OMA with South Korea and Taiwan on imports of non-rubber footwear, safeguard measures limiting the imports of colour television sets from these two countries and safeguard measures on citizen band radios, porcelain-on-steel cookware, high carbon ferro-chromium, industrial fasteners (nuts, bolts and screws) and spin dryers applying to all sources of supply.¹¹

In the European Community, non-tariff barriers employed at Community level in 1980 included those under the MFA as well as OMAs on jute products and iron and steel applying to major suppliers. There were also a number of non-tariff measures imposed by Community countries, usually pertaining to suppliers that made inroads in the domestic markets of the individual countries. Restrictions were imposed by France, Italy and the United Kingdom on imports of passenger automobiles from Japan as well as on imports of radios, televisions and communication equipment from Japan, South Korea and Taiwan, by the Federal Republic of Germany and the United Kingdom on imports of flatware from Japan and by France and Italy on imports of various consumer goods, mainly from South Korea and Taiwan.

Japan in turn made use of discretionary licensing to limit her imports of leather footwear, telecommunication equipment and pharmaceuticals and applied standards to protective effect on automobiles. Japan also employs informal restrictions on imports, but for reasons noted below these are not considered in the article.

The United States negotiated in 1981 a VER with Japan limiting her exports of passenger automobiles. In the following year, VERs were negotiated on carbon steel products with the European Community and, in 1983, the United States implemented safeguard measures in the form of tariff increases on motorcycles and tariff increases as well as a quota on specialty steels. But restrictions on imports of non-rubber footwear from South Korea and Taiwan were eliminated in 1981 and restrictions on imports of colour television sets from the same countries were lifted in 1982.

In 1981, the European Community extended import restrictions on steel to South Korea; Belgium and West Germany introduced limits on the imports of automobiles from Japan; and the United Kingdom imposed import restrictions on video-tape recorders from Japan. In the following year, France introduced restrictions on motorcycles and video-tape recorders from Japan. Finally, in March 1983, the Community reached an agreement with Japan on export restraints for video-tape recorders and large colour television tubes as well as on the 'surveillance' of imports of hi-fi equipment, quartz watches, forklift trucks,

light vans and motorcycles. In the same year France and Britain imposed restrictions on imports of tableware from South Korea.

In renegotiating the MFA in 1981, the United States and the European Community limited the possibilities of transferring quotas from one category to another as well as from one year to the next. Additional limitations were imposed on the growth of imports of particular items in the United States in December 1983.

Japan did not introduce new restrictive measures between 1980 and 1983 and liberalised her administrative system on imports. At the same time, it is difficult to evaluate the 'informal' barriers to imports that remain in effect in Japan.

In this connection, it should be emphasised that the non-tariff measures considered here are of the 'visible' kind; for lack of information, no attempt has been made to identify administrative measures that may impinge on imports. Such measures are of particular importance in Japan, followed by France, while the United States relies on visible forms of import restraint. Since the following calculations refer only to visible measures, a bias is introduced in the comparisons.

The GATT Secretariat has used the ratio of restricted imports to total imports (the 'import ratio') to indicate the extent of the application of restrictive measures. The same ratio has been employed for this purpose by William Cline, of the Institute for International Economics in Washington,¹² and, in the framework of a programming model, by Alan Deardorff and Robert Stern, of the University of Michigan.¹³ In all these cases, the import ratio has been calculated as an *ex post* measure; that is, the import figures used in the calculations already reflect the restrictive effects of non-tariff measures which have been introduced over the years.

At the same time, the extent to which imports are affected by non-tariff measures varies from country to country. A country whose restrictive actions are more stringent will import less of the restricted commodities than a country whose actions are more liberal. Such is the situation, for instance, in regard to automobiles. France limits imports from Japan to 3 per cent of domestic sales while Japanese exports of automobiles are limited to about 25 per cent of sales in the American market. A more liberal policy towards automobile imports, then, involves a higher ratio of restricted imports to total imports in the United States than in France.

The import ratio has been calculated for the non-tariff measures in effect at the end of 1980, as well as for the measures introduced in the years 1981, 1982 and 1983 (Table 4). In all cases, the estimates refer to the 1980 dollar values of imports, exclusive of trade among the member countries of the European Community. The above objections thus apply to the 1980 estimates reported here, but not to the estimates for subsequent years. The latter provide an *ex ante* measure

of import restrictions, since the restrictions introduced subsequently could not have influenced trade flows in 1980.

But both the *ex ante* and the *ex post* measures are affected by the availability of natural resources. Thus in a country poor in natural resources, such as Japan, simple intermediate products (paper, chemicals *et cetera*) that are rarely subject to non-tariff measures will account for a large share of imports, thereby reducing the share of restricted imports.

TABLE 4
Measures of Import Restrictions for Manufactured Goods in Developed Countries

	<i>United States</i>	<i>European Community</i>	<i>Japan</i>
Import ratio ^a			
1980	6.20	10.80	7.20
1981	5.53	1.38	—
1982	0.69	0.18	—
1983	0.30	2.50	—
1981-83	6.52	4.08	—
Import consumption ratio ^b			
1980	0.56	1.30	0.33
1981	0.49	0.16	—
1982	0.06	0.02	—
1983	0.03	0.25	—
1981-83	0.58	0.43	—
Consumption ratio ^c			
1980	20.3	23.7	15.7
1981	12.4	2.3	—
1982	2.1	0.3	—
1983	0.2	2.1	—
1981-83	14.7	4.7	—

Source: Data files of the Office of the United States Trade Representative, Executive Office of the President, Washington, and of the World Bank.

^aRestricted imports as a share of total manufactured imports.

^bRestricted imports as a share of total consumption of manufactured goods.

^cConsumption of restricted manufactured goods as a share of total consumption of manufactured goods.

To escape this shortcoming, the ratio of the imports of restricted items to the total consumption of manufactured products (the 'import consumption ratio') has also been calculated. It should be recognised, however, that in its *ex post* form this ratio is subject to the same objections as the commonly-used import ratio.

A third measure relates the consumption of restricted items to the total consumption of manufactured products (the 'consumption ratio').¹⁴ This measure is not subject to the bias introduced in the *ex post* case and it is not influenced by inter-country differences in the availability of natural resources. Nevertheless, consumption may have been affected by the imposition of import restrictions. Also, the use of the consumption ratio does not permit the separation of restricted

from unrestricted imports within a particular commodity group and, in making calculations, the entire group has been included in the restricted category whenever some of the products are subject to non-tariff restrictions.

The latter considerations explain why in 1980 the ratio of the consumption of restricted products to the total consumption of manufactured goods was relatively high, between 15 and 25 per cent, in the major developed countries. The European Community's ratio was at the upper end of the scale, followed by the United States and Japan. The United States improves its position if the other two ratios are considered; its import ratio was in fact lower than that of Japan in 1980. By comparison, Dr Cline found both the ratios which he calculated to be higher in the United States than in the Community countries, with Japan at the end of the line. There are several major differences in the procedures applied which appear to account for the differences in the results.

First, Dr Cline includes processed food in his calculations without, however, allowing for the effects of the European Community's common agricultural policy. This has led to an over-estimation of the share of restricted imports in the United States, where Dr Cline lists meat, dairy products, sugar and confectionary among restricted items, while in the Community he includes only meat and canned fish in France and canned fish in Italy.

The inclusion of processed food also raises the share of restricted imports in Japan where the items in question comprise meat, dairy products, canned fruit and vegetables, canned fish and cereals. Dr Cline, however, does not include in his calculations Japanese restrictions on automobiles, telecommunication equipment and pharmaceuticals, thereby lowering the reported Japanese share.

A further difference in the estimates pertains to the treatment of restricted imports. While in the present article only imports from countries subject to restrictions have been included in calculating the import ratio, Dr Cline's figures comprise imports from all sources, even if only some of the suppliers are subject to restrictions.

Finally, Dr Cline's calculations include restrictions on imports of colour televisions from Japan and footwear from South Korea and Taiwan that were abolished in 1980 and 1981, respectively, as well as American restrictions on automobile imports from Japan that were introduced in 1981. At the same time, Dr Cline has considered the trigger-price mechanism on steel used in *lieu* of anti-dumping action as a restriction, while in the present article steel is included for 1982 when the arrangement with the European Community came into effect.

As shown in Table 4, restrictions on automobiles imported from Japan entailed substantial increases in all three ratios in the United States between 1980 and 1983. Increases were smaller in the European Community, although a number of restrictions were introduced on imports from Japan in 1983. Finally, Japan did not add new restrictions in the period 1981-83.

A different picture emerges if restrictions applied to imports from developing countries are considered. Putting aside the stricter implementation of the MFA, the United States actually liberalised imports from these countries between 1980 and 1983 by lifting restrictions on footwear and on colour televisions imported from South Korea and Taiwan. There were few instances where member countries of the European Community introduced import restrictions on products originating in developing countries and no such case has been reported in Japan. It appears, then, that the protectionist measures applied by the major developed countries after 1980 were chiefly oriented against each others' exports, with imports from developing countries largely escaping the effects of the new measures.

RESTRICTIVE EFFECTS OF TRADE BARRIERS

In the previous section, alternative ratios were employed to gauge the scope of non-tariff restrictions in the major developed countries. It should be emphasised that none of the three ratios can be used to assess the restrictive effects of such measures. While they show the proportion of imports or consumption subject to non-tariff barriers, they do not provide an indication of the extent to which imports have been reduced as a result of their imposition. Moreover, none of the three ratios indicate changes in the restrictiveness of import barriers over time which has occurred, for example, in the application of the MFA.

Two attempts have recently been made to measure the effects of quantitative restrictions in the United States, leading to very different conclusions. According to a study by Peter Morici and Laura Megna, for the National Planning Association in Washington, these restrictions provided average protection to manufacturing industries in the United States equivalent to a 0.57 per cent tariff in 1982.¹⁵ Under the assumptions made by the authors concerning import demand elasticities, the cost of protection can be estimated at \$5 billion.¹⁶ In an article in the January-February 1984 number of *Challenge*, Michael Munger, of Washington University, in Missouri, estimates the cost of quantitative import restrictions to American consumers to be \$11.5 billion in 1980.¹⁷ The reasons for these differences can be found in the methodologies of the two studies, both of which are open to criticism.

The Morici-Megna study under-estimates the effects of the two most important restrictions imposed on manufactured goods in the United States, namely the MFA and the limits on Japanese exports of automobiles. As to the first, 'it is assumed that if the MFA were removed, foreign suppliers would only be able to recapture three years of lost import growth in any single typical year'.¹⁸ But the losses have been calculated by taking 1973 as the base year, disregarding the fact that the

imports of cotton textiles had been restricted for some years beforehand. Furthermore, the protective effects of quantitative restrictions should be calculated by relating actual imports to imports without restrictions in long-term equilibrium rather than to imports that may be attained one year after the removal of the restrictions. Moreover, the protective effects of limitations on automobile imports from Japan cannot be estimated by reference to 'the depressed state of the automobile market during the first year of the agreement'.¹⁹

The estimates reported by Dr Munger include coffee, meat and sugar, accounting for one third of the total,²⁰ while they exclude automobiles that became subject to restrictions in 1981. At the same time, Dr Munger equates the cost to consumers to the cost of protectionism, although one has to deduct increases in producer surplus and in government revenues in estimating the latter.²¹ In fact, considering that imports accounted for only about one tenth of the consumption of manufactured goods, estimated at \$1.4 trillion in 1980, the cost of protection will be a small fraction of the cost to consumers estimated by Dr Munger. To improve on these estimates, information would be needed on the tariff equivalents of quantitative restrictions and on the underlying domestic demand and supply elasticities. Reliable data are not available for the United States and even less is available for the European Community and Japan. Accordingly, in the present article the restrictive effects of imports have been indicated in an indirect way.²²

Two measures will be used to gauge the impact of non-tariff restrictions on imports. The 'import penetration ratio', defined as the percentage share of imports in domestic consumption, will be employed to indicate the restrictive effects of non-tariff measures at a particular time. In turn, for lack of production figures on a disaggregated basis, changes in the ratio of imports to gross domestic product (GDP) will be used to show changes in the restrictiveness of these barriers over time.

The two sets of ratios have been calculated for the total imports from the developing countries of (i) iron and steel, (ii) passenger automobiles and (iii) telecommunication equipment, as well as for imports of (iv) textiles, (v) clothing and (vi) other consumer goods, including footwear, travel goods, sports goods and toys. The results are shown in Table 5. In the case of the European Community, the data refer to the four largest countries, namely France, West Germany, Italy and the United Kingdom, which account for 85 per cent of the GDP of the Community countries.

A high (low) import penetration ratio has been interpreted to indicate the ease (restrictiveness) of non-tariff measures. It has further been assumed that changes in the ratio of imports to GDP for products subject to non-tariff barriers will provide an indication of changes in the restrictiveness of the measures applied over time.

The obvious drawback of these ratios is that they cannot distinguish between the impacts of restrictive measures and the effects of other factors which may bear on

TABLE 5
Import Penetration Ratios for 1978 and Increase in the Ratio of Imports to GDP in 1978-81

	<i>United States</i>		<i>European Community</i>		<i>Japan</i>	
	<i>Import penetration ratio, 1978</i>	<i>% change in import-GDP ratio 1978-81</i>	<i>Import penetration ratio, 1978</i>	<i>% change in import-GDP ratio 1978-81</i>	<i>Import penetration ratio, 1978</i>	<i>% change in import-GDP ratio 1978-81</i>
<i>Total imports</i>						
Iron and steel	8.7	25	6.0	-16	0.9	94
Passenger vehicles	8.8	19	7.4	23	1.1	-33
Telecommunication equipment	14.7	31	13.6	32	3.5	23
<i>Imports from developing countries</i>						
Textiles	1.6	13	3.7	-10	2.3	-32
Clothing	11.3	17	11.4	23	7.4	-4
Other consumer products	3.7	40	1.6	36	1.1	3

Sources: *International Trade 1981-82* (Geneva: GATT Secretariat, 1982); *Yearbook of Industrial Statistics*, United Nations, New York, various issues; and *Monthly Bulletin of Statistics*, United Nations, New York, various issues.

the importation of a particular product or product group. Thus the import penetration ratio for a particular commodity group will also reflect the country's comparative advantage and the extent of the over-valuation or under-valuation of its currency in a particular year, while changes in the real rate of exchange (the nominal rate, adjusted for changes in relative prices) will affect changes in the ratio of imports to GDP over time.

The first-mentioned factor is of relevance for Japanese imports of passenger automobiles from other developed countries, for Japan is said to possess a comparative advantage in regard to automobiles that will reduce the amount imported, even though imports would be higher in the absence of the discriminatory application of standards. (Note, further, that Japan does not restrict the importation of steel which is included for completeness in Table 5.)

Such considerations will not, however, affect imports by the United States and the European Community of the commodities in question. Also, all developed countries are at a comparative disadvantage *vis-à-vis* developing countries as far as textiles, clothing and other consumer goods are concerned, so that import penetration ratios for these product groups can appropriately indicate the restrictiveness of the measures applied against imports from the developing countries.²³

The American dollar appreciated in real terms *vis-à-vis* other major currencies between 1978 and 1981. The extent of the appreciation, however, was small and the changes took place towards the end of the period, so that trade flows might not have been much affected until 1982. A much larger appreciation occurred in the years 1982 and 1983 which have been excluded from the analysis.

At the same time, it should be emphasised that considerations of comparative advantage and currency over-valuation (or under-valuation) will not be relevant in cases when import restrictions are binding. This is because the binding restrictions limit the amount imported in absolute terms and thus determine the import penetration ratio. Such will generally be the case whenever import quotas, OMAS or VERs are utilised. In turn, import licensing may or may not be binding, depending on the circumstances of the case.²⁴

These considerations indicate the usefulness of the import penetration ratio in indicating the restrictiveness of non-tariff barriers, the exception being Japanese imports of automobiles. It should be added that this ratio has the advantage of capturing the effects of not only visible but also invisible barriers to imports. At the same time, import penetration ratios are usefully complemented by data on increases in the ratio of imports to GDP.

The data in Table 5 exclude both trade among the countries of the European Community and trade between the United States and Canada which are regarded as internal trade. This adjustment gives rise to a downward bias in the figures for the United States since only about one third of American trade in manufactured

goods with Canada is exempted from tariffs in the framework of the automotive agreement between Canada and the United States.

Nevertheless, in all three industries for which import penetration ratios for total imports have been calculated, these ratios were higher in 1978 in the United States than in the European Community. The differences increased further between 1978 and 1981 as far as iron and steel are concerned while the ratio of imports to GDP increased slightly more in the Community than in the United States in automobiles and equi-proportionate changes occurred in telecommunication equipment.

The import penetration ratio for telecommunication equipment in 1978 was much lower in Japan than in the United States and the European Community. Restrictions on imports, in particular of telephone equipment, appear to have kept this ratio low and subsequent increases fell short of those in the other major developed countries. And while Japan's comparative advantage in automobiles contributed to the low import penetration ratio in 1978, the subsequent decline may be interpreted as reflecting the continuation of regulations with a protective effect.

As far as imports from the developing countries are concerned, the United States had a relatively low import penetration ratio for textiles in 1978, followed by Japan and the European Community. American imports of textiles from the developing countries, however, rose to a considerable extent after 1978 while imports declined in absolute terms in the Community and, in particular, in Japan. As a result, by 1981, the United States reached the Japanese import penetration ratio while differences remained *vis-à-vis* the Community.

Import penetration ratios for clothing in 1978 were approximately equal in the United States and the European Community, with a slightly smaller increase occurring in the latter than in the former between 1978 and 1981. In turn, Japan had much lower import penetration ratios in 1978 and a decline took place over the next three years.

Import penetration ratios in 1978 for other consumer goods, too, were the lowest in Japan which also occupies last place as far as increases in these imports are concerned. At the same time, the import penetration ratio for these products in 1978 was much higher in the United States than in the European Community and the changes that occurred between 1978 and 1981 did not modify this relationship.

With other consumer goods being the mirror image of textiles as far as import penetration ratios in the United States and the European Community are concerned, and the two economies having similar import penetration ratios in clothing, the restrictiveness of their barriers to imports from developing countries appears to have been similar in 1978. Between 1978 and 1981, however, textile imports increased rapidly in the United States, while declining in the Community, and differences in other product groups were small.

Finally, import penetration ratios in 1978 were generally the lowest in Japan, as were increases in imports from developing countries between 1978 and 1981.

Yet, with Japan moving up the scale of development, one would have expected her imports from the developing countries to increase rapidly over time.

SUMMARY AND CONCLUSIONS

This article has reviewed recent changes in trade restrictions in the major developed countries: the United States, the European Community and Japan. The investigation has covered tariffs and non-tariff measures affecting the imports of manufactured products from all sources of supply and from the developing countries.

Tariff reductions undertaken during the period since World War II have been continued in the framework of the Tokyo Round negotiations, lowering tariffs to levels not seen during this century. While the reductions have been extended to the developing countries under the MFN clause, tariffs have been lowered less than the average on products of interest to these countries. Moreover, notwithstanding the changes that have occurred, the escalation of tariffs continues to discriminate against the imports of processed goods from the developing countries.

Tariff reductions under the Tokyo Round agreement, to be completed in the second half of the 1980s, contrast with the increased use made of non-tariff measures. At the same time, in recent years, the imposition of new barriers has been directed largely against imports from other developed countries rather than against the products of developing countries.

The ratio of restricted imports to total imports and to total consumption and the ratio of the consumption of restricted items to total consumption have been used to gauge the scope of import restrictions. But these measures cannot provide an indication of the extent to which imports have been reduced as a result of (i) the imposition of non-tariff barriers or (ii) changes in the restrictiveness of such barriers over time.

For these purposes, use has been made of the import penetration ratio and changes in the ratio of imports to GDP. While in the absence of binding restrictions these ratios are affected by the structure of comparative advantage, the over-valuation or under-valuation of national currencies and changes thereof, they will indicate appropriately the impact of restrictions which effectively limit imports.

The measures applied show the United States to be somewhat less restrictive than the European Community, although this may have changed with the subsequent imposition of restrictions on automobiles and steel. Given her smaller domestic market, one would have expected import penetration ratios to be higher in Japan than in the United States or the European Community, but the opposite is the case. The results point to the effects of informal barriers that are of particular importance for Japan, but could not be included in the survey of restrictive measures due to lack of information.

The restrictive effects of the measures taken is even more pronounced as far as Japan's imports from the developing countries are concerned. And while, with Japan moving up the scale of development, one would have expected her manufactured imports from the developing countries to have increased rapidly, this has not been the case.

At the same time, the United States and the European Community share the responsibility for having rendered the MFA more stringent and having created new restrictions on the imports of several commodities from Japan. It is in the self-interest of the developed countries to eliminate these barriers, so as to benefit from the reallocation of resources in accordance with their comparative advantage. More generally, it would be desirable to limit reliance on quantitative import restrictions, while ensuring multilateral surveillance in the form of a safeguards code. Finally, there is a need to reduce tariffs on products of interest to the developing countries that are subject to escalation of tariffs and above-average tariffs.

The proposed liberalisation of international trade could not be accomplished without a new round of multilateral trade negotiations. In fact, in the absence of such negotiations, there is a danger of backsliding towards protectionism. At the same time, involving the developing countries in the negotiations not only would allow the more industrialised of these countries to adopt more rational trade policies but also would strengthen the argument for trade liberalisation in the developed countries and permit attention being given to products of interest to developing countries in the course of the negotiations.

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2. Bela Balassa, 'The Structure of Protection in Industrial Countries and its Effects on the Exports of Processed Goods from Developing Countries', in *The Kennedy Round: Estimated Effects on Tariff Barriers* (New York: United Nations, 1968).

3. The data refer to MFN tariffs and do not take account of tariff preferences under the Generalised System of Preferences (GSP). They differ somewhat from the results reported in *ibid.* because of differences in coverage. While the earlier study defined manufactured products as SITC classes 5 to 8 less 68 (non-ferrous metals), the cited figures pertain to semi-manufactures and finished manufactures as defined by the General Agreement on Tariffs and Trade (GATT).

4. For raw materials, semi-manufactures and finished manufactures taken together, actual tariff reductions were estimated to have been only slightly more than one half, on the average, than reductions in legal tariffs in Japan. See *Twenty Fourth Annual Report of the President on the United States in the Trade Agreements Program* (Washington: US Government Printing Office, 1979) p. 59.

5. Estimates of the effects of Tokyo Round tariff reductions on trade and employment are provided in Alan V. Deardorff and Robert M. Stern, 'A Disaggregated Model of World Production

and Trade: an Estimate of the Impact of the Tokyo Round', *Journal of Policy Modelling*, May 1981, pp. 127-52. For a critique of the methodology used, see Balassa, 'Comment' on Deardorff and Stern, 'The Economic Effects of Complete Elimination of Post-Tokyo Round Tariffs', in William R. Cline (ed.), *Trade Policy in the 1980s* (Washington: Institute for International Economics, 1983).

6. Alternative estimates for industrial products, inclusive of raw materials, are reported in *Twenty Fourth Annual Report of the President of the United States on the Trade Agreements Program*, *op. cit.*, pp. 53-62, and, inclusive of processed food, in Cline, *Exports of Manufactures from Developing Countries: Performance and Market Access* (Washington: Brookings Institution, forthcoming).

7. Jeffrey Nugent, *Economic Integration in Central America: Empirical Investigations* (Baltimore: Johns Hopkins Press, 1974) ch. 2.

8. A more appropriate weighting scheme involving the use of production values has not been used here because of the lack of comparable data.

9. Excluding duty-free items, two thirds of industrial imports from the developing countries, inclusive of raw materials, were classified as GSP items and one third of the total was not subject to ceilings or other limitations, although ceilings will be imposed if certain limits are exceeded. See *The Tokyo Round of Multilateral Trade Negotiations*, Supplementary Report by the Director-General of the GATT (Geneva: GATT Secretariat, 1980) p. 40.

10. See Balassa, 'The "New Protectionism" and the International Economy', *Journal of World Trade Law*, September-October 1978, pp. 409-36, republished in Balassa, *The Newly Industrializing Countries in the World Economy* (New York: Pergamon Press, 1981) pp. 109-26.

11. Restrictions applied earlier to specialty steels and to colour television sets imported from Japan were lifted in 1980.

12. Cline, *op. cit.*

13. Deardorff and Stern, 'A Disaggregated Model of World Production and Trade: an Estimate of the Impact of the Tokyo Round', *loc. cit.*

14. This measure has also been used by Cline, *op. cit.*

15. Peter Morici and Laura L. Megna, *US Economic Policies Affecting Industrial Trade: a Quantitative Assessment* (Washington: National Planning Association, 1983) p. 47.

16. Manufactured imports of the United States in 1982 were \$146 billion. Under the assumption of an average import demand elasticity of 2.14 (*ibid.*, p. 106), quantitative import restrictions with a tariff equivalent of 0.57 per cent would have reduced imports by \$1.8 billion. Assuming linear demand and supply curves, the cost of protection approximately equals one half of the tariff equivalent of quantitative restrictions (0.29 per cent) times the change in imports resulting from the imposition of these restrictions (\$1.8 billion), or \$5 million.

17. Michael C. Munger, 'The Costs of Protectionism', *Challenge*, January-February 1984, p. 56.

18. Morichi and Megna, *op. cit.*, p. 23.

19. *Ibid.*, p. 27.

20. Munger, *loc. cit.*, p. 56.

21. Harry G. Johnson, 'The Cost of Protection and the Scientific Tariff', *Journal of Political Economy*, August 1970.

22. The procedures applied do not, however, permit estimating the welfare costs of the restrictions applied.

23. It should be added, however, that technological changes have improved the competitive position, in particular in the United States, in recent years.

24. If non-tariff measures are not binding, imports will also be affected by tariffs.



'Under all forms of government the ultimate power lies with the masses. It is not kings nor aristocracies, nor landowners nor capitalists, that anywhere really enslave the people. It is their own ignorance'

— Henry George, *Protection or Free Trade* (1886)



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