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## The Increased Use of Trade Controls by the Industrial Countries

by Sheila A. B. Page, London\*

**The increase in non-tariff barriers to trade in the industrial countries has given rise to much concern. This article attempts to summarize the formal non-tariff measures that have been introduced by the industrial countries to measure roughly how much trade is now affected by them<sup>1</sup>.**

Under the definitions and assumptions that are used here, about 40 % of trade by market countries was controlled in 1974; this has now risen to about 46 %. Most trade in non-manufactures was managed in 1974; the rise since then has been small. In manufacture, however, the share has risen from 13 % to 21 %. For imports by the European countries, the changes are from 34 % to 41 % for all goods and from 2 % to 14 % for manufactures. Most new controls have been unilateral, not by international negotiation. Thus, in the five years since 1974 there have been two fundamental changes in the organisation of international trade<sup>2</sup>. In the previous 25 years there had been an almost uninterrupted trend towards liberalisation of trade from quantitative controls and tariffs. There was also an almost universal acceptance that trade and the restrictions on it were subject to international rules; that governments were not free to impose any constraints they wished. (This assumption became so completely accepted that its novelty and importance may not have been fully appreciated.) Unlike the rare temporary departures from the rules before 1973, the protective actions of the last five years are not seen, at least by some countries, as temporary emergency measures, but as part of a long-term programme, needed because the costs of free trade seem to exceed its benefits; no account has been taken of the costs of destroying the system of rules. Although, under the simplifying assumptions made in a later section of this paper, the reduction in the rate of growth of trade that could be directly attributed to the non-tariff measures taken so far is quite small,

between 1/4 % and 1/2 % a year, the long-term effects on industrial structure and productivity of actual and potential controls may be extremely important.

The developing countries in general have always taken a more interventionist approach to domestic economic policy than the majority of the developed (excluding the centrally planned) and they have extended this to trade. Their growing share in world imports increases the proportion that is controlled. But the recent increase in controls has come mainly from the developed countries. These have moved towards more domestic sectoral intervention, particularly in the recession, and this has spread to trade.

Increased control of trade could seem inconsistent with other changes occurring in the international system. Capital movements have continued to achieve greater freedom<sup>3</sup>. The shift to floating exchange rates was also an apparent reduction in government

<sup>1</sup> A fuller discussion of the policies and the measurements is given in S. A. B. Page: *The Management of International Trade*, in: R. L. Major (ed.): *Britain's Trade and Exchange-Rate Policy*, Heinemann Educational Books, 1979. — The approach taken here does not identify the informal measures that can discourage exporters as effectively as legal barriers. These include: domestic legal requirements that may have special effects on traded goods or which may be more severely enforced against them, including price controls or subsidies; patents or licences; government stockpiling; safety, health or technical standards; and complicated procedures or excessive documentation for imports.

<sup>2</sup> 1974 was the turning point. The IMF's 1975 Annual Report on Exchange Restrictions was the first to find more increases in restrictions than decreases; subsequent reports have all emphasised new restrictions. The OECD first pledged to avoid restrictions in 1974. Public recognition, for example by GATT and by surveys of exporters, has come mainly since 1977, and is still limited.

<sup>3</sup> The US government has cited the international trade system as an appropriate example for developing limits on intervention in capital markets.

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intervention but it does mean that governments must now actively choose between intervention and non-intervention, and among types of intervention, rather than observing formal rules with the exceptions (de- or revaluations) clearly signalled. This creates a new policy uncertainty in exchange rate intervention and is part of a reduced willingness to allow economic events to escape political control.

### Types of "Managed" Trade

This study includes any trade flow that is subject to some non-tariff control, by exporter, importer or both, defining this as "managed" trade. The only distinction made is between any control and none. Controls by tariff are excluded, although tariffs set at a prohibitive level are like direct controls. On the basis of 1974 trade figures, the sectors controlled under the restrictions in force in 1974 and under those existing in 1979<sup>4</sup>, were aggregated by importing country and by commodity to measure the share of managed trade in total imports by each country and by commodity. In practice, as the measures were compiled entirely from import data, the only goods that are included because exports are restricted are a few that are controlled by cartels and for the "all goods" measure, but not for manufactures, imports from the centrally planned economies. Export controls by individual countries are omitted. A few goods were included for all countries because the number of countries controlling imports or exports is so great that there is effectively no free market. As none of these is included in manufactures (defined as SITC categories 5-8), the measure of managed trade in manufactures is entirely based on import controls.

No allowance is made for changes in the type or tightness of control; the tightness has almost certainly increased with the number of sectors controlled. A comparison between countries or areas of the share of trade managed may therefore be misleading. In

<sup>4</sup> When the data available were not as disaggregated as the restrictions, the estimate includes none of the partially controlled category.

addition, the more tightly a sector is controlled, the lower is its weight. This was the reason that 1974 trade weights were used to measure post-1974 controls, but there is no measure of the trade covered by restrictions in 1974 that was already "lost" and the implicit assumption that shares would have been constant in the absence of control is extremely unrealistic as actual or anticipated fast growth may explain the imposition of controls. In most cases the assumptions are more likely to have underestimated the extent of control than the reverse. In some industries, the recent spread of regulation from one product to another may have caused suppliers to expect that any product which grows rapidly will be restricted, thus restraining in addition exports of products that are related to those controlled. Only textile and clothing imports from developing countries and steel imports are assumed here to be effectively entirely controlled for this reason.

Many countries have switched from one type of measure to another, to increase effectiveness or to stay within the letter of GATT or other international rules, or have used the threat of one to enforce on an exporter an alternative that may be simpler to introduce or to administer, so that the type does not give a reliable indication of the tightness of control. Listing as many types that have been used as possible indicates their range.

International cartels to promote the interests of dominant producers include commodity funds and agreements such as OPEC, as well as some agricultural policies of the developed countries. The international control which is increasing most rapidly is the market sharing agreement, including protection for the textile, steel and shipbuilding industries in the developed countries. Unlike traditional cartels, these are implemented using general economic dominance rather than through industrial power as they are designed to help declining or weak producers. They are, however, like cartels in that they are basically unilateral measures which importers impose on

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exporters. Agreements between consumers and producers, although much discussed, for example for commodities, are rare.

National controls on trade include quotas; anti-dumping duties; licences, certificates of origin or other administrative controls; price controls; "voluntary" export limits imposed on suppliers; and restrictions on purchases of imports by the government or by industries owned or assisted by it. These reject entirely the international approach to trade regulation as well as liberalisation. Informal pressure and agreements may attract less opposition if they are less obvious to those in the importing country who bear their costs. This may also be true of national measures as opposed to international ones.

The data did not permit direct calculation of differences between the share of "managed" trade in trade among developed countries and its share in trade between developed and developing countries. As an approximation, the commodities for which at

least 60 % of trade is "managed" were identified and calculations were done on the assumption that all trade in these "mainly managed" commodities and no trade in other commodities is managed.

### Measurement of Managed Trade

The goods controlled most often by all importers have been first food, then textiles and clothing, and most recently steel. The EEC as a group and its members use almost all the standard types of trade restrictions (Table 1). The most important commodities that have been controlled are food, steel, textiles and clothing, ships and aircraft, and fuels. The controls of the other European developed countries have in general been on similar products but some of the poorer countries and the primary producers have had much more extensive controls. The United States' and Canadian controls include food, steel textiles and clothing, and fuels. Although Japan has used a variety of trade controls, characteristics of the domestic market and distribution system are probably the most effective restraints on manufactured imports. The effectiveness of "encouragement" to exporters and importers to follow government policy is far stronger than equivalent pressure in other industrial countries so that it would be possible to argue that all Japanese trade is "managed". It is clear that the estimates of levels here, based only on known measures, are too low, but Japanese protection has probably not increased significantly in recent years; the measurements of the change may not be as low.

Several of the poorer oil producers, now including Nigeria, control all their imports. Some Middle Eastern countries, including Saudi Arabia, have no import controls. The rest normally control at least some food, with the more advanced restricting some textiles, often steel, and chemicals and some other machinery and cars. Many other developing countries control all their imports; the tightness may vary among different types of goods at different times according to the state of the balance of payments and reserves. Existing regulations may have been enforced more strongly in the last few years; there has been little change in average measured controls, although there are many individual changes.

Table 2 gives the proportions of "managed" trade in 1974 and at end 1978 or in early 1979. As the 1974 composition of trade is used for both, increases in proportions represent only increases in the number of items controlled, not changes in the share of individual goods.

**Table 1**  
**Non-Tariff Measures Used in 1979**

	A	B	C	D	E	F	G	H	I	J
Belgium/Luxemburg					X					X
Denmark										X
France		X		X				X	X	
Germany				X						
Ireland		X	X							
Italy				X						
Netherlands				X						X
United Kingdom				X	X	X		X	X	X
EEC jointly			X	X	X	X	X	X		X
EEC (8 countries)	0	2	8	8	8	8	8	8	2	8
Australia				X	X					X
Austria		X		X	X	X	X			
Canada				X				X		X
Finland		X		X	X	X				X
Greece	X		X							
Iceland				X	X					
Japan		X			X				X	X
Norway		X		X						
Portugal				X						
Spain		X		X						
Sweden				X						
Switzerland				X						
Turkey	X									X
United States			X	X		X	X		X	X
Other OECD (14)	2	5	2	11	5	3	2	1	2	6
OECD (22)	2	7	10	19	13	11	10	9	4	14
Other developed (3)	0	0	0	2	3	0	0	0	0	1
Oil exporters (15)	5	5	5	2	7	0	0	0	0	15
Non-oil developing (82)	18	28	27	15	27	4	0	0	6	49
World (122)	25	40	42	38	50	15	10	9	10	79

A National plan or import programme F Agreements with exporter

B State trading G Minimum prices

C Prohibition of some products H Supervision

D Quotas I Public procurement policies

E Licensing J Export controls

S o u r c e : Compiled from IMF, Annual Report on Exchange Restrictions; EEC, UK, US Press Releases, press reports.

**Table 2**  
**Managed<sup>1</sup> Trade by Country**  
(percentages of 1974 trade)

	All goods		Manufactures	
	1974	1979	1974	1979
Belgium/Luxemburg	27.5	32.9	0.7	8.3
Denmark	29.5	40.5	0	17.5
France	32.8	41.7	0	14.5
Germany	37.3	46.0	0	15.9
Ireland	26.8	32.2	1.5	8.9
Italy	44.1	51.9	0	15.2
Netherlands	32.5	39.0	0	12.8
United Kingdom	38.5	45.2	0.2	12.8
EEC (8)	35.8	43.4	0.1	13.7
Australia	17.9	34.5	7.8	29.6
Austria	20.8	30.3	0	13.1
Canada	22.4	18.3	11.4	5.8
Finland	32.9	33.6	3.1	3.5
Greece	100	100	100	100
Iceland	20.6	31.2	1.3	15.7
Japan	51.4	54.7	0	4.1
Norway	16.3	33.7	0	24.6
Portugal	25.5	27.5	10.5	11.7
Spain	32.2	36.8	0	4.1
Sweden	24.7	30.1	3.1	10.5
Switzerland	16.9	18.3	2.1	3.4
Turkey	100	100	100	100
United States	36.2	44.3	5.6	18.3
European Countries (16)	34.2	41.4	1.8	13.8
OECD (22)	35.8	42.3	4.0	14.6
Other developed (3)	97.5	97.9	97.7	97.8
Oil exporters (15)	54.0	63.4	45.8	57.1
Non-oil developing (81)	49.8	48.9	24.9	23.1
World (122)	40.3	45.7	12.9	21.3

<sup>1</sup> As defined on p. 145. The commodities included in the "all goods" figures for all countries were, for 1974 and 1979: petroleum (20% of world trade in 1974), meat, dairy products, sugar and coffee (about 1% each), and alcoholic beverages, crude rubber and iron ore (about 1/2% each); for 1979 only: synthetic fibres, iron and steel scrap, and natural gas (all about 1/2%). All imports from the centrally planned economies are included in the measure for "all goods" but only those subject to import controls in the measure for manufactures.

Source: Calculated using information on controls from: IMF, Direction of Trade, International Financial Statistics, Annual Report on Exchange Restrictions, press releases, press reports; UN, Yearbook of International Trade Statistics; OECD, Foreign Trade Statistics, Series B.

For all goods, the increase in managed imports for European countries was slightly greater than the average, but the level remains slightly below the average. Among EEC countries, there were no large differences in the changes because most of the measurable trade policies were concerted: some that had had individual restrictions in 1974 (such as Belgium and the Netherlands against Japan) had rather smaller than average increases. The differences in levels mainly reflect differences in the composition of trade (including differences in trade with the centrally planned economies). The figures for "managed" trade in manufactures show the largest change for any group (from almost zero to 14 %).

The United States raises the average for the rest of the OECD to about the same as that for the EEC (in

both periods), with most of the other European countries, Australia and Canada rather lower. Only for Japan is the share over a half, because of its high share of primary goods. The increase for the oil producers was about the same as that for the OECD countries; it is explained mainly by increased control by Nigeria and Libya.

Trade between industrial countries and developing countries has always been more controlled than trade among the industrial countries, because of both sides' controls on primary trade and developing countries' controls on imports; the new restrictions have greatly extended the controls on developing countries' exports of manufactures. For industrial countries, markets in other industrial countries are more controlled than in 1974, but the proportion of their manufactured exports that is managed is still much lower than that for the developing countries, and the higher share of manufactures in their total exports reduces the total share of "managed" trade in their exports.

In Tables 3 and 4 the share of "mainly managed" goods is presented for the main inter-regional flows. Comparing Table 3 to Table 2 for OECD and EEC imports permits assessment of how well the approximation to "managed" trade holds. The approximation holds quite well, although the

**Table 3**  
**Shares of "Mainly Managed"<sup>1</sup>**  
**Goods in OECD and EEC Trade**  
(percentages of totals)

	All goods		Manufactures
	1974	1979	1979
OECD imports			
Total	34	41	13
From OECD	15	24	11
From developing countries	54	62	30 <sup>a</sup>
OECD exports			
Total	17	28	15
To OECD	13	23	12
To developing countries	12	30	21
To Middle East	10	25	
EEC imports			
Total	34	41	12
From EEC	17	27	11
From other OECD	14	20	
From developing countries	55	63	34 <sup>a</sup>
EEC exports			
Total	17	27	12
To EEC	17	27	11
To other OECD	10	19	
To developing countries	10	22	19
To Middle East	7	19	

<sup>1</sup> As defined on p. 146. The figures for total EEC and OECD imports are thus approximations to the corresponding figures in Table 2.

<sup>a</sup> Includes Middle East.

Source: Calculated using the information and data compiled for Table 2.

proportions are slightly lower. Using GATT data (Table 4), the proportions for the slightly different category of "industrial countries" are higher although the size of the change is about the same. The correspondence was poor, however, for the oil exporting countries, and for the other developing countries, because the method does not allow for countries that control all trade, and because the "mainly managed" commodities were identified on the basis of total world trade, which gives most weight to the restrictions of the industrial countries.

**Table 4**  
**Shares of "Mainly Managed"<sup>1</sup> Goods in World Trade in Manufactures, 1979 Restrictions**  
(percentages of 1974 trade)

	Industrial areas		Non-oil developing countries	
	Total	From(to) industrial	From(to) non-oil developing	Total
Imports	15	14	30	17
Exports	16	14	18	22

<sup>1</sup> As defined on p. 146.

Source: Calculated including the same commodities as in Table 3 from data in GATT, Networks of World Trade 1955-1976, 1978, International Trade, 1977/78, 1978.

For the OECD countries, the discrimination against imports from the developing countries is clear: only 24 % (15 % in 1974) of imports from other OECD countries are controlled, compared with 62 % (formerly 54 %) from the non-oil developing countries; for manufactures the figures are 11 % and 30 % because of the controls on textiles and clothing. Less than a third of all OECD exports and only 15 % of their manufactured exports are managed. For the EEC countries, except for a high figure for intra-EEC trade, where iron and steel trade is important, the results are similar to those for all OECD countries. For exports, the pattern is also similar, except that an even lower proportion of exports to the developing countries is managed. Manufactures are a higher proportion of EEC exports, but the share of these that is managed is slightly lower. "Industrial countries" (Table 4) also clearly show discrimination against the developing countries.

### Non-manufactures

Non-manufactures have always been and remain the main field for trade controls. Table 5 indicates the percentage of trade managed for those commodities for which it was more than 30 % in 1979. These are in addition to the primary goods treated as always managed. Most foods are in one of these two groups, and the extent of controls in agricultural markets is sufficient to require any countries not already

intervening for domestic reasons to do so to offset subsidies and price controls by others. Intervention in agriculture can be explained in part by concern for the income of both farmers and the poor, who spend a high proportion of their income on food (but well-established pressure groups are also important). It has been accepted even in generally non-intervening countries, such as Germany and the United States.

Some primary goods such as alcohol, tobacco and salt fall among governments' traditional monopolies. A combination of government ownership and concern for national security has led to controls on fuels, first coal, more recently oil and gas. The industrial countries, particularly the United States, have always controlled some trade for national security reasons, both on a narrow military definition and on a more general one, of immunity to economic actions abroad; all the national energy programmes now explicitly include the goal of reducing reliance on imports to ensure security of supply, in addition to cost and balance of payments objectives. In a modern economy this type of argument could be extended to almost any product because of the interdependence of production, but it is not clear why foreign suppliers, of which there may be many, should be considered necessarily less secure for a non-military commodity than one or a limited number of domestic suppliers. Although energy policies have

**Table 5**  
**Commodities Found to be Controlled by Importers**  
(Shares more than 30% in 1979)

	Share of commodity in 1974 world trade (in %)	Share of trade in commodity controlled in (in %)		Commodities controlled (A = in 1974 B = in 1979) by		
		1974	1979	EEC	USA	Japan
Live animals	0.3	64	64	AB		
Fish	0.8	30	31	AB		
Cereals		76	76	AB	(A)	AB
Fruit and vegetables	1.7	70	78	AB	(AB)	
Confectionery	0.1	43	43	AB		
Cocoa	0.3	56	56	AB		
Chocolate	0.1	62	62	AB		
Tea	0.1	66	64	AB		
Animal feeding stuffs	0.6	69	69	AB		
Miscellaneous food	0.2	49	48	AB		
Non-alcoholic beverages	0.0	57	58	AB		
Silk fibres	0.0	6	71			B
Textiles	3.4	21	35	(A)B	AB	
Lime, cement, etc.	0.2	32	35			
Iron and steel	3.8	16	66	B	B	
Aircraft	0.8	12	83	B	B	B
Ships	0.7	18	82	B	B	B
Clothing	1.9	20	48	B	(A)B	
Footwear	0.5	1	32	(B)	(B)	
Travel		24	21	(A)B		AB

(-) part of category.

Source: Calculated using data and information compiled for Table 2; data for travel from: IMF, Balance of Payments Yearbook.

not been notably successful so far, the political pressure for them and plans for building stocks of both fuels and other primary commodities indicate that continued pressure for controls on non-food primary imports by the industrial countries is probable, while there is little sign that relaxation is likely on the traditional, agricultural products. Economic protection has also been behind these controls: the strongest pressure for limiting (or at least taxing heavily) oil and coal imports into the EEC comes from the member with its own high cost oil and coal production.

### **Manufactures**

The main increase in "managed" trade in manufactures is in iron and steel. Almost half clothing imports are now controlled, with the proportion much higher for developing country suppliers. For textiles the proportion is over 60 % for imports from developing countries and now exceeds a third even for the total. Much of this type of intervention, like intervention in primary markets, has arisen out of national policies for particular sectors, including direct government ownership, as in post offices and telecommunications, transport equipment and steel. Public ownership has led to controls not only on imports of competing products but also on inputs. Intervention to promote sectoral policies is likely to increase as governments accept more responsibilities, for example in health, environment and regional policies. Direct public ownership may not rise, but government financial aid to private industries may do and this often implies restrictions on purchasing policies. Some sectoral intervention has been for more traditional reasons, such as employment protection. (The difficulties for policy makers of the contrast between the concentration of unemployment and financial loss from changes in trade patterns and the dispersion of the cost-reducing and choice-increasing benefits do not need restating.) This has clearly been the most important motive for protection in the textile and clothing industries of the developed countries, and an important additional consideration in steel and ships.

There have, however, particularly in the United Kingdom, been efforts to explain this type of protection other than by the power of well-organised pressure groups. The welfare objective that is suggested is "stability", which takes various meanings. In the sense of avoidance of external shocks to a planned sectoral or national development, it is close to security of supply arguments for controls on primary trade. It is then extended to include protection from external "risks" to domestic producers of price competition. (In terms of

traditional economic objectives the advantages of stability for producers of primary commodities or of declining manufactures and for planners, would have to be weighed against the cost of slower switching to new, more efficient producers of existing commodities or to new products for the new producers and for consumers.) There is some evidence in the United Kingdom of an even more general meaning, that it is more important to preserve existing incomes and therefore employment than to increase total income; or, a slightly weaker form, that the cost of a loss of a job or reduction in income is greater than the benefit from the gain of a job or equal increase in income. The rational or moral basis for such a principle is not clear.

### **Move Towards Protection and International Intervention**

This type of argument could retard change under any economic conditions and lead to continuing acceptance of protection for declining industries, but, like more traditional pressure for protecting damaged producers, is likely to be strongest in a recession. People feel more threatened by change when the normal level or rate of growth of their income is reduced; it is only when incomes are secure and rising that they will accept risks and uncertainties. The major move towards protection has come in the recent period of general recession, and has been most pronounced in countries like the United Kingdom with low income and a serious recession and least in Germany and the United States with higher income and shorter recessions. A bias against change related to past low levels and slow growth of income may, in turn, have reduced resistance to pressure groups in some countries. Another reason related to resistance to change which could lead to permanent higher levels of protection even when the recession ends is that each time a government intervenes this may be taken to commit it to maintain the sector or group in its relative or absolute position. Increased protection would thus steadily reduce the range of acceptable changes. Support for agriculture in the EEC can now be partly explained in this way (this is also a sector in which several countries accept individuals' resistance to changing jobs more readily than they do in industry or services).

National motives for intervention are clearly sufficient to explain the move toward protection in recent years. The same type of reason that leads to intervention in domestic economies, that market results may threaten political or social objectives that are considered more fundamental, could apply equally

between countries, and justify international intervention in trade. There has been some movement in this direction, but the effects so far have been negligible. In the early 1970s, interventionist arguments began to be used in international negotiations, but there has been no acceptance by the developed countries of the redistributive arguments put by the developing, for example in negotiations on aid, commodity price stabilisation, or international reserves, and national measures have discriminated against the poorer countries. Efforts within the EEC to tie import controls on steel, textiles and oil refining (and in the OECD on shipbuilding) to international plans have had little success indicating that the interests being protected are seen as purely national.

### Measurement of the Direct Effects of Protection on Imports

The association of increasing protection by the developed countries with slower growth of imports in the last five years makes it tempting to suggest some

relationship. The main reduction in imports is explained by lower output growth but most countries have also had a reduction in the elasticity of imports to GDP. Table 6 gives calculations of the growth rates of imports relative to GDP before and after 1973. These ignore both other forms of the relationship between imports and output, for example to the rate or composition of output growth, and all other factors influencing imports, for example relative prices.

The data on the extent of protection in Table 2 are not in a proper form to calculate the effect on imports because they do not measure the tightness of control; it would be necessary to know both the growth permitted under the control and the growth that would have occurred in its absence. The only result that can be offered here with any certainty is the obvious one, that the effect is small, particularly compared to the total changes in import elasticity of recent years and to changes in the growth rates of output. The calculations reported in Table 6 should be considered little more than illustrations of this, with methods and

Table 6

### Effect of Protection on Import Elasticities:<sup>1</sup> Comparison of Changes in Import Controls and Changes in Import/GDP Relationships

	Import growth rate per annum		Ratio of import growth to GDP growth			Reduction in import growth given GDP rate in:		Share of manufactures in total imports		
	1960-73	1973-78 (percentages)	1960-73	1973-78	Re-calculated for 1960-73 with new controls	1960-73	1973-78	1960	1973	1978
								(percentages)		
Austria	10	5	2.1	1.8	2.0	-0.5	-0.3	65 <sup>a</sup>	75	76 <sup>b</sup>
Belgium	11	3	2.1	1.6	2.0	-0.3	-0.1	56	68	67
Denmark	8	1	1.7	0.5	1.7	-0.4	-0.1	62	72	67
Finland	8	-2	1.4		.. <sup>c</sup>	..	..	71 <sup>d</sup>	72	64 <sup>b</sup>
France	11	4	2.1	1.5	2.0	-0.5	-0.3	38	65	60
Germany	10	4	2.1	2.2	2.0	-0.4	-0.2	44	58	59
Ireland	9	6	2.1	1.6	2.0	-0.3	-0.2	53	69	72
Italy	10	1	2.2	0.4	2.2	-0.4	-0.2	40	49	46
Netherlands	9	3	1.8	1.1	1.8	-0.3	-0.1	57	63	62
Norway	8	3	1.7	0.6	1.6	-0.6	-0.6	68	76	74 <sup>b</sup>
Spain	18	1	2.4	0.2	2.3	-0.4	-0.2	42 <sup>a</sup>	56	..
Sweden	7	2	1.7	1.8	1.6	-0.2	-0.1	65	74	70 <sup>b</sup>
Switzerland	9	2	2.0		.. <sup>c</sup>	..	..	65	75	..
United Kingdom	6	2	1.9	2.3	1.9	-0.2	-0.1	32	56	64
European countries	10	3	2.1	1.2	2.0	-0.4	-0.2	47	62	
Canada	9	3	1.7	0.9	.. <sup>c</sup>	..	..	70 <sup>a</sup>	80	79 <sup>b</sup>
United States	9	5	2.2	2.0	2.1	-0.4	-0.2	43	65	58
Japan	14	0	1.4	0.1	1.4	..	0	26 <sup>d</sup>	30	25
OECD	9	3	1.8	1.3	1.8	-0.3	-0.1		61	

<sup>1</sup> For explanation of method see p. 150f.

<sup>a</sup> 1961.

<sup>b</sup> Includes SITC 9.

<sup>c</sup> No change, or reduction, in control.

<sup>d</sup> 1962.

Source: Calculated from data in: OECD, National Accounts Bulletin; Main Economic Indicators; Statistics of Foreign Trade, Series A, B; IMF, International Financial Statistics; UN, Yearbook of International Trade Statistics, Monthly Bulletin of Statistics; EEC, Monthly External Trade Bulletin; Highlights of U.S. Export and Import Trade; Monthly Statistics of Japan; UK, Monthly Review of External Trade Statistics.



assumptions chosen to estimate the maximum possible effect.

Although disaggregating trade at least into manufactures and non-manufactures is an essential first step for a proper analysis because both the elasticities and the changes in controls are greater than for primary goods, lack of time and data made this impossible for all countries. It was done only for all industrial countries and for the United Kingdom. It was assumed that the industrial countries' volume of manufactured imports rose at the same rate from 1960 to 1973 as the UN index for exports of manufactures, and that manufactures were on average 55 % of their imports (the actual figure was 51 % in 1963 and 62 % in 1973<sup>5</sup>). An average annual growth rate of 9.6 % for manufactures, given a GDP growth rate of 5 %, implies an import/GDP elasticity of about 1.9. It was assumed that the elasticity for primary goods, which included any effect of existing controls, would remain unchanged as almost no further controls have been introduced on these products, and that manufactures not "managed" would continue to have the same elasticity as all manufactures before the introduction of controls (i. e. that those goods controlled did not have on average a higher or lower elasticity than normal; no evidence on this was studied). The most extreme case of controls was chosen to be a constant share of the market, an elasticity of 1. The maximum change in the average import elasticity for manufactures would therefore be the change in the share of imports managed multiplied by the difference between the former elasticity and 1; the effect on the average elasticity of imports, this number multiplied by the share of manufactures in total imports.

The effect for imports of the industrial countries, using the maximum increase in share of managed manufactures, the change from 0 to 14 % of the EEC countries, is a reduction in the elasticity of imports of manufactures from 1.9 to 1.8 and for all goods from 1.8 to 1.7, i. e. imports under the post-1979 controls could, all other things being equal, be expected to grow more slowly, by about one-tenth of the GDP growth rate. For pre-1973 growth rates of about 5 % per annum, this represents a reduction of  $\frac{1}{2}$  % in import growth; for post-1973 growth rates,  $\frac{1}{4}$  %. If the same calculation is done without separating manufactures and primary goods, using the UN index for all imports by industrial countries and assuming that the newly managed goods had the same elasticity as the average for all

imports before 1973, although 40 % of the latter were primary goods, and a third managed, the reduction in elasticity is slightly less, as it is only the increase in share controlled times the total elasticity (1.8) minus 1. Obviously, the greater the difference between the average and manufactures' elasticity, (and, closely related to this, the greater the change in the share of manufactures between the estimation period and the present) the more important it is to make the division.

The United Kingdom illustrates this. (The period 1963-73 instead of 1960-73 was used as the base because of the availability of consistent data.) GDP grew 3 % per annum, all imports grew 6.6 %, giving an elasticity of 2.2; manufactures 11.5 %, an elasticity of 3.9; non-manufactures 2.9 %, an elasticity close to 1. This increased the share of manufactures from 34 % to 56 %, so that at the end of the period, the average import elasticity weighted by the final shares would have been 2.5. Disaggregating imports into manufactures and non-manufactures, and using the same assumptions as for all imports gives a change in elasticity to 2.3, a reduction of 0.2, while using the all goods average gives a change of 0.1. The effect on the growth rate of imports is not much greater than the average because of the lower growth rate of GDP. (It would be 0.6 percentage points off the growth rate at pre-1973 GDP growth, 0.2 of the recent average.)

For short-term forecasting, or even for medium-term periods of about 5 years, the rough and preliminary measurements reported here indicate that it is not yet necessary to take the level of controls into account. If it continues to increase at the present rate, however, (on the maximum calculations here, reducing the average annual growth rate of imports by the industrial countries by  $\frac{1}{2}$  % a year every five years) it could become significant, but as has been indicated above, further large increases in control seem unlikely in most commodities, and the effects of the existing controls are unlikely to imply a reduction in elasticity as far as to 1. The most important effects are likely to be long-term ones on the structure of industry, on new investment and on supplies, and studies at the industrial or sector level are more likely to reveal effects than modelling of import functions. Nevertheless, the increase in protection and its extension to manufactures should remind trade forecasters that it is a simplification to analyse and forecast trade on the basis of purely economic variables. Analysis should distinguish between those flows that can vary freely with influences such as income and relative prices from those determined more or less exogenously by policy.

<sup>5</sup> GATT, Networks of World Trade 1955-76, 1978.