

Trade in forest products: a study of the barriers faced by the developing countries

by

I.J. Bourke

FAO André Research Fellow
Forest Research Institute
Rotorua, New Zealand

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TRADE IN FOREST PRODUCTS:

A STUDY OF THE BARRIERS FACED BY DEVELOPING COUNTRIES

FOREWORD


After several years of debate and empirical research, contemporary economic thinking now generally accepts the concept that export-oriented development strategies - as opposed to protectionist, import substitution policies - produce better results in terms of overall economic growth. This has created a renewed interest in developing countries for the study of forces governing the international market.

International trade exerts a powerful influence on the forest-based sector of developing countries. Most of these must depend on imports to satisfy an often substantial part of their needs of industrialized forest products. At the same time, many possess vast forest resources which can be used to expand production for the export market and therefore increase the availability of the foreign exchange needed to stimulate economic growth. Fluctuations in the international market can have a profound impact on the structure of production in developing countries.

A wide variety of factors affects the intensity, direction and composition of international trade. Among them protectionism is a major force. However, very little research has been done in the forestry development field to understand the influence of the various protectionist measures on the structures of production in developing countries. This notwithstanding, it is known that trade barriers impose a proportionally greater burden on those exporters who operate enterprises of a relatively smaller size, as they have a more limited capacity to adapt to the demanding and rapidly changing conditions of the international market. Many of these exporters are located in the forest-based sector of developing countries.

The present report explores some of the main issues associated with trade protectionism in forest products and its effects on developing countries. The document describes the importance of trade as a major influence moulding the shape of the forest-based sector of these countries, the nature and magnitude of trade barriers affecting forestry products, the efforts undertaken in the past - and planned for the future - aimed at reducing trade barriers and the policy measures which countries could consider adopting in order to reduce the impact of protectionism. While most of the data collected and the analyses carried out in the course of this research related to the Asia-Pacific region, the same forces, even if operating with different intensity, are also present in Africa and Latin America. The report is a pioneering effort in a field that has received little systematic attention in the past and it is hoped that its findings will stimulate further analysis of this most important issue.

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M.A. Flores Rodas
Assistant Director-General
Forestry Department

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LIST OF ABBREVIATIONS

ASEAN	Association of South East Asian Nations
CIF	Cost, Insurance and Freight
EEC	European Economic Community
EFTA	European Free Trade Area
FAO	Food and Agriculture Organisation of the United Nations
FOB	Free On Board
GATT	General Agreement on Tariffs and Trade
GSP	Generalised System of Preferences
IMF	International Monetary Fund
LDCs	Less developed countries
m ³	cubic metres
MFN	Most Favoured Nation
MTN	Multilateral Trade Negotiations
NTBs	Non-tariff barriers
NICs	Newly industrialised countries
NTMs	Non-tariff measures
SEALPA	South East Asian Log Producers Association
UNCTAD	United Nations Conference on Trade and Development
UNIDO	United Nations Industrial Development Organisation
VERs	Voluntary export restraints

UNLESS STATED OTHERWISE ALL VALUES QUOTED ARE IN US DOLLARS.

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Ian J. Bourke

SUMMARY AND CONCLUSIONS

Main Findings

1. Trade barriers affect trade by placing impediments in the way of free trade. The barriers reduce volumes below levels that would otherwise occur, and influence the pattern of trade. Reduced barriers would therefore stimulate additional trade, change the pattern, and alter the products traded. It is therefore worth ensuring that these barriers are reduced, or at the very least do not increase.
2. Since unprocessed products such as logs and rough-sawn timber already have zero or low tariff levels in most markets, and face few non-tariff barriers, reducing barriers on forest products implies a reduction in rates on more processed products. This in turn implies a reduction in tariff escalation, a practice which discriminates against more highly processed products.
3. Stimulation of demand for more processed products has the potential to encourage greater industrialization in the developing countries. If effective, this would provide the associated benefits of increased foreign exchange earnings, employment, value-added, diversification of the economy, regional development, and the development of processing, management and marketing skills. These benefits would not be limited to the forestry sector, but would have flow-on benefits.
4. Tariff rates on forest products are generally relatively low. For a number of products in specific developed country markets, however they are still relatively high. While the situation varies considerably, the main products affected are plywood, some size and species of sawnwood, reconstituted panels and some wood manufactures. Additionally, some paper and paper products have moderately high rates.
5. Tariff rates will continue to decline on many products up to 1987 as agreements made in the MTN are fulfilled. For many of the products mentioned above though, only limited reductions were agreed to.
6. Developing countries receive a number of preferences which reduce the impact of tariffs. In many cases the rates they face reduce to zero through these preferences. The most important and extensive preference system is the GSP scheme. Although of considerable importance to the developing countries, for many of the products of special importance to them, the GSP is restricted by a range of exclusions or non-tariff barriers. Tariff quotas, exclusion of some suppliers, value restrictions and market share limitations restrict these products in a number of developed countries.
7. In addition to placing limitations on GSP schemes NTBs restrict or frustrate export activities. A range exist, and in many cases tariffs and a number of NTBs apply to the same product. Although individually many of these trade barriers are not of major significance in forest products trade, collectively (barrier stacking) they can create extreme difficulty.

8. NTBs range from those which are used specifically to restrict trade, such as quantitative restrictions, to those which have other primary aims but which (either intentionally or unintentionally) also restrict trade. Quantitative restrictions are not widespread, but where present have a more certain and therefore more direct effect than most other barriers.

9. Health, safety and technical standards are common and can have important trade limiting effects for forest products. Safety and technical standards are of special importance. Because many developing countries have limited testing and quality control facilities, less extensive research backup, and often less experience in marketing their products, they find such requirements much greater impediments than do most developed country exporters.

10. Anti-dumping and countervailing duty investigations are becoming more common for forest products although to date they have had only limited impact on most developing countries. There is evidence to suggest that they may become more of a problem in the future unless market conditions improve dramatically.

11. Import licensing schemes apply in most markets. While it seems likely that in some instances they are used to control imports it is difficult to provide any clear evidence. This situation also applies to customs entry procedures.

12. Most other NTBs are currently of relatively minor significance to forest products trade, although difficulties exist in exporters being fully aware of what requirements they must meet. The developing countries find it more difficult to keep up with changing regulations and requirements than do developed countries.

13. Perhaps the most difficult measures to evaluate are subsidies, export assistance grants, regional encouragement assistance, and various direct and indirect tax benefits. Usually they are not classified as NTBs because of the difficulty of identifying them, determining how they are used and establishing how they affect imports. In most situations they are not necessarily provided with trade control in mind, but indirectly they can have a substantial impact. Further difficulty arises because the measures are rarely directly related to forest products. For example, regional agricultural subsidies which subsidise land clearing can encourage logging.

14. Export restrictions imposed by the major forest-rich developing countries are currently having a major impact on trade especially in the Asian region. Export taxes, and log export controls and bans are being used by many developing countries to 'force' a greater degree of processing to be carried out in their own countries.

15. There is considerable variability in the degree of commitment made to these controls in the Asian region, with Indonesia and West Malaysia having a strong commitment, the Philippines being forced by economic difficulties to continually modify their position, and Sarawak and Papua New Guinea encouraging log exports. Sabah follows somewhat of a middle ground, dictated by the importance of log exports to its economy and a limited processing sector.

16. Part of the rationale and justification given for these export barriers is that they compensate for the barriers imposed by the importing countries, and consequently ensure that those countries with a comparative advantage are not excluded from the markets.

17. These export restrictions are placing considerable pressure on Japan, Republic of Korea, the Taiwan Province of the People's Republic of China and Singapore, all of which have built up significant plywood, furniture and wood manufacturing industries heavily dependent on imported tropical hardwoods. These countries are seeking alternative supply sources, including the option of substituting softwood logs, moving towards other processing activities (such as panels and manufactures with lower production tolerances or higher quality finishes), and in some cases (such as Republic of Korea) increasing their own import tariffs to limit imports. Despite these moves there is evidence that many firms are ceasing operation, running at well below capacity, or moving their activities to the log producing countries.

18. Although Indonesia, Malaysia and the Philippines appear to currently have a cost advantage in more processed forest products it is not clear that they have a clear comparative advantage in these products. Lower productivity, less skill in production and marketing, poor infrastructure, high cost shipping services, poor quality control, and limited capital resources are some of the problems that must be overcome. Present cost advantages are strongly influenced by differential log pricing systems which provide domestic processors with logs at a considerable discount over foreign log buyers.

19. Any reduction in trade barriers in importing countries will enhance the ability of developing countries to compete on export markets. It will not however, guarantee a place in the market since the supplying countries must be able to meet market requirements regarding quality, technical performance, regularity of supply, etc. Without serious efforts to provide these product and marketing requirements they will depend on log export controls to 'force' a position in the market.

20. Trade barriers are only one factor in enhancing the competitiveness of the developing countries. Improvement in a number of other areas is also required. In many cases these would provide a greater contribution to industrialisation and increased commercial success than the reduction of trade barriers. Improved freight services, including lower freight rates, development of managerial and marketing skills, evaluation of market potential and requirements, and improved processing capability, including plant productivity, are areas where increased effort is needed.

Action

21. Positive steps must be taken if the impact of import trade barriers is to be reduced. It is not sufficient to leave any improvement to the goodwill of the countries concerned, since there is little evidence to suggest that major changes will take place unless either clear benefits exist for the importing countries or concession are forced on them.

22. There should be continued effort, to reduce tariffs, through international, regional and bilateral negotiations.
23. Increasing attention must be paid to increasing the visibility of non-tariff barriers, and to ensuring they do not become more prevalent. Visibility would be increased if existing non-tariff inventories were extended, the information made more current, extensive, and freely available. This would assist in encouraging greater restraint in the use of NTBs.
24. Continued efforts to establish agreement on what measures constitute barriers, and to provide 'ground-rules' for their use, should take place.
25. International and regional agencies, governments, and research organizations should undertake trade policy research which evaluates the impacts of barriers and considers alternative strategies relating to trade barriers in a variety of countries. Only limited work on forest products has been carried out to date - this should be increased, and should consider both broad product groupings and isolate the issues affecting individual product categories.
26. Studies which consider the more restricted interests of specific countries and particular products would be especially valuable in highlighting the situation facing individual countries and identifying their varying circumstances.
27. The developing countries should press for improved conditions surrounding the GSP scheme. Moves such as extension of the products covered, removal of restrictions limiting the schemes, and improvements to the means of allocating quotas between exporting countries would greatly enhance the schemes. In particular, improved treatment of plywood would assist greatly.
28. A number of procedures would assist the developing countries to avoid facing some of the current barriers, or make it easier for them to meet requirements. For example, the provision of information regarding import requirements and procedures, product standards, and usage requirements would be of great value.
29. Expanded research and product testing, together with regional cooperative efforts to implement harmonised grading rules and manufacturing standards, would ease current difficulties in these areas. In particular, efforts should be increased for lesser-known species.
30. Developing countries should place increased emphasis on the development of their domestic markets for forest products. This would enable processing, marketing and management skills to be improved before moving into export markets.
31. Improvement in a number of additional areas is important to the effective development of forest products exports. Although these are not directly linked to the formal trade barriers discussed in this report, their improvement would indirectly reduce the relative importance of the

barriers. The reduction of costs and/or improved ability to meet market requirements will reduce the relative importance of trade barriers by making exports easier and more profitable. Areas of importance are sea freight rates, processing expertise, product development, marketing and management skills.

INTRODUCTION

1. Background

International trade in forest products, as with that in most other products, is controlled and regulated by various trade measures. These may be designed specifically to regulate international trade, or they may do so indirectly. Equally, their nature and significance may vary, both between individual products and also markets. A wide array exist and their impacts and consequences vary considerably, as does the effectiveness in achieving their goals.

There are tariff and non tariff measures which are used by importing and exporting countries for a variety of purposes. Importing countries restrict or prohibit imports in order to protect existing domestic producers of identical or similar products; encourage the development of a domestic industry where none exists; reduce the drain on limited foreign exchange reserves; raise revenue; move towards domestic self-sufficiency for strategic reasons; encourage trade links with certain trading partners rather than others; or restrict entry of undesirable products.

An important consequence in many cases is that the effects often go far outside the intended goals. In these situations, measures such as, for example, technical standards, which may have been designed for legitimate management reasons may place major restrictions in the way of exporters. Similarly, measures such as internal subsidies or regional encouragement grants, which have domestic goals, may result in distortions which spill over into international trade. For example, subsidised domestic stumpage can make otherwise uncompetitive suppliers major competitors of low cost, efficient, exporting countries. In addition to their inadvertent effects on trade, however, there are many situations where otherwise legitimate measures are purposely used to restrict trade.

While the restrictions of importing countries are most common, exporting countries also impose measures which restrict or regulate trade, often for many of the same reasons. For example, measures such as quantitative export controls or export levies aim to encourage domestic production by limiting the raw materials which can be exported, or to raise revenue for the government.

In all situations, however, the broad objectives of the measures are protection in one form or another. Even for measures which have little effect on trade, the primary purpose is protection.

Although tariffs are the best known and most obvious measures influencing trade, non-tariff measures (NTMs) have become increasingly important in recent years. In particular, the combined effects of a reduction in many tariffs through international trade negotiations, and the world-wide slowdown in economic growth since the mid-1970s which has placed considerable pressure on many countries, have affected trade policies.

These effects have resulted in many countries searching for other methods to restrict or control imports in order to protect domestic industries, or in a wider context, control their economies. Evidence suggests that as tariff rates have declined, countries have moved towards the use of NTMs as a means of providing protection, because of their diversity, the flexibility that they offer, their selectivity and, to a degree, their lower visibility.

While tariff levels have been reduced in the last 10 years, rates for some forest products in some markets are still relatively high. For example, rates on plywood of 10-15% ad valorem are not uncommon in many of the major developed markets; those on sawn timber in the range 5-8%; and manufactured wood articles 5-10% (GATT, 1984). Average rates for 11 developed markets were estimated to be 5.7% for secondary wood products (UNIDO, 1983). For developing countries the rates can be considerably higher.

One estimate of the effects of the removal of tariffs on forest products has suggested that complete removal by the main developed market economies (DMECs) would increase their imports of wood and wood products^{1/} by 6.4% (based on 1976 trade levels), that is by over U.S. \$950 million (UNIDO, 1983).

Similar estimates are not possible for NTMs, but the wide array of measures and their incidence does support the view that the effects of their removal are also likely to be substantial. GATT has identified over 800 NTMs which affect trade, while the UNCTAD data base on governmental trade measures provides for 105 categories and sub-categories of product-specific measures and 106 categories and sub-categories of NTMs (UNIDO 1983). While not all are of importance to forest products trade, a large proportion are.

2. Report Objectives and Approach

This report identifies and discusses the various methods used to protect and influence forest product markets, the effects of the measures, and how they are distorting international trade in forest products. In particular, it concentrates on the impacts on the developing countries, and the way in which the measures hinder or encourage increased industrialization in them.

Interest lies in measures which affect trade, whether they are mainly aimed at restricting or altering trade, or have this effect even though not specifically designed for this purpose. The main purpose of the report is to clarify the role these measures have in international trade, and to suggest policy actions which may assist the developing countries to overcome their restrictive effects.

The Asia-Pacific region is used as the main focus for considering the details of the measures which can affect forest product trade and their impacts.

^{1/} The estimates do not include pulp and paper products.

3. Definition of Trade Barriers

A number of definitions of trade barriers have been suggested. While many have theoretical appeal they have been difficult to use in an operational sense. In its broadest sense a trade barrier is any government law, policy or practice which has a restrictive effect on trade. This definition excludes 'natural' barriers such as distance from markets, language differences or customer preferences, and also restrictive private business practices unless used in a discriminatory fashion through trade associations, cartels, etc. government monetary and fiscal practices can have restrictive effects on trade, but are not generally considered trade barriers in the sense referred to in this report. Restrictions imposed by governments to protect public health or safety or for other reasons unrelated to protection from foreign competition are only regarded as trade barriers if they are abused or have a substantial effect on trade.

(a) Tariff Measures

The identification and analysis of tariff measures and their influences, while by no means simple, is relatively straightforward. Tariff schedules are published by governments and their levels, structure and the specific product classifications they apply to are generally readily available. Further, the estimation of the size of the barrier they present to imports is also relatively simple since they are expressed in quantitative terms.

(b) Non-Tariff Measures

Non-tariff measures, on the other hand, are diverse, difficult to identify and even more difficult to quantify. No readily available or strictly comparable listing exists since many of the measures are qualitative rather than quantitative in nature. Moreover, measures which distort trade in some situations may have no effect in others, either because of the environment in which they occur, or in the differing manner in which they may be applied.

Some studies refer to all measures which can affect trade as barriers. Others consider it more appropriate to use the term trade distortions rather than barriers, since some measures expand trade rather than act as barriers.^{1/} Another approach is to differentiate measures on the basis of their intent. On this basis practices and regulations which are (a) used as commercial policy instruments to protect domestic suppliers from overseas competition, are differentiated from; (b) those mainly designed for non-commercial reasons but which are also employed to restrict imports or stimulate exports; and (c) those not designed for import restriction purposes or to encourage exports, but which inadvertently have some effect in this direction.

^{1/} For a detailed discussion of this and other definitional points see Walter (1969), Baldwin (1970), and Yeats (1979).

In this report the term trade barrier refers to government laws, policies or practices which affect trade whether they are intended for this purpose or not. The main exception to this is the exclusion of government monetary and fiscal policies. Interest, therefore, lies in artificial regulations and policies which hinder the free flow of trade.

Thus some, but not all measures which may act as barriers are addressed. Only those of importance to trade in forest products, and only those which have an important impact are emphasised, with main emphasis on those of interest to the developing countries. The selection of the measures is to some extent arbitrary since little in-depth analysis has been published which enables the importance of the measures to be rated. The coverage does, however, include both those which are clearly barriers and those which may in some situations act as barriers. Thus no attempt is made to distinguish between non-tariff barriers (NTBs) and non-tariff measures (NTMs).

The term 'trade measures' is, a broader term than that of 'trade barriers'. In general 'measure' indicates a practice or policy which may or may not be acting as a barrier, but they are generally used interchangeably in this report. This approach is taken because the main interest is in discussing those elements which are acting as obstacles to trade - whether intentionally or unintentionally - and because of the difficulties of isolating the exact effects in all situations.

It is important to note that the main consideration surrounding barriers involves discrimination. The question at the heart of protectionism through trade barriers is whether or not the policies and rules concerned actually discriminate against imports from some or all countries. If the so-called barriers apply equally to domestic supplies and imports they cannot be considered trade restrictions. If discrimination exists, so that imports must meet requirements that domestic suppliers do not, then these can be considered formal barriers.

This report therefore is directed to formal rules and policies which involve an element of actual or implied discrimination against imported forest products.

4. Classification of Barriers

Both GATT and UNCTAD have developed inventories of NTMs in order to increase the transparency of these trade distorting policies, and to allow estimates of their frequency and impact. Although differing in detail and the manner of classification, the two inventories are essentially similar. GATT uses a classification which places NTMs into five broad groups on the basis of the type of measure. UNCTAD includes all non-tariff measures which have the potential to act as barriers without attempting to establish whether in fact they are being used in this way^{1/}. To date the inventory provides information on 45 developed market economy and developing countries.

^{1/} See appendix for a copy of the UNCTAD classification.

A useful indication of the broad array of individual measures that exist and from which the discussion of barriers will be drawn is given by considering these classifications. Broadly, the measures involve:

- (i) Specific limitations on trade:
quantitative restrictions; export restraints; health and sanitary regulations; licensing; embargoes; minimum price regulations, etc.
- (ii) Charges on imports:
tariffs, variable levies; prior deposits; special duties on imports; internal taxes, etc.
- (iii) Standards:
industrial standards; packaging; labelling and marking regulations, etc.
- (iv) government interventions in trade:
government procurement; stock trading; export subsidies; countervailing duties; trade diverting aid, etc.
- (v) Customs and administrative entry procedures:
customs valuation; customs classification; anti-dumping duties; consular and customs formalities and requirements, and sample requirements.

The striking feature is the wide range of different measures that have an impact on trade, and the diversity of objectives they can have. It is also obvious that there is room for disagreement on whether any list is complete and also whether all measures listed should be considered barriers.

When attempting to provide quantitative estimates of the extent of barriers, the composition of the list is clearly of considerable importance. For present purposes, however, the important point is the number and diversity of those included. A point highlighted throughout the report is that whether or not many of these measures are barriers to trade depends very much on the individual circumstances surrounding them. The same measure can have completely different effects depending on the individual country involved and the product.

GATT also maintains an inventory on quantitative restrictions, based on information provided to it by member nations, and information on trade measures in developing countries is collected in a less formalised manner by UNCTAD/ECDC^{1/}.

^{1/} UNCTAD/ECDC (1984)

5. Limitations of Formal Classifications

Although of considerable usefulness, it must be recognised that formalised classifications such as those discussed above have a number of limitations.

- (i) An extensive array of measures exist with a multiplicity of objectives and effects. It is therefore extremely difficult to identify all relevant cases.

The very reason that the use of NTBs has risen in recent years is their lower visibility and their greater flexibility. As international efforts at reducing tariff levels have met with a degree of success, countries have sought other means of restricting imports. NTBs are both more varied and more flexible and therefore capable of greater selectivity. Additionally, the ease with which they can be altered provides an advantage over fixed, formalized tariff schedules.

- (ii) Even the same measures may differ substantially in their intent and effects, depending on the manner in which they are used. It is therefore more important to consider the specific characteristic of the individual measures and the way in which they are applied than is the case for tariffs. This is particularly true for measures such as customs clearance or product standards for example.

- (iii) Classifications such as those developed by GATT and UNCTAD are dependent on notification by the countries involved. They therefore depend on the degree of cooperation received and the level of agreement developed on what measures are to be notified. For example USA notifications do not include voluntary export restraints since that country argues they are not import barriers. Generalised System of Preferences (GSP) restrictions and limitations are not included in the inventories.

- (iv) It is extremely difficult, if not impossible, for classifications to indicate the restrictiveness of specific barriers. The existence of a barrier says little about the way in which it is administered, and the frequency with which barriers are indicated says very little about the extent to which trade is being distorted. For example, various forms of licensing are indicated for forest products in a number of important markets but the degree to which they inhibit trade is difficult to judge. Discretionary licensing in some markets may in fact be equivalent to automatic licensing in others; in other markets it may be similar to much more restrictive controls.

- (v) Data on some countries is more comprehensive than on others. That on countries which publish their import regulations in a detailed and systematic manner is generally more complete than

for those whose trade regulations are published in a less systematic and accessible manner. The responsiveness of countries to requests for information also varies, as does the accuracy of their information. Conclusions about the restrictiveness of individual countries can therefore be misleading if only the inventories are considered.

6. Distinction Between 'Artificial' and 'Natural' Barriers

Of note is the fact that this study is considering measures which may be seen as 'artificial' influences on trade patterns, levels, product makeup, or frequency. It does not investigate 'natural' factors which influence trade, such as natural resource endowments, transportation advantages or limitations, climatic conditions, infrastructural capabilities etc. Many of these are substantial barriers to increased or more profitable trade of the developing countries, and represent major hurdles to be overcome by these countries. In fact, in many cases they are much more important in hindering development than are tariff and non-tariff barriers. For example, difficulties faced by exporters in developing countries in obtaining adequate shipping space, regular services and competitive rates can place developing countries at a substantial disadvantage in international trade. Equally, limited infrastructure or the lack of trained manpower are difficulties commonly faced by these countries.

These are however 'natural' barriers in that they are a reflection of the resources of the country, its stage of development, or even its location relative to markets. They are not barriers imposed with the specific purpose of affecting trade, or measures which are put in place for other purposes and indirectly affect trade.

In many instances exporting countries, both developed and developing, cite these factors as barriers to trade without distinguishing them from those erected specifically to influence trade. A current example of this is seen in demands by U.S. forest product producers and trade associations that Japan reduce its trade barriers. In the list of barriers mentioned are Japanese business practices, the unwillingness of Japanese consumers to buy imported goods, and Japanese product specifications^{1/}. These are marketing problems which any organization engaged in exporting must expect to face and overcome - alongside the difficulties of different consumer preferences, cultural traditions and business structures - not formal trade barriers. In the case of high freight rates to certain markets, or poor schedules, the reasons can generally be traced back to normal commercial decisions made by shipping companies. They reflect factors such as the amount and type of cargo available, the port facilities, the alternatives open to the ship owner, commercial risk, etc.

^{1/} The Japanese requirement for 3' x 6' plywood panels is said to discriminate against U.S. exporters who are geared to the U.S. domestic size of 4' x 8'. 'Invisible' barriers in Japan mentioned by the U.S. pulp and paper industry include the distribution system; 'orderly market' controls by Japanese importer associations; close ties between domestic producers, distributors and banks; and customer preferences for local supplies. (Sedjo, 1984).

I. OVERVIEW OF WORLD TRADE*

1. Introduction

This chapter provides a brief overview of world forest products production and trade patterns. The purpose is to highlight the major trade flows that exist, and indicate the main exporting and importing nations. This will highlight the role of the developing countries in forest products trade, indicate the main developing countries involved in trade, identify the products traded, and highlight the main markets these products are currently exported to.

The overall objective of the section is to provide an indication of the markets which are of greatest importance to the developing countries, in order to identify the markets which will be of greatest interest when considering trade barriers. In general the current main markets will be of greatest interest in relation to barriers, although there will obviously be markets where only limited trade occurs because trade barriers are high. In these cases current trade flows may not necessarily provide a clear indication of all markets of interest to the developing countries.

2. Industrial Roundwood

Developed countries account for almost 80% of the world's production of industrial roundwood. The major producers in 1984 were the USA (336 million m³), the USSR (275,000 m³) and Canada (155 million m³). Between them they accounted for almost 50% of world production. Other important, but less major, producers include China, Brazil, Sweden and Finland.

World production of industrial roundwood increased by 13.9% between 1970 and 1984 to reach nearly 1500 million m³ (Table 1). Of the increase of 178 million m³, the developing countries provided the greatest share, 70% (125 million m³). Growth in production over that period was 5% for the developed countries, but 60.2% for the developing countries. Thus while the developed countries are the dominant producers, greatest growth in recent years has come from the developing countries.

The main increase in the developing countries has occurred in Brazil and China, but a wide range of other Asian and African countries have shown increases. The main producing developing countries are China, Brazil, Malaysia, Indonesia and India.

*/ This discussion is based on data available in FAO (1986) and in FAO 'Monthly Bulletin of Tropical Forest Products in World Timber Trade.' Only a limited number of tables have been provided in this chapter. Further data can be found in the above publications.

TABLE 1 - World Production and Exports of Industrial Roundwood

	Production	Exports	Ratio
	(million m ³)		(%)
1970	1277.7	93.6	7.3
1975	1282.8	98.7	7.7
1980	1441.4	115.3	8.0
1984	1455.6	102.8	7.1

Source FAO (1986)

Of the 1500 million m³ produced in 1984, 456 million m³ (30%) was non-coniferous and 100 million m³ (69.6%) coniferous. The developing countries accounted for 50% of world non-coniferous production, but only 10% of coniferous production. The dependence of the developing countries on non-coniferous wood is highlighted by the fact that 68.4% of their production of industrial roundwood in 1984 was non-coniferous. If the two largest producers, China and Brazil, both of which had extensive coniferous production, are excluded, 83% of the rest of the developing countries production was non-coniferous.

Just over 100 million m³ of industrial roundwood was exported in various product forms in 1984. Again the developed countries provided the largest share (78%). In order of importance the world's main exporting countries were the USA, Malaysia, Australia, Canada and Indonesia.

World trade increased by 9.2 million m³ (9.8%) between 1970 and 1984. Exports from the developed countries rose by 18.1 million m³ (32.4%), while those of the developing countries fell by 8.8 million m³ (23.2%). This decline was largely a reflection of falling log exports. The main developing countries to show declines were Indonesia and the Philippines, and a number of African countries, mainly Côte d'Ivoire and Gabon. Of the developed countries the USA and the USSR reduced exports. Australia and Canada, together with a number of smaller exporters in Western Europe, increased exports.

3. Sawlogs and Veneer Logs

World production of both coniferous and non-coniferous saw and veneer logs increased between 1970 and 1984. Coniferous production rose 11.9% to 615.5 million m³, and non-coniferous production rose 15.1% to 242.2 million m³ (Table 2). Exports of coniferous logs rose 27.5%, but that of non-coniferous logs fell 22.5% to 30.0 million m³ largely because of significant declines in Indonesia and the Philippines. These countries restricted exports through export log controls.

TABLE 2 - World Production and Exports of Sawlogs and Veneer Logs

		Production	Exports	Ratio
		(million m ³)		(%)
Logs - coniferous	1970	550.0	24.4	4.4
	1975	542.5	23.9	4.4
	1980	609.2	28.0	4.6
	1984	615.5	31.1	5.1
Logs - non-coniferous	1970	210.4	38.7	18.4
	1975	210.7	36.2	17.2
	1980	258.6	42.0	16.2
	1984	242.2	30.0	12.4

Source: FAO (1986)

Developing countries accounted for 10.2% of world coniferous saw and veneer log production in 1984, and 3.5% of exports. They provided 59.7% of non-coniferous production and 88.8% of non-coniferous exports. The developing countries exported 13.3% of their total log production in 1984, while the developed countries exported 5.1% of theirs.

World trade in logs is dominated by exports to the Far East - primarily to Japan, China and the Republic of Korea. The dominant suppliers are the USA and the USSR which export predominantly coniferous logs, and Malaysia which exports non-coniferous logs. Smaller flows from the developing countries are from other Asia-Pacific suppliers and from Chile to the Far East markets, and from a number of African countries to Western Europe.

4. Sawnwood

World sawnwood production was 450.3 million m³ in 1984. Of this 338.6 million m³ (75.2%) was coniferous and 111.2 million m³ (24.8%) non-coniferous. (Table 3) The developing countries accounted for 2.1% of total production - 10.7% of coniferous sawnwood and 52.4% of non-coniferous sawnwood. This share of non-coniferous sawnwood production rose over the period 1970-84 from 33.2%. This involved an increase of 27.2 million m³.

In the case of exports, only 15.2% of total sawnwood exports in 1984 were non-coniferous. Of the 13.1 million m³ of non-coniferous sawnwood exported, almost two-thirds came from the developing countries. Exports from the developing countries more than doubled between 1970-84 with the major exporters being Malaysia (3.4 million m³ in 1984), Indonesia (2.2 million m³) Singapore (0.8 million m³) the Philippines (0.5 million m³) Brazil (0.5 million m³) and Côte d'Ivoire (0.4 million m³).

TABLE 3 - World Production and Exports of Sawnwood

		Production	Exports	Ratio
		(million m ³)		(%)
Sawnwood - coniferous	1970	312.1	49.3	15.8
	1975	304.7	43.3	14.2
	1980	333.6	66.0	19.8
	1984	338.6	72.9	21.5
Sawnwood - non-coniferous	1970	94.3	7.1	7.5
	1975	96.7	7.9	8.2
	1980	113.6	12.5	11.0
	1984	111.7	13.1	11.7

Source: FAO (1986)

The developing countries have provided an increasing share of non-coniferous sawnwood exports, moving from 54.2% of world exports in 1970 to 65.9% in 1984. An increasing proportion of their production is being exported (6.7% in 1970 compared with 14.9% in 1984) although the proportion is still low. By comparison the developed countries exported 5.2% of their non-coniferous production in 1970 and 8.3% in 1984, again an increasing but minor proportion.

Just over half (57%) of exports of non-coniferous sawnwood from the developing countries went to developing countries, with Singapore, Brazil, Thailand and China being the main markets. A variety of developed countries imported from the developing countries, particularly Western Europe, Japan, the USA and Australia. The main developing country exporters were Malaysia and Indonesia, and to a lesser extent Singapore (which re-exported sawnwood), the Philippines, Brazil, Côte d'Ivoire and Paraguay.

5. Veneer

World production³ of veneer sheets increased from 3.0 million m³ in 1970, to 4.7 million m³ in 1984 (Table 4). Although the major share was produced by the developed countries (64.8%), growth over the period 1970-84 was greatest in the developing countries. Production in the latter doubled during that time. The major exporters in 1984 were Canada, the USA, the Philippines and Malaysia. The developed countries exported 52.1% of world exports. The proportion of their production moving to export rose from 55% in 1970 to 63.1% in 1984.

The main markets for the developing countries were Japan, a range of West European countries, Singapore, Brazil and China.

6. Plywood

World production of plywood increased steadily between 1970 and 1984, moving from 33.2 million m³ to 44.0 million in 1984, a 33% increase (Table 4). Developed countries produced three-quarters of the total in 1984, although this share was down from the 1970 level of 87.7%.

TABLE 4 - World Production and Exports of Veneer and Plywood

		Production	Exports	Ratio
		(million m ³)		(%)
Veneer	1970	3.0	0.9	30.0
	1975	3.7	1.0	27.0
	1980	4.4	1.4	31.8
	1984	4.7	2.0	42.6
Plywood	1970	33.2	4.8	14.5
	1975	34.3	5.4	15.7
	1980	39.3	6.6	16.8
	1984	44.0	8.4	19.1

Source: FAO (1986)

The largest single producer was the USA, which alone accounted for 40.9% of world production. Other important producers were Japan, Indonesia, the USSR, Canada and China.

Exports of plywood reached 8.3 million m³ in 1984 with developing countries accounting for 67.9%. Total exports almost doubled between 1970 and 1984, and the share of the developing countries rose from 65.7%. Indonesia became the world's largest exporter, exporting just over 3 million m³ in 1984. Other important exporters were China (Taiwan), Singapore, Finland, Canada, Malaysia and the Republic of Korea.

7. Woodchips, Pulp and Paper

Production and exports of woodchips, wood pulp, and various paper and paperboard products were heavily dominated by the developed countries. Australia, the USA and Canada dominated the woodchip trade;

North America and Scandanavia were principal exporters of pulp and newsprint; and North America, Scandanavia, various Western European countries, the USSR and Japan the main exporters of other paper and paperboard products. The only developing countries with any major trade in these products were Brazil, Chile, Mexico, the Republic of Korea and India, although relative to the major producers the volumes were small.

TABLE 5 - World Production and Exports of Woodchips, Pulp and Paper

		Production	Exports	Ratio
		(million m ³)		(%)
Woodchips	1970	NA	5.8	-
	1975	NA	10.0	-
	1980	NA	17.9	-
	1984	NA	14.8	-
		(million tonnes)		(%)
Pulp	1970	102.1	16.9	16.6
	1975	102.2	15.1	14.8
	1980	125.7	21.2	16.9
	1984	135.4	21.4	15.8
		(million tonnes)		(%)
Paper and Paperboard	1970	128.1	23.4	18.3
	1975	130.8	23.1	17.7
	1980	170.1	35.1	20.6
	1984	187.7	39.8	21.2

Source: FAO (1986)

8. Overview

In general terms the main international flows of forest products are to the developed countries. As shown in table 6, developed countries import over 60% of world imports for all the listed products except plywood. For many, in excess of 80% is involved. For all products except non-coniferous sawlogs and veneer logs, non-coniferous sawnwood, veneer, and plywood, the developed countries also provide over 90% of world exports. The main flows are therefore from developed countries suppliers to developed country markets. A much lower proportion of developing country exports are directed to the developed countries.

Only small volumes of coniferous logs or sawnwood, pulp, newsprint, and other paper and paperboard are exported by the developing countries. The main products exported are non-coniferous sawnwood, and plywood.

The main trade flow of tropical logs is to Japan, with South-East Asia providing over 95% by volume. In 1985 Malaysia, Papua New Guinea, the Philippines and the Solomon Islands shipped almost 13 million m³ to Japan, with Malaysia alone providing just over 11 million m³. Other smaller flows are from African countries - primarily Côte d'Ivoire, Gabon, and Cameroon - to Western Europe.

The major tropical sawnwood movements were from South-East Asian countries to Japan and to a lesser extent Western Europe. Malaysia, the main exporter, also shipped a considerable volume to Singapore. Smaller volumes were exported by Brazil to the USA, and by Brazil and a number of African countries to Western Europe.

Only small volumes of veneer were exported by the developing countries with the main flows being from South-East Asia to Japan, the USA, and Singapore; and from West Africa to Western Europe.

Plywood flows from the developing countries were again relatively small, but have been increasing rapidly as Indonesia expands its exports. The main flow is from Indonesia, Malaysia, the Philippines, and Singapore to the USA, Western Europe and Japan.

Exports of pulp and paper by the developing countries are small, other than those of Brazil and to a lesser extent Chile.

In summary, the main market areas of current interest to the developing countries are Japan, Western Europe and the USA. For the major developing country exporters with significant forest resources - namely the Asia-Pacific countries of Indonesia, Malaysia, the Philippines, Papua New Guinea, and the Solomon Islands - these markets, together with in-transit developing country processing areas such as the Republic of Korea, Taiwan and Singapore, have to date been the major destinations. Recent export controls which have restricted the export of logs, and to a lesser degree veneer and some sawnwood, have reduced the importance of the in-transit developing country markets.

TABLE 6 - Forest Products Trade - 1984

Total exports (million)	Exports by developed countries (million)	Proportion (%)	Developing Country trade with the Developed Countries			Exports by developing countries (million)	Exports to developed countries (million)	Proportion (%)
			Total imports (million)	Proportion of world imports (%)	Imports from developed countries (million)			
Sawlogs and veneer logs								
- coniferous (m) ³	31.12	29.99	21.60	69.4	21.17	1.13	0.43	38.1
- non-coniferous (m) ³	29.97	3.41	20.02	66.8	3.16	26.56	16.86	63.5
Total (m) ³	61.09	34.40	41.62	68.1	24.33	27.69	17.29	62.4
Sawnwood								
- coniferous (m) ³	72.89	71.24	63.36	86.9	63.18	1.66	0.18	10.8
- non-coniferous (m) ³	13.15	4.41	7.63	58.0	3.85	8.74	3.79	43.4
Total (m) ³	86.04	75.64	70.99	82.5	67.03	10.40	3.97	38.2
Veneer (m) ³	2.04	0.93	1.30	63.7	0.83	1.06	0.47	44.3
Plywood (m) ³	8.36	2.68	4.58	54.8	2.38	5.68	2.20	38.7
Pulp (t)	21.38	19.69	18.10	84.7	16.99	1.69	1.11	65.7
Newsprint (t)	13.26	13.12	11.35	85.6	11.35	0.15	0	0
Other paper and paperboard (t)	26.52	25.29	21.60	81.4	20.96	1.24	0.64	51.6

Source: FAO (1986)

II. THE ROLE OF BARRIERS IN ECONOMIC DEVELOPMENT

1. Introduction

This chapter briefly considers some broad conceptual issues relating to international trade, and in particular barriers. The purpose is to highlight some of the issues surrounding trade, many of which are conflicting. Readers wishing to follow up these issues should refer to the extensive literature that exists on international trade and its role in development.

2. International Trade

The general view of economists is that international trade has a beneficial effect on economic development. By expanding markets and providing an opportunity for countries to specialize in the production of those goods in which they have a comparative advantage, the development process is assisted.

Some of the benefits suggested to flow from this international trade are:

- (a) increased markets enable specialization, and hence economies of scale lower costs of production;
- (b) generates overseas exchange which is necessary to purchase goods and services from overseas;
- (c) provides a basis for the development of other industries which service and support the export industries;
- (d) the growth of business activity in the economy generates both income and employment.

The 'pure' theory of international trade based on the views put forward by the classical economists such as Adam Smith and David Ricardo, suggests that by following the theory of comparative advantage all countries are made better off as a result of the specialization that results. This theory is based on the assumption of perfect competition which assumes that no individual or country is able to significantly influence the prices at which it buys or sells. Additionally, there is free movement of resources within a country but complete immobility between countries; there are no artificial barriers to trade; tastes, technology and the amount of productive services are given; and exchange rates between currencies are free to adjust.

Real world conditions are such that these criteria rarely exist, and as a consequence the theory that all countries are left better off by greater liberalization is too simplistic. Completely free trade does not exist today because of the controls and restrictions that have been put in place over a long period of time. As a consequence, although it is

possible to show that free trade may be the best policy for the world as a whole, it is more difficult to always reach the same conclusion for an individual country, or the individual producers of a specific commodity.

Those who support restrictive trade policies indicate a number of arguments for such policies. Some of the gains suggested for the country imposing the restrictions are:

- (a) Obtain imports at lower prices (i.e. improve the terms of trade). This is possible if the country is a major importer of the product in world trade terms, and the supply in the exporting countries is relatively inelastic. If achievable, this gain is obtained at the expense of other countries.
- (b) Reduce unemployment. It may be possible to increase employment in some sectors in the country imposing the barrier, through the substitution of domestic production for imports. This will certainly benefit those sectors, and may have a positive effect on regional employment. It may therefore be proposed in order to stimulate regions where unemployment is a problem. It is likely, however, that these gains may be more than offset by losses in other parts of the economy.
- (c) Encouragement of industrialization, either through protecting new industries which can be competitive if able to become established (i.e. 'infant industries'), or by protecting developing industries from imports (import substitution).

Although the 'infant industry' argument is frequently put forward there is little evidence to support this view. Such infant industries commonly require permanent protection.

This protection may, however, stimulate a wider range of secondary industries based on those receiving protection. The difficult question to answer is the cost of this stimulation, and whether the industries which develop are efficient. In many cases the cost to the country of stimulating industrialization may be substantial. The cost of encouraging further processing of logs in Indonesia, Sarawak, the Philippines, and the Côte d'Ivoire may have been substantial, particularly because many of the mills established have relatively poor conversion rates.

- (d) Revenue generation. If imports continue to flow into the country, government can increase its revenue. This can be an important source of revenue for developing countries.
- (e) Improve the balance of payments. By reducing imports the outflow of foreign exchange will fall. As long as exports continue the balance of payments will be improved. An important question is whether exports will continue, since retaliation by other countries may occur. Many of the above benefits may therefore be reversed if important trading partners retaliate.

Opponents of trade restrictions consider that many of the suggested benefits of imposing restrictions do not in fact occur, or can only be achieved at high cost. They consider that what may appear to be benefits are often only achieved at high cost to some other part of the economy.

Overall it appears that the advantages of free trade are greater than those of restrictive policies. There may nevertheless be situations where the erection of barriers can be advantageous to an individual country or sector, even though other countries can only achieve similar benefits at high cost.

3. Trade in the Development Process

Generally two main views of the role of trade in economic development of the developing countries exist. One favours a policy of import substitution. This considers that a developing country should first concentrate on establishing industries which produce products that are presently imported. An established market already exists for these products and internal control is easier. It is suggested that this development will then serve as a stimulus for other industrial activity, including future export expansion. The second view considers that exports should lead industrial development, and that the flow-on effects of economic growth and development which follow will be more rational and sustainable.

For a developing country, the first of these policies reflects a desire to be self-reliant. The goal is to reduce the country's dependence on world markets and imports. The strategy used emphasises the development of manufacturing industries producing for the domestic market. Consumer goods, capital goods and intermediate products are all produced for the local market, and import substitution is an important element of the strategy. The strategy is one based on trade restrictions, and can be called an inward-looking strategy, or alternatively one of self-reliance.

The outward-looking or export oriented strategy focusses on the development of industries in which the country can be expected to have a comparative advantage in international trade, and in a developing country tends to therefore emphasise labour-intensive industries, the encouragement of small-scale industries, and export promotion activities. This policy represents a liberalised, free-trade approach.

Both strategies attempt to use whatever natural resources the country may have, and the most appropriate one to follow will depend on the individual country's characteristics and the manner in which any particular policy is implemented. Each strategy will have different strengths and weaknesses and some elements of each can be combined in a development programme.

Currently opinion favours the second view, a development policy based on free trade with a strong export orientation, and although by no means conclusive, the evidence for this is fairly compelling. A strong case in support of this approach is presented by Little (1982). Comparisons of

growth in countries such as The Republic of Korea and The Taiwan Province of the People's Republic of China which followed strong free trade policies with the poorer progress of Indonesia and the Philippines which favoured inward-looking policies are given as evidence of the superiority of export-oriented policies^{1/}. Balassa has strongly supported an export orientation on the basis of numerous detailed analyses of economic performance for a wide range of countries^{2/}.

Experience in a number of countries has shown that major orientation towards import substitution policies backed by import controls can lead to inefficient and costly production systems. The long term cost to the country can be substantial, since inefficient domestically oriented industry develops at the expense of efficient industries capable of earning essential foreign currency.

4. Trade Barriers in the Development Process

Despite the general support for a free-trade orientation in trade policies, and the weight of evidence which favours liberalisation as a means of encouraging efficient development, trade barriers are widely used by both developed and developing countries.

Countries erect trade barriers or show only limited support for their liberalisation for a variety of reasons, as indicated above. Under some conditions barriers can improve a country's situation; under others the result is less clear and uncertainty surrounds the question of who gains and who loses through freer trade. Those who are already assisted through trade barriers will suffer while the benefits will go to others. Where protection has been in force for a period of time the removal or liberalisation of this protection is a difficult political decision. Powerful and well-entrenched interest groups will have developed, while jobs and associated businesses will be affected by any reductions. There are therefore strong political and economic forces working against change.

The appropriate policy or mix of policies to use becomes one of perspective - both in a country to country situation and also within a country. One country may lose at the expense of another - similarly one group within a country may lose at the expense of another. Importing countries which use trade barriers to protect their less efficient producers and/or to raise revenue will have both gainers and losers. Consumers will benefit from a reduction in these barriers, but producers who were formerly protected will lose. If the revenue earned was substantial, the government will lose an important source of funds. In the exporting country producers will gain and the benefits will flow on to others in the economy. The issue is therefore complex.

1/ See for example Westphal and Kim (1977). It is important to note, however, that this emphasis followed previous import restriction policies.

2/ See for example, Balassa and Associates (1971), Balassa (1978) and Balassa (1981).

Barriers affecting forest products influence the developing countries in a number of ways - both positively and negatively.

Import barriers erected by the major markets, particularly those of the developed countries, affect both the level of trade and the form of forest products traded by the developing countries. The level of trade is affected by the absolute size of any particular barrier; the form in which products are imported is affected by the relative size of the barriers between different products. In addition by imposing a wider range of barriers or more severe barriers on some forest products than others they can influence the type of product the developing country can export. As will be discussed later in the report, more highly processed forest products such as plywood, veneer, wood manufactures and furniture tend to face higher tariff and non-tariff barriers than unprocessed raw material forms such as logs and wood chips.

Developing countries use import barriers to both gain revenue and to limit the import of products which may inhibit the development of their own industries. In particular high tariff rates are used to protect domestic wood processing industries from cheaper imports. For example even though Malaysia, Indonesia, the Philippines and Papua New Guinea have large natural forest areas and consequently cheap supplies of wood they all impose tariffs even on rough sawn timber. These latter range from 10-20%, while protection for more highly processed products is even greater with tariffs of up to 50%.

The Republic of Korea, a developing country with only limited forests developed an efficient export plywood industry based on importing logs from other countries. Part of the stimulus for this industry was a range of development policies which included import barriers. These provided initial protection for plywood producers, and assisted the development of a viable world, competitive industry.

Export taxes have been used by developing countries to both raise revenue and influence industrial development. Taxes on a range of products, including forest products, have been an important source of government revenue. More recently, by using differential taxes many have attempted to influence the type and form of domestic processing. Export taxes on logs, together with quotas and complete bans have been used to stimulate/force greater domestic processing.

In summary, despite the evidence which supports liberalised trade policies which emphasise free trade, restrictive policies which use various forms of barriers are a fact of life. They influence the trade and development of developing countries in a number of ways. They are both used by the developing countries themselves and used against them. They affect both the level, form and direction of international trade in forest products. They can be used to restrict the development of the forest sectors in these countries, but equally they can be part of a planned strategy by the developing countries to encourage industrial development.

5. Measurement of Protection

The extent to which domestic industry is protected by trade barriers, and hence the extent to which exporters may find it difficult to compete on export markets, invariably focuses on the most visible element of any protection being provided - the level of import tariffs, size of quotas, level at which price guidelines are set, etc.

A considerable body of research has been published on the measurement of the extent of protection provided to a number of sectors in specific countries. Little has been done, however, relating to forest products. The main thrust of the research is identification of the relative amounts of assistance (protection) being provided to particular sectors of the economy. These estimates are seen as essential pre-cursors to more even treatment of different sectors, and thus a reduction in distortions within the economy. Uneven assistance to different sectors or industries results in misallocation of resources within the economy, so that, for example, export-oriented industries may be disadvantaged at the expense of those with a domestic market orientation.

To a foreign exporter interest lies in the extent to which domestic producers in the import market are being assisted, or in reverse, the extent to which the exporter must overcome protection provided in the import market if he is to be competitive on that market.

The most obvious and common measure of protection is the nominal rate of protection^{1/}. This measures the extent to which consumers assist domestic producers through payment of higher prices for goods. It does not measure the resource allocative effects of the protection and therefore a more relevant economic measure is the level of effective protection. This takes account of the effects of protection being given to the inputs used in the production process, and any subsidies, taxes, etc. It is therefore a measure of the degree of protection that is provided to domestic value added.

Using this concept it is possible to show that a relatively modest nominal rate may in fact mask a much higher effective rate.

^{1/} Nominal tariff rate expresses the duty as a proportion of the landed duty free price in the market rather than as a proportion of the FOB price which is the usual base on which import duties are calculated. The nominal rate of protection is therefore always less than the nominal tariff. It is equal to the tariff rate times the ratio of the FOB price to the landed duty free price, i.e.,

$$\text{nominal protection} = \frac{\text{Duty}}{\text{Landed duty free price}} = \text{tariff} \times \frac{\text{FOB}}{\text{CIF}}$$

A simplified example for plywood has been used by Takeuchi (1983) to highlight the extent to which a low nominal tariff may mask the much higher effective protection Japanese plywood producers receive^{1/}.

The Japanese tariff on hardwood plywood is 20%, while that on imported logs used to produce this plywood is zero. Since the cost of hardwood logs represents some 71% of the final cost of plywood effective protection afforded the domestic plywood industry is over 65%, well above the nominal rate of 20%.

As a general observation effective rates of protection are usually above nominal rates, sometimes substantially so. Domestic producers may therefore be receiving considerably higher protection than would appear to be the case on the surface. Estimates for a number of forest products are shown in Table 1 for the USA, EEC, Japan, Italy and Indonesia, and bear this out. The levels of effective protection are almost all greater than nominal rates, but are not, however, particularly high. For those products with positive nominal rates, effective rates range from 1.1% to 25.4%^{2/}. Highest effective rates apply to plywood and wood manufactures in Japan.

1/ Although a number of versions of the formula for estimating effective protection have been presented, a convenient form is:

$$E_i = \frac{t_i - \sum_j a_{ij} t_j}{1 - \sum_j a_{ij}}$$

where: t_i = nominal tariff on final product (i)

t_j = nominal tariff on inputs (j)

a_{ij} = inputs as proportion of output

$(1 - a_i)$ = value added

2/ By comparison rates two and three times higher are not uncommon for some non-forest products. UNIDO (1984) even reports rates of 400-600% for Indonesia.

TABLE 1 - Estimates of effective protection

Product	USA(a)		EEC(a)		Japan(a)		Italy(b)		Indonesia(c)	
	Nominal	Effective	Nominal	Effective	Nominal	Effective	Nominal	Effective	Nominal	Effective
Wood in rough	0	0	1.0	1.1	2.3	2.3				
Wood simply worked	0.3	0	1.6	4.0	2.9	8.5				
Plywood	8.5	13.8	11.3	19.6	14.0	25.4				
Wood manufactures	6.7	13.6	8.7	16.3	11.5	23.2				
Timber and wood products							1.96	0.89	0	-1.20
Wooden furniture							8.33	12.04	15.0	51.90
Paper and paperboard							3.78	4.98	23.50	45.78

(a) UNCTAD (1979) post Kennedy Round tariff rates

(b) Grilli and La Noce (1983)

(c) UNIDO (1984)

The values also generally show the way in which rates escalate as products move from unprocessed to more highly processed forms.

Although estimates of effective protection highlight the fact that the protection being received by domestic producers is often higher than is apparent from nominal rates it is important to qualify this observation. It is also important to be clear on what effective protection rates do and do not show. Firstly, in some situations the level of effective protection may be negative. This implies that the local industry concerned is placed at a disadvantage compared with the position it would be in under free trade conditions. This can result where inputs used in the production process are subject to tariffs, thus raising the production costs^{1/}.

Secondly, estimates can be subject to a high degree of error. This has implications for the comparison of estimates made for different countries, different products, and even made by different analysts.

Data difficulties, the assumptions used, and different equation forms suggest that any estimates should be viewed with some caution^{2/}.

Thirdly, it is not possible to compare rates of effective protection on the same products or industries between countries and suggest from this which markets exporters will find it easiest to compete on. To an exporter the relevant issues are his costs of production and the cost of landing the product in the market, including the nominal tariff rate he may face. A knowledge of the level of effective protection may give him a general indication of how easy or difficult it may be to compete against domestic producers. It will not give any indication of the ease of competing against other exporters. This information must be developed from other sources, and from actual experience in the market. The estimates of effective protection can give an idea of how highly protected the local industry is; they do not indicate what the cost structure in that market is. There are situations where industries, for historical or other reasons, receive substantially greater protection than most producers need and firms would still be highly competitive even with lower levels of protection.

1/ Examples of this situation were shown by Balassa (1971). He found negative effective protection in a number of forestry related industries in 1967 in Norway, West Malaysia, Chile, and the Philippines.

2/ As an example, the rough estimate for plywood in Japan given by Takeuchi (1983) indicates that producers receive an effective rate of protection of over 65%. The estimates by UNCTAD shown in Table 1 indicate an effective rate for plywood in Japan of 25%. This difference may be due to the differing time periods involved. More likely it may result from Takeuchi's simplifying assumption that all inputs used in processing in Japan are free of protection. In the formula in footnote 1 (p. 27) the rate of protection would be reduced by non-negative values for t_j and/or higher estimates for a_{ij} .

Finally, as noted by various authors^{1/}, effective rate of protection does not give a clear indication of the extent to which resources have shifted within an economy because of trade protection. The level of protection can also give a poor indication of how resources would shift if the protection was removed. Little (1982) suggests "The effective rate of protection should not however be taken to be even a rudimentary measure of where comparative advantage lies".

Estimates of effective protection are therefore primarily useful as a means of determining how much protection is being provided to different sectors of the economy so that comparison is possible. They highlight the fact that the same nominal rates do not necessarily mean equal effective protection. A knowledge can therefore lead to more equal treatment of industries within an economy. Estimates can be a useful indicator of the extent of protection received and by implication possible competitiveness; they do not provide evidence of which countries are most competitive, nor how much imports would expand by if protection were reduced.

6. Benefits of Industrialization

All developing countries have been attempting to increase their level of industrialization. The benefits of moving away from a heavy dependence on primary activities are, briefly:

6.1 Foreign exchange earnings

Increased foreign exchange earnings are likely as less processed products are replaced by higher priced products. In most cases additional gross earnings will be generated. For example average per unit returns are shown for logs, sawnwood and plywood in table 2. In 1984 the per unit revenue for plywood was from \$11/m³ roundwood equivalent (Philippines) to \$258/m³ (Papua New Guinea) greater than from log exports. The increase for sawnwood for the four developing countries noted ranged from - \$19/m³ (i.e. sawnwood returns were below those of logs) to \$47/m³. By comparison estimates for 1975 show margins for plywood of \$23-\$115/m³ and for sawnwood of \$13-\$47/m³.

The additional gross returns from processing are therefore variable, both between countries and between time periods. The additional foreign exchange can be small (and in some cases negative) or quite large depending on the specific conditions. In most cases though, additional foreign exchange is generated.

^{1/} See Baldwin (1970), Little (1982), Syntec (1984).

TABLE 2 - Average Export Values (\$/m³ f.o.b.)

	1975				1984			
	Sawwood		Plywood		Sawwood		Plywood	
	Logs	Value ¹	GAV	Value ²	Logs	Value ¹	Value ²	GAV
Indonesia	31	44	13	54	96	77	108	12
Malaysia	26	52	26	97	80	95	113	33
Philippines	36	59	23	66	104	109	115	11
Papua New Guinea	25	72	47	140	53	100	311	258

1 Converted @ 55%.

2 Converted @ 50%.

GAV = Gross added value (product value less log value)

Source: Based on FAO data on unit values for exports (FAO, 1986).

It should be noted that although additional gross foreign exchange earnings per unit of the resource are likely, the total foreign exchange earned may in fact decline during the early stages of moving from log exports to more processed products. This may occur because the lost revenue from log exports may be much greater than the initial gains from small volumes of more processed products.

If a substantial decline in log volumes occurs it is likely, at least in the short term, that the decline in total revenue can be substantial.

The situation will depend on market conditions, the volumes traded and the degree of competition on the export markets. Export log volumes in the Philippines declined 71% between 1975 and 1984, while sawnwood and plywood volumes rose. Log revenue also fell 17% but that from sawnwood and plywood more than doubled (in nominal dollars). This more than compensated for lost log revenues^{1/} (Table 3).

A major decline in log volumes from Indonesia took place between 1980 and 1984, and revenue fell 89%. Revenue from sawnwood and plywood (in nominal dollars) doubled but was not sufficient to balance the losses from log exports. The sum of the revenue from logs, sawnwood and plywood halved, involving a drop of \$1200 million.

6.2 Employment

Since the processing and forest products can be labour intensive, employment effects can be generated, both in the industry concerned and through flow-on effects in other industries. Depending on the products being produced and the technology selected employment ratios of from 3.2-14.0 persons per 1000 m³ of production have been suggested in primary processing^{2/}. In addition linkage effects provide additional opportunities. The number of employees per establishment in primary wood processing ranges from 20-175 depending on the country concerned^{3/}. Generally, industries in developing countries are more labour intensive than those in developed countries.

6.3. Value-added

This is the addition to the value of the product that is contributed by the processing activity. Gross value added^{4/} is therefore the gross revenue less the cost of purchased materials^{4/}.

^{1/} These comments relate to current dollar values and do not take account of the declining value of money over the period.

^{2/} UNCTAD (1982)

^{3/} UNIDO (1983e)

^{4/} Apparent value added may be reduced by leakage if government supports are involved or capital and labour charges to overseas firms occur (e.g. use of expatriate staff, overseas capital to finance the operation etc).

TABLE 3 - Export Performance: Logs, Sawnwood and Plywood

	Indonesia			Philippines		
	1975	1980	1984	1974	1980	1984
Logs						
- volume (mill m ³)	12.9	15.2	1.6	4.6	1.2	1.3
- value (\$mill)	409.6	1514.8	164.3	166.9	148.9	137.6
\$/m ³	31	99	96	36	129	104
Sawnwood						
- volume (mill m ³)	0.4	1.2	2.2	0.3	0.7	0.5
- value (\$mill)	31.5	260.3	306.3	27.2	181.3	107.0
\$/m ³	80	215	139	107	244	198
Plywood						
- volume (mill m ³)	1	245	3046	233	474	400
- value (\$mill)	Neg	55.7	657.8	20.6	117.3	61.7
\$/m ³	107	227	216	131	319	230
Total revenue (\$mill)	441.1	2330.8	1128.4	214.7	447.5	306.3

FAO, 1986

As an indication of the importance to an economy table 4 shows the gross output value from the Indonesian sawmilling and plywood industries in 1983/84 and the value added by each. Value added by sawmilling was some \$457 million while that of the plywood industry was \$307 million.

TABLE 4 - Economic Importance of the Sawmilling and Plywood Industries - Indonesia 1983/84

	Sawmilling	Plywood
	(\$/million)	
Gross output value (turnover)	928.3	808.0
Gross value added*	456.8	307.0

* Gross output value minus purchased inputs.
Source: Meulenhoff (1985).

Estimates for Indonesia suggest value added per employee in 1980 was \$1000 for furniture, \$4100 for wood products (excluding furniture) and

\$4300 for paper and paper products (UNIDO, 1984). Similar estimates for Malaysia (1979) showed furniture \$3016, wood products \$6032 and paper and paper products \$5027 per employee (UNIDO, 1985). The total effect of an increase in production, including forward and backward linkage effects, is estimated to be of the order of 1.4 to 2.1 times the direct effect for forest product processing activities. Indonesia, Malaysia and the Philippines together exported 31 million m³ of logs valued at \$2.9 billion in 1980. The potential gross value added from exporting a significant proportion of these as sawnwood, veneer or plywood is obvious.

6.2 Other benefits

In addition to the major benefits indicated above the following gains can also be achieved.

- development of skills which are transferred to other industries. For example servicing activities may be developed and contribute to non-forestry sectors.
- diversification which makes the economy less dependent on a limited range of activities. By producing a range of processed products (sawnwood, plywood, furniture etc) the vagaries of the log market may be reduced.
- regional development effects. Processing activities which are located in more remote regions of the country can have valuable economic and social effects on the region.

7. Barriers and Industrialization

The role that trade barriers play in industrialization is difficult to evaluate. This is especially true in relation to an individual sector such as forestry. The more obvious signs of industrialization in the sector can be identified, such as number of plants established, overseas exchange earnings, employment etc. However, establishing the link between these elements and trade barriers is difficult if not impossible. Many other factors are involved, particularly the market conditions and changes in competitiveness which may alter with changes in important costs such as freight rates, energy costs etc.

Greater industrialization^{1/} is an important element in improved economic activity in a country. Earlier sections of this report have identified ways in which trade barriers reduce the profitability and competitiveness of many producers, the manner in which exports are kept below free-trade levels, and the tendency to restrict exports of more processed forest products. These points all indicate that trade and industrialization levels would be greater if barriers were reduced. It is, however, difficult to provide evidence of the level of industrialization that has been stimulated by any reductions that have taken place.

^{1/} Numerous economic analyses have been published which support this view. See other sections of this report.

The only relatively clear evidence of a link between trade barriers and industrialization lies with export barriers imposed by the developing countries. The most obvious example is the increase in plant numbers reported in Indonesia that are clearly linked to that country's restrictions^{1/} and the reported changes in processing plants and their activities in the countries buying raw materials from Indonesia and other South-East Asian log producing countries. South Korea, Singapore, Taiwan and Japan all show definite signs of the impact of the export restrictions. Random Lengths (April 17, 1986) reports that 31 of Japan's 164 plywood mills plan to close down in the next two years, reducing Japanese production by a quarter. Nearly all mills producing 4' x 8' panels are expected to close because of competition from Indonesian hardwood plywood and possibly from North American softwood plywood. Part of this increased competition is said to be because of reduced plywood tariffs which begin in 1987. Producers of 3' x 6' panels are also expected to suffer as Indonesian mills begin producing this size of panel.

Korean plywood producers have also been suffering from the log³ export restrictions. Plywood exports have declined from around 1 million m³ in the early 1980s to 377,000 m³ in 1984, due to both the restrictions and poor market conditions (again influenced by large volumes of low priced Indonesian plywood). Moves being taken to adapt to this situation include finding alternative sources of logs, (e.g. hardwood logs from Papua New Guinea and the Solomon Islands and softwood logs from Chile and the USA), and moving processing activities to Indonesia and Papua New Guinea. In a similar manner the Taiwan Province has been looking to alternative supply sources, and is attempting to upgrade its products to such items as fancy veneers and overlaid plywood.

Singapore has had declining exports of sawntimber since 1979, as log imports have declined from 1.5 million m³ in 1978 to 311,000 m³ in 1984, and sawntimber imports have declined from 1.2 million m³ to 865,000 m³ over the same period (FAO, 1986). Singapore's strategy to adapt to this situation has been to place increasing emphasis on more highly processed wood products, although the wood processing industry is reportedly facing an uncertain future.

8. Summary

The above discussions have highlighted some of the problems and advantages that surround trade liberalisation.

Establishing the degree of protection provided a domestic industry is difficult. In addition it is difficult to determine how hard it is for an exporter or exporting country to compete on a market where the domestic industry is protected. Estimates of the nominal rate of protection provide an indication of the degree of protection being provided domestic producers, but a more relevant economic measure is provided by the level of effective protection. Limited estimates for forest products show that rates of effective protection are generally above nominal rates. For some

1/ See appendix 3, section 3.2.

of the main developed country markets effective rates are double nominal tariff rates, although in comparison with rates on other products effective rates for most forest products are not high. This measure, however, says little concrete about the ease with which imports could compete with domestic production if the protection was reduced. High effective protection suggests that domestic producers are heavily protected; it does not provide any clear evidence on how easy or difficult it may be for exporters to compete if protection was reduced. The main use of a knowledge of effective protection is as an indication of how highly protected a sector or industry is relative to others in the economy. It is therefore a valuable macro-economic tool, rather than one which is useful in the actual market place.

The benefits of trade liberalization are also difficult to identify clearly. Completely free trade as viewed by pure trade theory is unrealistic, and the assumptions on which it is based do not exist in real life. Evidence does however support the overall view that greater liberalization of trade is on balance beneficial. The problem arises in that 'on-balance' does not guarantee that all will be better off. A gain in total welfare involves the question of who benefits and who loses. Under certain conditions some countries or interests are made better off by trade barriers; under other conditions they may be worse off. Clearly, at least in the short term a move towards liberalization works against those being protected by the trade barriers. In most situations free trade is likely to be the most desirable goal.

Greater liberalization of barriers on the forest products of interest to the developing countries will clearly be beneficial in most situations since it is obviously beneficial to the developing countries if import markets reduce their import barriers. Complete liberalization of all barriers affecting all countries, which implies the removal of barriers by the developing countries themselves, does not have such a clearcut answer. The weight of evidence suggests that long-term development prospects and economic welfare are increased by outward-looking, liberal trade policies implemented by all countries. The closer policies are to free trade, the better industrial performance that is likely. Under some conditions, though, such a liberalization may result in some developing countries losing at the expense of other countries (either other developing countries, or developed countries). In these situations those developing countries which would be harmed may benefit by erecting trade barriers.

A broad conclusion is, therefore, that the evidence supports a movement towards free trade. Except in limited situations where trade controls can be shown to be a preferable situation, the freeing of trade is as a rule the most desirable policy. The most appropriate mix of policies for any country or group of countries will however depend on the circumstances of each and the development of a country's policies must rest on a careful analysis of the circumstances surrounding that specific country.

III. BARRIERS TO TRADE

1. Introduction

This section identifies and discusses some of the main trade barriers affecting trade in forest products. Concentration is more on identifying the range of barriers and highlighting the extent to which they exist and the manner in which they operate rather than attempting a fully comprehensive coverage.

2. Tariff Barriers

Tariffs are the most widely used and obvious means of providing protection. The effect of a tariff is to place a tax on the exporter which results in his product entering the importing country at a higher price than it otherwise would. This restricts the competitiveness of that product and may even result in its complete exclusion from the market. Imported products are therefore placed at a disadvantage relative to similar domestically produced products. Although its primary function was formerly one of raising revenue, the main function is now one of protection, although in many developing countries the revenue element is still of importance to national treasuries. This is especially true where domestic production of the product is of little importance.

The most common form is an ad valorem tariff, where the duty is a fixed proportion of the value of the imported item. Other less frequently used forms are the specific tariff, where a fixed charge per unit of imported item is levied^{1/}, or a compound tariff which involves a percentage plus a specific charge.

2.1 Decline in tariff rates

Tariff barriers and hence the degree of control and protection given by them, have declined over the past thirty years, with greatest progress being made since 1979 when the Tokyo Round of the Multilateral Trade Negotiations (MTNs), conducted under GATT, concluded. In this Round of international negotiations a wide range of reductions in Most Favoured Nation (MFN) tariffs were made^{2/}.

^{1/} For example USA rates on most softwood timbers from communist countries are \$4.00 per 1000 board feet.

^{2/} MFN tariff rates are those provided to other GATT member countries and to most developing countries. They are bound rates and cannot be raised. They cannot be selectively reduced except under special circumstances.

An analysis of pre-and post-Tokyo Round average trade weighted tariff rates for wood and wood products carried out by UNCTAD (UNIDO 1983d) for selected major developed country markets shows the extent of this decline. The average rates for all importing markets analysed were zero for wood in the rough; declined from 2.4% (pre-Tokyo Round) to 1.7% (post-Tokyo Round) for primary wood products; and from 7.8% to 5.7% respectively for secondary wood products.

As a general observation, while rates of 5-10% may seem rather low, where the dutiable value is relatively high and where highly competitive market conditions exist, the duty can have a major influence on competitiveness of a particular exporter. Further, although nominal rates may be relatively low, the effective rates implied by these may in fact be extremely high. For example, the effective rate of protection for wood products was estimated to be 95% in the EEC, 23% in Japan and 18.3% in the USA, well above the nominal rate in each case^{1/}. The effective rate on tropical hardwood plywood^{3/} in Japan is also likely to be well above the nominal duty rate of 20%^{3/}.

2.2 Characteristics of tariff schedules

Table 1 indicates the decline in average rates, and also highlights a number of other points:

1) Variation Between Developing, Developed and Socialist Country Rates

Although average rates have declined and in most situations are at low levels, rates differ between imports from developing countries, developed market economies and socialist countries of Eastern Europe. In general, the rates faced by the socialist countries are higher than those faced by other countries. The developing countries, on the other hand, face the lowest level of duties due to the range of special preferences they are eligible for, especially special rates under the Generalized System of Preferences (GSP)^{4/}.

1/ The post-Tokyo Round rates reflect bound rates to be achieved at the end of the phase-in period. In many cases they therefore reflect rates to be achieved by 1987 rather than current levels.

2/ Yeats (1974)

3/ See chapter II

4/ Discussion of the GSP scheme, which is available only to developing countries, is given in Chapter IV, section 2.2.

Table 1 - Average tariff rates facing wood and wood products in major developed country markets

	Imports from developing countries		Imports from D.M.E.C.		Imports from socialist countries	
	pre-Tokyo	post-Tokyo	pre-Tokyo	post-Tokyo	pre-Tokyo	post-Tokyo
AUSTRALIA						
Wood in the rough	11.9	0.0	7.2	0.0	0.0	0.0
Primary wood products	11.0	8.4	6.1	6.0	42.3	42.2
Secondary wood products	16.7	16.7	25.6	25.6	17.7	17.7
AUSTRIA						
Wood in the rough	0.1	0.1	0.3	0.3	1.0	0.7
Primary wood products	0.2	0.2	8.6	7.0	2.3	2.2
Secondary wood products	6.8	6.8	21.4	20.5	19.2	18.6
CANADA						
Wood in the rough	0.0	0.0	0.4	0.1	0.0	0.0
Primary wood products	6.1	6.1	4.6	2.5	13.9	7.7
Secondary wood products	6.5	6.5	17.7	12.6	15.7	10.3
E.E.C.						
Wood in the rough	0.0	0.0	0.1	0.0	0.2	0.0
Primary wood products	2.5	1.9	1.0	0.8	1.1	0.8
Secondary wood products	2.5	1.5	2.2	1.7	4.7	3.2
JAPAN						
Wood in the rough	0.0	0.0	0.0	0.0	0.0	0.0
Primary wood products	8.2	7.4	0.3	0.2	2.0	1.9
Secondary wood products	11.1	4.8	9.6	4.3	10.4	4.6
NEW ZEALAND						
Wood in the rough	0.0	0.0	0.1	0.0	1.4	0.0
Primary wood products	6.7	6.7	11.5	11.5	26.7	26.7
Secondary wood products	21.9	21.9	21.1	21.1	21.1	21.1
NORWAY						
Wood in the rough	0.0	0.0	0.0	0.0	0.0	0.0
Primary wood products	0.0	0.0	1.9	1.3	1.8	1.3
Secondary wood products	0.0	0.0	6.9	4.8	5.6	3.8
SWEDEN						
Wood in the rough	0.0	0.0	0.0	0.0	0.0	0.0
Primary wood products	0.0	0.0	1.6	1.4	1.2	1.0
Secondary wood products	0.0	0.0	4.0	3.0	4.9	3.7
SWITZERLAND						
Wood in the rough	0.0	0.0	1.2	1.1	1.6	1.3
Primary wood products	0.0	0.0	5.6	3.6	2.8	2.3
Secondary wood products	1.2	0.8	13.9	9.5	14.1	9.7
FINLAND						
Wood in the rough	0.0	0.0	0.0	0.0	0.0	0.0
Primary wood products	0.0	0.1	0.8	0.7	0.8	0.6
Secondary wood products	1.1	0.7	7.7	4.9	5.3	3.6
U.S.A.						
Wood in the rough	0.0	0.0	0.0	0.0	0.0	0.0
Primary wood products	11.0	5.6	0.8	0.4	15.4	7.3
Secondary wood products	3.5	1.7	4.7	2.4	3.8	2.3

Source: UNCTAD Data Base on Trade Measures

UNITED (1983d)

Note: Averages overestimate the effects of preferences since all imports eligible for preferences are assumed to benefit from them.

Since tariff rates vary significantly both between products and between markets discussions of average situations, while highlighting general conditions, tend to either under or over emphasize certain features. Details of rates applying to specific product categories for a number of developed and developing countries are given in appendix 4, and clearly highlight individual variations^{1/}.

ii) Variation Between Markets

While in most cases rates are low, considerable variation still exists between the rates charged by individual markets. For example, post-Tokyo Round rates for developing countries for primary wood products range from zero for Norway, Sweden and Switzerland to 6.7% in New Zealand, 7.4% in Japan, and 8.4% in Australia.

iii) Tariff Escalation

There is a tendency for tariff rates to be lowest on unprocessed products and to rise with increased processing. This characteristic, known as tariff escalation, is common in agricultural and forest products and is suggested to be an attempt by importing countries to ensure that the benefits of processing activities accrue to them rather than the exporting country.

Wood in the rough generally faces low or zero rates of duty while in most situations higher levels apply to primary wood products, and even higher rates to secondary wood products.

Tariffs are used to place restrictions on products that importing countries consider themselves to be most vulnerable to competition in. The limited evidence may therefore reflect the fact that the major developed markets see other developed countries rather than developing countries as major threats in secondary wood products. In turn this could reflect the greater level of sophistication of the developed markets in higher processing. Tariff escalation should thus be seen in the context of attempts to control the import of products the importing market is most vulnerable in, rather than a deliberate attempt to restrict developing nations to the production of unprocessed products.

Nevertheless, the great difference in tariff rates between wood-in-the-rough and primary products, and that between primary and secondary products has considerable significance for developing countries. As the term implies, primary processing is the first stage of processing beyond the basic stages of logs or squared logs. It generally represents a semi-processed form, the product serving as an input into secondary wood products. The primary processing activity is usually more labour-intensive and less demanding of skilled staff than secondary processing, and as a consequence is more likely to be within the developing countries' capabilities during their early stages of development. As well as being a less demanding process, an important feature is that the products require

^{1/} See tables 5, 6 and 7 Appendix 3.

less marketing expertise. Primary products, being more standardized, tend to have well developed international markets where price and supply availability play a more important role in successful sales than is the case for many secondary products. For secondary products production tolerances are narrower, quality requirements more demanding, and design, packaging, and promotional aspects of particular importance. Individual purchases are also smaller, placing greater demands on identifying and negotiating sale conditions, and meeting buyers' requirements within the confines of transport services.

These features, together with the need in many cases to combine the wood with other non-wood materials to produce the secondary product, result in a much greater degree of complexity in both production and marketing. This, in turn, places greater importance on the availability of skilled labour, managerial skills, and developed infrastructure.

The higher tariffs on primary wood products therefore restrict the type of processing that is usually within the developing countries capabilities, namely primary processing, thus hindering their efforts to industrialize. This point is supported by GATT (1984) which indicated that when analysis is carried out at the disaggregated product level^{1/}, tariff protection appears to still be of some significance for fibreboard, plywood, particle board and in some markets for sawnwood. All are items which fall into the broad category of primary wood products.

Although the significance of tariff escalation shown by the rate structure of developed markets, particularly the major importers such as Japan and Western Europe is unquestioned, the phenomenon is not restricted to these countries. In fact, evidence suggests that tariff levels are highest in developing countries, and that tariff escalation also exists in the import schedules of the developing countries and to a lesser extent in the centrally planned countries of Eastern Europe. Escalation was shown for developing countries in the three main regions, Asia, America and Africa (UNCTAD 1983). Of these regions, Africa had the lowest tariff rates in each category, substantially lower than those for the highest region, Asia. Rates for the socialist countries were much lower than those of the developing countries, and rates on secondary wood products in these countries were in fact lower than for primary wood products (Table 2).

Although tariff escalation may have lost some of its practical significance in recent years it is still important in inhibiting the export development of the developing countries. Much of its significance has been reduced as special concession schemes such as the GSP, other special preference agreements, and regional free trade arrangements have reduced or abolished tariffs for specific countries. However, in those markets with positive MFN rates, countries which do not qualify for additional concessions or where restriction clauses exist still face the impact of escalation. Even after taking account of special preferences, escalation was apparent for wood and wood product imports into the developed market-economy countries (UNIDO, 1983).

^{1/} CCCN four digit level.

TABLE 2 - Non-weighted average tariff rates on wood and wood products in selected developing and socialist countries of Eastern Europe*

Importing markets(a)	Wood in the rough	Primary wood products	Secondary wood products
Africa	14.4	16.2	24.1
America	26.2	37.6	52.5
Asia	34.1	57.8	73.1
Socialist countries of Eastern Europe	7.3	14.5	9.9

Source: National Tariff Schedules.
Adapted from UNCTAD (1983a). A full list of countries appears in the original report.

* Poland, Hungary, Bulgaria, Czechoslovakia, Romania

3. Non-Tariff Barriers

3.1 Quantitative restrictions

(a) Tariff Quotas

Tariff quotas are a variation of conventional tariffs. They involve two different tariff levels on a product, the higher level coming into force when imports reach a certain specified quota or ceiling level. For a number of individual forest products in selected markets they are of major significance. The following examples highlight their nature and the impacts they have by particular reference to the EEC, a trading region where they are a major element of an extensive system of trade barriers.

Paper and paperboard products have been subject to tariff quotas for a number of years although their incidence has declined. In the case of imports from the European Free Trade Agreement (EFTA) countries a 1972 agreement with the EEC provided a phased reduction in tariff levels, with the duty being removed on January 1, 1984. Associated with this regime, a system of volume ceilings were instituted. When these ceilings were exceeded, full customs duties were applied. Thus the EFTA countries traded volume restraints for phased tariff reductions.

For newsprint a tariff quota scheme was introduced in 1969. Under GATT rules the EEC undertook to allow 1.5 million tonnes of newsprint to enter free of duty. In more recent years the opening quota of 1.5 million

1/ This may be volume or value based.

tonnes was subsequently revised, with additional duty free volumes allocated if EEC suppliers did not have product available. For example, in 1983 the volume entering duty free reached 2,680,000 tonnes, some 63% of the EEC's total consumption. 1984 estimates put imports from non-member countries at about 2.1 million tonnes, or some 46% of total community consumption.

The phase out of duty in 1984 resulted in imports of paper and paper products from the EFTA countries becoming free of duty without volume restrictions. As a result the quota was modified in 1985 being reduced to 650,000 tonnes, with the bulk (600,000 tonnes) allocated to Canada, the major non-Scandinavian supplier.

The 1986 allocation of this tariff quota between the EEC and member states was announced as:

Country	From Canada	from Third Countries
	(tonnes)	
Benelux (Belgium, Netherlands, Luxembourg)	40,400	2,000
Denmark	600	80
Germany	88,000	15,820
Greece	1,000	10,820
France	5,500	1,400
Ireland	7,000	10
Italy	5,000	1,730
United Kingdom	390,000	6,650
EEC reserve	62,500	11,490
Total	600,000	50,000

Source: EEC Document COM(95) 672 Final, 27 November 1985

The exact effects of this quota are difficult to determine as with any quota system, since it is difficult to estimate the extent to which exporters withhold products to ensure they do not have to pay duty. Moreover, with additional volumes being added to the original quota, the final volume paying full duty (5.4%) is difficult to assess.

The EEC also applies tariff quotas on a number of wood panel, moulding and furniture products, with the quotas allocated between EEC Member States. The quota levels are announced annually, with imports below the quota entering at zero tariffs, while those above face tariffs which range from 3.5% to 10.4%. In the case of plywood, a tariff quota exists for coniferous plywood. The 1985 quota level of 600,000 m³ represents a 200,000 m³ expansion over the quota established when the scheme was instituted in 1974. No increase has taken place since 1980, despite increased consumption.

Developing countries primarily produce hardwood products, which in the case of plywood is not covered by the above tariff quota. Special concessions provide many of the developing countries with relief from the standard tariff. For example, under the Lomé Convention, all ACP (African, Caribbean and Pacific) countries obtain unlimited duty-free access^{1/}. Those countries not eligible for these concessions, which includes all the major hardwood plywood producers (Brazil, Indonesia, Malaysia, the Philippines, Singapore and the Republic of Korea) are generally eligible for GSP treatment. Details of the GSP quotas and ceilings on plywood and certain other products classified as 'sensitive' by the EEC are shown in Table 3. The dominant positions of Germany, France and the United Kingdom as importers of these products is highlighted. For hardwood plywood each of the six exporting countries receives an individual quota allocation (87,000 m³ each in 1985). In addition each EEC member state is subject to an allocation, with the United Kingdom receiving over half.

The restrictiveness of the tariff quotas is suggested by the fact that heavy early shipments by countries wishing to ship the maximum volume duty free often result in the quotas being virtually filled in the first quarter of the year^{2/}. For non-coniferous plywood, the quota only allows part of total imports duty free entry^{3/}. Further, the allocation of the quota to individual producers and individual member states creates other difficulties. Quotas remain tied to individual suppliers until the end of the year with the result that some suppliers exceed their duty-free quotas while others under-supply (Table 4). Over-quota volumes currently face duties of 10.4%.

A further difficulty for exporters facing tariff quotas of this type is the uncertainty created. Exporters are often unsure at the time of shipping whether shipments will be admitted duty-free. Large consignments from other exporters may arrive earlier and fill the quota. Complicated administrative systems such as this bear most heavily on exporters in developing countries who have less access to information and less developed exporting systems.

The Republic of Korea recently introduced a tariff quota with the intention of increasing trade, rather than restricting it. In this case the tariff on particle board was reduced from 30% to 20% for imports up to 100,000 m³ entering during the period April-December 1985. This move was taken to reduce the cost of imported particle board used by the domestic furniture industry, but to place limits on the volume that might enter. While involving a relaxation of an import barrier the example highlights the uncertainty created by many non-tariff barriers, since in this case duty on all imports would revert to 30% in 1986 unless the tariff quota was extended.

1/ A total of 57 countries. These are least developed countries associated with the EEC under the Lomé Convention.

2/ Coniferous quotas were exhausted before 18 June in 1981-1984 (Asian Timber, 1984). However in most years additional allocations were subsequently given so that most imports entered duty free.

3/ Total imports were approximately 500,000 m³ in 1981 (ECE Timber Bulletin for Europe) while the quota level was 471,000 m³.

TABLE 3 - GSP Scheme of the EEC for sensitive items : 1985 levels
(GSP rate : 0%)

CCT heading No.	Description	Community tariff quotas			Ceilings
		Beneficiary countries or territories	Individual quota amount (ECU)	Initial share allocated to Member States (ECU)	Individual ceiling for countries or territories other than those under column 3 (ECU)
(1)	(2)	(3)	(4)	(5)	(6)
44.11 (all numbers)	Fibre building board of wood or other vegetable material.	Brazil	3 594 500 (1982-3 150 000)	BNL 959 911 DK 11 574 D 696 219 GR 33 968 E 18 368 F 141 156 IRL 5 032 I 35 729 P 3 523 UK 610 670	5 340 400
44.15 (all numbers)	Plywood, blockboard, laminboard, batten-board and similar laminated wood products (including veneered panels and sheets); inlaid wood and wood marquetry.	Brazil S. Korea Indonesia Malaysia Philippines Singapore	87 300 m3 (1982-73 000)	BNL 14 596 DK 3 713 D 7 358 GR 154 E 625 F 1 591 IRL 1 360 I 1 129 P 120 UK 54 908	87 300 m3
44.23 (all numbers)	Builders' carpentry and joinery (including pre-fabricated and sectional buildings and assembled parquet flooring panels).				8 832 200 (1982-6 422 850)
94.03 (94.03-21,23,25,27,33,35,39,49)	Other furniture and parts thereof: B. Other furniture				4 621 500 (1982-3 939 600)

NOTE: Other products falling within CCN chapters 44 and 94 are either granted MFN duty-free treatment or GSP duty-free treatment, being covered by the list of non-sensitive GSP items.

TABLE 4 - Expiration dates of non-coniferous plywood quota allocations: EEC

	1981	1982	1983	1984 (at end-Oct)	1985
Brazil	OPEN	OPEN	OPEN	19 Oct	
Indonesia	5 Sept	10 June	3 March	12 Jan	
S. Korea	11 Nov.	OPEN	OPEN	OPEN	
Malaysia	20 May	15 June	4 June	9 July	
Philippines	2 Sept	19 Oct	12 Aug	25 May	
Singapore	26 June	13 Sept	23 Sept	7236 m ³	
Quota allocation each country (m ³)	70,000	73,500	75,000	78,500	87,300

Source: Asian Timber, Dec. 1984

Tariff quotas have substantially diluted the GSP benefits developing countries have received for some forest products (particularly plywood). Although a tariff quota may have represented a freeing up of trade when originally implemented, because of the difficulty of expanding these quotas they tend to become restrictive measures. Despite growing consumption^{1/} of plywood in the EEC only small changes in quota levels have taken place.

A further problem with tariff quotas, as with any systems of quotas, is the equitable allocation of the quota between suppliers. Allocations are often based on past trade patterns or preferential treatment for favoured suppliers. This can make it difficult for new or non-favoured suppliers to compete, even though they may be more efficient producers. Controls also operate on GSP preferences through limitations which restrict the maximum share of any supplier. In the case of a number of Japanese wood products, GSP import ceilings are subject to a restriction limiting any individual country to a maximum of 50% of the total quota. Similar provisions also apply to the USA GSP scheme.

(b) Other Import Restrictions

In addition to the tariff quota which combines a tariff and quantitative ceilings, quantitative restrictions vary considerably in type, manner of operation, and their impact. They include various types of quotas such as bilateral or global quotas where individual countries or groups of countries are allocated specified volumes (or values); prohibitions which may be total or only apply under certain conditions; licensing systems which range from very restrictive to automatic; and 'voluntary' export restraints (VERs) which although administered by exporting countries are the result of pressure from the importing country concerned.

^{1/} 1974 imports of all plywood totalled 1.8 million m³ and 1984 2.7 million m³. 1984 consumption was about 3.5 million m³ with an estimated 30% being softwood.

As well as quantitative import restrictions, export restrictions (other than VERs) also control trade in forest products. The most well known and probably that with the greatest impact is the log export restriction.

- Quotas: a ceiling placed on the volume or value of the product which may enter during a specified time period. In some cases quotas are used to restrict imports during certain seasons in order to limit competition with domestic supply. Quotas were used by France in 1983 and 1984 as a temporary measure to restrict imports of softwood timber from non-EEC countries while wood from trees destroyed in a severe storm in November 1982 were sold on the domestic market. An import quota of 1.75 million m³ for 1983 was set and extended to 1984 because depressed demand resulted in a much slower off-take than expected. Quotas of this type are temporary and short-term in operation. When applied, however, they do provide considerable disruption to trade.
- Prohibitions: these are more restrictive and at the extreme may stop imports altogether. In less restrictive circumstances they allow imports if the product meets certain conditions. Entry is commonly prohibited if health and sanitary requirements are not met. For example, to combat oak wilt disease the United Kingdom requires fumigation of oak logs, while other species such as conifers, maple, sycamore and yellow poplar must either be kiln dried, fumigated, pressure treated or have the bark removed. The EEC also requires all coniferous lumber to be debarked, to avoid further infestations of the pine bark beetle. Products not meeting these requirements are prohibited from entering community countries. Brazil has a range of tight restrictions including the prohibition of some products already manufactured in Brazil; import duties which range from 45% on pulpwood logs to 160% on plywood; and the widespread use of licenses which are capable of being suspended, as occurred in 1983/84, for a wide range of paper and paperboard products. These measures have been designed to encourage local industry, and more recently to reduce the drain on foreign exchange in order to alleviate the financial crisis Brazil has faced.
- Import licensing: in this case imports are subject to licenses which may be readily issued or difficult to obtain. Although automatic licenses are available on wood and wood products in many countries, they often serve as a means of monitoring import flows so that the country concerned may apply other restrictive controls as necessary. Countries such as New Zealand and South Africa, for example, provide automatic or liberal licensing which is used for statistical purposes; the EEC on the other hand uses such controls for surveillance in the case of certain sensitive products. More restrictive licensing exists where the issuing of the license is at the discretion of the authorities. Colombia, for example, has discretionary licensing for a wide range of wood and paper products.

The extent to which import licensing restricts trade is obviously difficult to assess. Even the more liberal situations often create a degree of uncertainty which may reduce exporters' willingness to trade in those markets. Unless consistently administered on a liberal basis, licensing can be a considerable barrier to trade development.

- 'Voluntary' export restraints (VERs): exporters agree to limit their exports over a specified time period to an agreed maximum. For the purposes of this discussion VERs are considered import restrictions, rather than export restrictions, since they are 'forced' on the exporting country by the importing country. Although administered by the exporting country, these are essentially quotas in that they result from pressure applied by the importing country. The exporter agrees to limit his exports because he fears even more difficult restrictions will be imposed otherwise.

Examples in the forest products area are limited, unlike the case of agricultural products where they exist for a number of products. 'Voluntary' restraints were applied to plywood exported to the U.S.A. by Japan in the 1950s (UNIDO, 1983); and for logs and cants exported to Japan by the United States in 1973 (Wiseman and Sedjo, 1985). In the case of plywood large volumes being shipped by Japan caused friction between the two countries and resulted in Japanese exporters making voluntary restraints to avoid more restrictive measures. In 1972 the U.S.A. agreed to limit log and cant exports^{1/} to Japan to near the then current level of about 10 million m³ per year^{1/}. Even after the agreement expired Japan reportedly viewed this as about the level of imports they wished to maintain. U.S. log exports have fluctuated near the 10 million m³ level since that time, although this may be due to other factors, particularly log export restrictions from federal lands imposed in 1968 and 1974.

VERs which do not involve any direct government involvement also affect trade. In this case firms act together and agree to limit their exports in an attempt to anticipate, and therefore defuse, protectionist pressures in the importing countries. An agreement between an Australian paper manufacturer and three New Zealand pulp exporters which limited the sale of packaging materials and converted products in Australia and also limited the quantity and conditions of supply from New Zealand to other Australian purchasers provides an example. A lack of government involvement is indicated by the fact that in 1978 the Australian Trade Practices Commission ruled that parts of the agreement reduced competition, and as a result the Australian manufacturer amended the agreement to overcome these effects (OECD, 1984).

A side effect of VERs is the degree of centralized control that must be imposed on the exporting sector in order to ensure the restraint level is not exceeded. This may require government control or at least policing

^{1/} Around 200 million board feet.

by the industry itself. One effect of quantitative restrictions of this type is that new exporters find it difficult to enter the markets concerned because volume allocations have already been made to existing exporters. In total this type of restriction has the usual effects which result from quota-type restrictions, while having the additional disadvantage that the importing country has masked a barrier it has effectively created and has circumvented GATT rules.

Two additional features stand out. Firstly, VERs are highly discriminatory, in that the agreements only apply to certain countries or suppliers. Secondly, they are often difficult to identify. Private agreements need not be notified to the government in most countries, while governments often argue they are not import barriers because they are instituted by the exporting country. Governments do not then include them in their notifications to international trade bodies such as GATT.

(c) Export Restrictions

Quantitative restrictions are by no means limited to import restrictions. Many of the quantitative measures already discussed are also on exports. The number of measures is, however, much more limited than for imports.

Quotas, prohibitions, licences

Governments have long used such techniques as export licenses, prohibitions (both total or conditional), and quotas to limit the export of all or only selected forest products. All distort trade patterns by limiting the flow of product, or selectively encouraging exports of particular products. The basic objectives vary with the particular situation, but initially most were used as a means of gathering tax revenues (where export taxes were used), or retaining products for domestic use.

Recently, considerable attention has been focused on log export restrictions which aim to encourage (or force) processing activities to be carried out in the wood supplying country rather than in the importing country. Those of the main log exporting countries of South East Asia - Indonesia, Malaysia and the Philippines - are of special note. These restrictions and their impacts will be discussed in greater detail in a later section. At this point, it is of interest to indicate the broad dimensions of export restrictions, the range of methods used, and to describe selected examples. The following examples indicate two points - that export restrictions in forest products are not new, and that developed as well as developing countries have used them to influence trade patterns.

(1) Restrictions by developed countries

One of the most widely quoted and certainly most widely debated cases is that of North American log controls. Both the USA and Canada, two of the world's major wood producers and exporters, retain restrictions on the export of logs.

In the case of Canada, the Provincial laws prohibit the export of any logs that may be required by domestic processors. In British Columbia, the major forestry Province, in order to receive a permit to export, logs must first be advertised for sale in Canada for a specified time. If no purchasers are found, permits are issued. This ban was introduced in 1906 and has resulted in only relatively small volumes of logs being exported. Canada has provided less than 2% of Japan's log imports since the mid-1970s even though it has been the world's third largest producer of saw and veneer coniferous logs over that time. Although log exports have only been a small proportion of log production (less than 3%), volumes more than quadrupled over the period from the late 1960s to 1984, despite the restrictions. In an effort to reduce exports the restrictions were tightened in early 1986. Under these changes, exports will only be allowed for less preferred species or if some log sales are needed to make the harvesting of a stand economic (Random Lengths Export, December 5, 1984).

By contrast, the USA has maintained its position as the world's largest exporter of logs despite log bans similar to those of Canada. From 1969 to 1973 the export of logs from federal land west of the 100th meridian was limited to 350 million board feet (about 2 million m³) per year. Since October 1973 a ban on the export of unprocessed timber from federally-owned land has been enforced and in addition some western states have applied restrictions on logs from state-owned land (US ITC, 1985).

The effects of these restrictions have been debated for many years. The basic intent of the restrictions has been to increase the supply of logs to the domestic industry, and thus lower the price they must pay for them. It is argued that as a consequence the domestic processing industry would be stimulated, and domestic consumers would have an increased supply of wood products at lower prices. In addition the reduced export volume would force the overseas markets to import sawn timber rather than logs, further stimulating the domestic processing industry. The extent to which this has occurred in North America has been the subject of considerable debate without any clearcut conclusion being reached. Despite the controls USA log exports increased by 8% between 1973 and 1984 while sawn timber exports only grew by 4%. Over the same period Canada's log exports grew fourfold while sawn timber exports expanded by 59%.

Whether the increase in log exports would have been greater without the log ban is difficult to determine. In contrast to the Canadian situation where only 8% of timber lands are owned by private interests, about ²/₇2% of US commercial forest lands are privately owned (US ITC, 1985). This enabled log exports to continue at a high level despite the bans, as volumes from private owners have increased.

1/ Average exports 1968-1970 equalled 826,000 m³, 1984 totalled 3.3 million m³. Average exports 1970-73 used as base because 1972 and 1973 log export appears to have been abnormally low. 1984 exports of logs totalled nearly 16 million m³ and sawntimber 5 million m³ (FAO, 1986).

2/ Acreage owned by non industrial owners and forest industries.

(ii) Restrictions by developing countries

Quantitative controls on exports have also been used by developing countries throughout Africa, Asia and South America. Many countries use quotas or prohibitions. The export of logs was banned by Ghana in 1979, and total prohibition on the export of the two main species together with quotas on other species was introduced in 1982 by Africa's leading log exporter, the Côte d'Ivoire. In Bangladesh, Pakistan and Thailand, log exports are virtually banned, while in India the export of logs and lumber was banned in the early 1980s in order to ensure adequate wood supplies for the domestic woodworking and other wood-based industries. Malaysia, the Philippines and Indonesia have all maintained log export controls since the early 1970's. The detail of the policies used and the commitment to them has varied between these countries, and even with the country in the case of Malaysia^{1/}. The net effect in most cases has been declining volumes of logs exported, with the most dramatic effect being seen in Indonesia. In each case the quantitative restrictions have been backed with other controls.

Export duties and taxes: Clearly the most direct and simplest method of reducing exports is through quotas or prohibitions. In a number of countries direct volume restraints have been associated with other forms of restriction. Many South-East Asian and some West African countries use export charges, sometimes combined with quotas, to both raise revenue and encourage a greater degree of domestic processing. As examples, Indonesia, the Philippines, Malaysia, Liberia, Ghana, and Côte d'Ivoire all impose volume or value based export charges which decrease with the degree of processing. Value-based taxes on logs vary from about 10% to 44% depending on species; those on semi-processed products (rough sawn or planed wood) from 2 to 11%; and processed (veneer, plywood) from 0 to 4%. In some cases volume charges are used, and can be as high as \$75/m³ for higher value log species; \$60/m³ for rough sawn timber of high value species; while only \$2/m³ for processed forms. Measures such as these together with differential royalty charges result in domestic log prices being substantially lower than export prices - in many cases \$50-70/m³ lower (FAO, 1983b).

An additional form of restriction with important effects on the volume of exports is the control of harvesting by government. This may be direct as in the Philippines where the government, which owns most of the forested land, has restricted timber licenses to only nine areas of the country. The level of allowable cut is specified in the licenses and was reduced from 14 million m³ in 1982 to 5 million m³ in 1985. This has controlled the level of wood available for both the domestic market and export. In addition, export levels of wood products are also specified. Twenty-five percent of the allowable cut may be exported as logs, 70% of sawn timber production, and 80% of plywood production (FAO, 1983b). Such controls are, however, administratively cumbersome. Republic of Korea, a major exporter of panel products, recently announced restrictions on production from its forests by designating 1.5 million ha of forestland as a zone where logging is to be banned for 100 years (World Wood, Aug. 1983).

^{1/} These policies and their impacts are discussed in more detail in Appendix 3.

Export controls on logs have also influenced trade from a number of South American countries. Most, with the notable exception of Chile which removed its restrictions in 1975, still maintain bans which have been in place for many years. In particular, Brazil has banned log exports since the early 1970s in favour of domestic production of higher value added wood manufactures such as timber and panel products. This ban was lifted in 1984 except for a few protected species (Asian Timber, March 1985). Increases in log exports have not occurred to date, but indications are that substantial volumes may occur in the future as major projects such as hydro electricity, mining and ranching development release logs.

3.2 Measures influencing prices

Some of these measures increase price by the addition of government charges in a similar manner to tariffs. In this case the increase is collected by the government as customs revenue. Others, however, work from the other end. Prices are increased at the wholesale or retail level, with the importer or exporter retaining the margin rather than it being collected by the importing country as tax revenues. For example variable levies equalize the landed import price with one specified by the government; with 'voluntary' export price agreements exporters agree with producers in the importing country to maintain certain minimum prices; and minimum price systems involve the triggering of additional government charges or price investigations if prices fall below the specified price. In all cases prices are affected; and in all, the price increase which results can be achieved without the increase going to the government. Only if the exporters fail to take the necessary action to keep price above a minimum level does the government institute penalty taxes.

Although used extensively for agricultural products these types of non-tariff measure are less widely used in forest products trade. Examples do, however, exist. 'Voluntary' export price agreements, under which prices were raised to what were regarded as more realistic levels, were negotiated on manufactured wood products by the EEC in 1980. These applied to eight European and East European countries. In 1982 and 1983, further countries were covered by the agreement. Similar agreements covered selected paper products. The agreement to raise prices followed anti-dumping investigations, as was the case with New Zealand sawn timber on the Australian market.

In the New Zealand case, which began in 1982 following investigation, industry to industry discussions, and legal battles the New Zealand industry agreed to restrictions. These involved observing minimum export prices based on 'normal' values set by the Australian Customs Service, and limiting the monthly volume of shipments of structural grade timber. The 'voluntary' restraints were in place for about two years before government to government negotiations and improved market conditions allowed them to be removed in 1985. This highlights the degree of 'enforcement' involved in many so-called 'voluntary' agreements, and the role governments may play in the process.

1/ The variable levy system used by the EEC to enforce minimum prices for animal products is perhaps the most well-known example.

In the case mentioned above, anti-dumping investigations resulted in the exporting countries agreeing to raise prices. In other cases the result may be the imposition of anti-dumping duties which accrue to the government. In a similar manner, countervailing duties enforced to negate subsidies also accrue to the government^{1/}.

Measures such as these act as a considerable barrier to exporting countries even where formal duties are not applied. In a number of cases, such as the one discussed above informal agreements are entered into to avoid the duties. The threat of filing a complaint may also be used to pressure exporting firms to modify their prices or strategies. Exporters are generally required to post a bond equal to the alleged amount of the subsidy or dumping and are therefore under immediate pressure, even though the charge may not be proven. The uncertainty involved in facing actual or potential charges can be formidable and considerable expense can be involved in providing information, preparing strategies, travelling, senior executives presenting evidence at hearings and employing consultants and legal counsel. Moreover, while this is happening, and during formal proceedings, trade volumes can suffer as exporters react to the uncertainty, and importers cut back purchases which might subsequently face additional charges. Where the process is drawn out, the effect on trade can, for many small firms, be crippling even if the original complaints are eventually rejected.

The uncertainty and effects of such situations also heightens exporters' awareness of the delicate position they hold. They are therefore likely to be more restrained in future trade than would otherwise have been the case, and may even concentrate exports on less difficult markets.

3.3 Health and technical standards

(a) Health Standards

These exist in most countries and are generally acknowledged as legitimate regulations to ensure the continued health of the importing countries' environment. Pests and diseases which may be introduced in wood products, can have devastating effects on the health of domestic forests, other plants and even human health. For this reason stringent quarantine regulations are common - particularly in countries which are already relatively free of many pests and diseases and where the forest sector is of major importance to the economy.

^{1/} Anti-dumping laws relate to the sale of imported goods at prices below the price of comparable goods sold in the exporters domestic market. The actions must result in material damage to the industry in the importing country.

Countervailing duties seek to offset government subsidies received by the exporter. Again material injury to the industry in the importing country must be proven. See OECD, 1984 for a full discussion.

The complexity and severity of health requirements and the manner in which they are enforced may have a substantial effect on trade. Together with technical standards, they are reportedly cited most often by exporting countries as obstacles to trade in submissions to GATT (GATT, 1984). The extent to which they restrict trade, and the degree to which they are used primarily for this purpose is difficult to determine. While different countries might be expected to have somewhat different attitudes and needs on health matters, substantial differences exist on the standards and the way in which they are administered. The major difficulty is to identify where the regulations are excessively restrictive and go beyond reasonable levels for protection from pests and diseases.

Because of the consequences of major infestations of many of these pests and diseases it is not surprising that fairly severe regulations are being applied in many countries. These involve strict inspection and treatment requirements and at the extreme, prohibitions of products not meeting the specified requirements. Ferguson and Lloyd (1980) noted that Australia, along with a number of other countries, has particularly strict quarantine requirements. Material containing bark, all wood products imported from countries where the Khapra beetle is found, and products which on inspections show signs of insect activity must all be fumigated. Log imports can only occur at a few ports and must be processed within a specified distance of the port. Additionally, importers must submit a notice of intent to import lumber, and phyto-sanitary certificates from the exporting country must be included with the shipment, although this does not avoid inspection by Australian quarantine staff (FAS, 1985).

The EEC member states require fumigation of oak logs and lumber, and certain other species must be either kiln dried, fumigated, pressure treated, or have the bark removed. All coniferous lumber must be debarked. In the case of oak, imports from North America in particular were restricted until a system of fumigation which overcame the problem was developed.

While few would argue with the need to maintain restrictions for health and sanitary reasons, much of the debate on whether they are in fact non-tariff barriers revolves more around the enforcement procedures than the regulations themselves. Some of the issues at dispute are the insistence that products be inspected on arrival, while also requiring inspection certificates from the exporting country; rejection of imports where the documentation has a minor error; restriction of entry points to sometimes limited and often obscure locations; and short hours of operation of inspection facilities. Further argument arises over whether or not certain pests or diseases are in fact important or harmful enough to require the action demanded by some countries.

The primary complaint is therefore that the health and sanitary regulations and their administration is excessively restrictive, and goes beyond the level needed to ensure adequate protection, not that such regulations are unnecessary.

(b) Technical Standards

These are closely linked to the question of health standards. Technical standards are considered an important means of ensuring products

perform adequately under specific end-use conditions. They ensure products are capable of meeting the demands of the end-use, by indicating their capabilities. As with health regulations, they vary both between countries and between markets within a country.

Each country has unique practices, preferences, and wood product supply characteristics which are reflected in their standards. Laws, codes and standards relating particularly, but not exclusively, to construction uses differ between countries, and can create considerable barriers to trade. Many of these differences, however, merely reflect usage preferences rather than formal barriers and are therefore not trade barriers as defined in this study. For example, the main Japanese plywood sheet sizes of 0.92 m x 1.82 m (so-called 3' x 6') reflects the unique construction design practices used in that country. Although North American producers consider this a barrier to trade because their own market demands 1.22 m x 2.42 m (so-called 4' x 8') sheets, it is a market preference based on different construction methods rather than an artificial barrier.

Cases do exist where building codes unfairly discriminate against wood and wood products. This can be against all woods, or only against some species or types of products. In many developing, and some developed countries, strong prejudices are held against wooden homes. This can be based on incorrect traditional beliefs about such things as strength, durability and performance under fire, earthquake, or hurricane conditions. Methods of construction and familiarity with particular species can affect these beliefs, as can product failures resulting from incorrect use, rather than the products' inherent abilities. In some tropical countries the exclusion of timber by building codes is due to a lack of technical information on timber (UNIDO, 1983a). Again, however these are not non-tariff barriers since the discrimination is not just against imported wood products.

Standards nevertheless exist which do discriminate against imports. Because of the ring width of radiata pine Japan classified it with other pine species. Proof that its technical capabilities were not truly reflected by ring width required considerable time and expense. Several years of discussions and technical evaluations were needed before the regulations were altered in 1981.

Softwood plywood imports into Japan faced technical difficulties until the problem was resolved in 1983. Before resolution of these differences, which covered a 17-year period and involved extensive development work by the American Plywood Association, softwood plywood was effectively precluded from construction uses. Another disagreement over softwood plywood involved tolerance levels for 'white pocket', a fungal disease of Douglas fir. Japan was unwilling to accept signs of this disease in imported Douglas fir although U.S. tests reportedly showed that the levels allowed in U.S. construction grade plywood had no effect on the product's performance. Again extensive efforts were needed by the U.S. plywood industry before the standards were modified to a mutually acceptable level.

These examples illustrate how technical standards can operate as non-tariff barriers. Recognition of this at an international level resulted in technical standards being one of the five major agreements covering non-tariff barriers reached in the Tokyo Round of the NTM negotiations.

Technical standards can have particularly important implications for developing countries since these countries can have considerable difficulty meeting excessively restrictive standards. They often have limited control facilities, inspection services, fumigation and treatment plants, etc. This is of particular significance because efforts to export 'lesser-known' tropical species are likely to be greatly hindered by excessively tight technical standards. Standards in the developed country markets do not reflect the needs of these species because few have entered international trade.

Further, the performance characteristics of the products can differ dramatically with changing climatic conditions. A given tropical wood may not perform well under temperate conditions even though its strength and performance may be excellent in humid tropical climates. Additionally, the building practices which have developed in a country to suit its own conditions may not be adequate to compensate for the different characteristics of the imported wood. Technical standards differ substantially between import markets, and even between different regions within a country. The difficulties of meeting standards in a number of export markets can be substantial. Product specifications which have been developed to meet the requirements of one market may not satisfy others, requiring adaptations which may be beyond the abilities of a developing country, or uneconomic to provide.

3.4 Customs and administrative entry procedures

(a) Customs Procedures

Customs procedures present difficulties and uncertainties which can deter exporters, particularly smaller firms. At best they may add to the cost of landing the products in the market; at worst be of sufficient difficulty to stop imports altogether. Complaints range from the view that they are unnecessarily complicated, to a belief that they are deliberately used to inhibit imports. Difficulties faced include the complexity of documents, problems in obtaining necessary authorizations, complex inspection procedures, differences in valuation procedures, and physical problems in clearing the goods.

(b) Documentation

Documentation may require the stamp of numerous departments or officers, many of whom may be difficult to locate, or require repeated proof relating to the products. The physical location of these approving offices may be widely dispersed and their hours of operation limited. In some cases the entry point at which customs services operate may be heavily restricted. Examples exist for European countries where entry procedures constantly change, where only one border post (at an obscure location) is specified for certain products where customs declaration forms are always

in short supply, etc. Measures such as these clearly suggest that the customs procedures are being deliberately used to restrict the flow of imports^{1/}.

(c) Customs valuation

Customs valuation determines the value of the goods entering the country. The assessed value is then used to calculate customs duties and other taxes and charges at the border^{2/}. Where differing systems of valuation are used by different countries the result can be both confusing and restrictive. Arbitrary and inequitable techniques raise the cost of the goods well above domestic levels, thus placing the imported products at a competitive disadvantage. Differences in the stage in the distribution chain at which the valuation is made, and the cost elements included in the value can create substantial differences, particularly if part of the assessment is at the discretion of the customs authority. An assessment based on a CIF value clearly results in a much higher duty than one based on FOB^{3/}. Again, one based on a government determined reference price may differ (either above or below) from one based on a market price. Until recently Canadian import duties on forest products (as with all products) were based on the assessed greater of the fair market price, or the selling price. Under this system a great deal of uncertainty regarding the value, and hence the duty, payable, existed. As from January 1985 the system was changed^{4/} to basing the import duties on the actual transaction value of the product.

The valuation issue is often associated with the tariff classification of the goods, since this can affect the customs category the product falls into and hence the duty rate. In particular, with tariff escalation affecting wood products, classification of a product into a different category can raise the duty payable. Differences in the way the same wood products are treated in different countries can often in part be attributed to different classification systems. The predominant system of tariff classification is the Customs Cooperation Council Nomenclature (CCCN)^{5/}.

^{1/} Means of reducing problems of this nature were addressed in the Tokyo Round code addressing Import Licensing Procedures.

^{2/} In addition, licenses and import quotas may be based on the value of the goods.

^{3/} FOB - free on board. This is the value at the point of export. CIF includes the cost of freight and insurance and therefore indicates the cost of landing the product (excluding duty) in the overseas market.

^{4/} This change resulted from the Customs Valuation Agreement negotiated under the Tokyo Round of the MTN.

^{5/} Formerly known as the Brussels Tariff Nomenclature (BTN).

Canada and the USA, two of the major forest producing and exporting countries, each have their own classifications which differ markedly from this system and creates confusion for countries wishing to export to them. It also makes a comparison of duty rates between countries difficult. Disagreement also occurs over the categorization of some products. To assist in reducing barriers due to differences in customs classifications, international moves have been made to develop a uniform system of classification. The Customs Cooperation Council has developed a system known as The Harmonized System (H.S.)^{1/}, which it is hoped will provide greater uniformity between countries. Of special importance to developing countries is the fact that major varieties of tropical wood have been identified^{2/} separately under four new CCCN headings covering wood and wood products.

3.5 Trade agreements

Agreements between industry organizations or governments in some instances act as barriers to trade. It is, however, difficult to classify them as trade barriers since their form and impact may vary greatly, ranging from those which have considerable restrictive effects to those which in fact result in a freeing of trade. The form and scope can range from regional or sub-regional agreements to those within countries. It is also difficult to distinguish many from normal efforts commercial firms make to improve their competitive position. Action on price agreements, volume restraints and bilateral agreements can be seen as normal business practices. While they may therefore restrict or distort trade from what might be free-trade conditions, they do not fall within the scope of trade restrictions being addressed in this study.

Agreements such as the South-East Asian Lumber Producers Association (SEALPA), which involve voluntary quotas or price conditions, are not greatly different from similar arrangements operated at an individual government level, as discussed earlier under quota systems or price management controls. The primary difference is that they are voluntary, or only mandatory for members of the organisation. They may involve more than one country, or only some producers within a country. In fact the SEALPA activity relating to fixing log export quotas and minimum export prices has rested largely on the initiative of national organizations or even individual governments, rather than SEALPA. Indonesian log export controls are enforced by government; in the case of Malaysia individual state governments have determined the extent of restrictions with the result that Peninsular Malaysia has almost eliminated log exports, Sabah has some level of restriction, while Sarawak maintains a policy of encouraging log exports. It is, however, likely that support for controls has been encouraged by the existence of a regional body whose interests lie in improving marketing of its members and ensuring these members develop greater market power in their dealings with importers. In the case of SEALPA, primarily Japan.

1/ Officially called The Harmonized Commodity Description and Coding System. It is due to become operative in 1986.

2/ For details see GATT (1983).

Other trade organizations with similar roles influence volumes or prices with varying levels of success in other regions and for other wood products. The Asian Panel Products Federation (APPF) sets guide prices for all major consuming markets, while the African Timber Exporters' Association coordinates the policies, including pricing policies, of the major exporting countries in West and Central Africa.

The primary benefits of such organizations usually lie in their role as forums for members to discuss problems, share information and develop rationalized systems for grading standards, etc. Participants at a meeting of experts on tropical timber marketing in 1983 (UNCTAD, 1983) concluded that there was little cooperation among the producing countries of Southeast Asia and that the activities of exporters' trade associations were weak when compared with those of importers' trade associations in the consuming countries. Success through such arrangements depends on considerable self-restraint by members, an accepted commonality of purpose, and self-imposed control and discipline. These are generally difficult to achieve among groups with very different interests and problems.

Trade agreements involving governments are much more effective, and consequently present much greater distortions to trade. While they usually reduce barriers to trade between the countries involved, they in turn increase the barriers faced by other suppliers causing trade diversion. The establishment of the EEC has resulted in reduced barriers between member states, but for many products increased barriers (or less-favoured treatment) to non-member states. For example the Free Trade Agreements negotiated between the EEC and the members of the European Free Trade Association (EFTA)^{1/}, not joining the EEC have resulted in EFTA countries, principally Norway, Finland, and Sweden, moving to duty-free entry to the EEC for all paper and paperboard products. Other suppliers continue to face tariff levels which put them at a competitive disadvantage^{2/}.

Other examples of trade agreements which reduce the competitiveness of countries not covered by the agreement include the South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA)^{3/}, and the Latin America Free Trade Association (LAFTA), arrangements between Australia and New Zealand (Closer Economic Relations Agreement)^{4/} and those between East European block countries (CMEA). Some of these arrangements

1/ The agreements resulted from two original members of EFTA, the United Kingdom and Denmark, becoming members of the EEC. Current EFTA members are Norway, Finland, Sweden, Portugal and Austria.

2/ Outside suppliers face levels ranging from 6 to 13%.

3/ This agreement provides special access for some South Pacific Forum nations (Fiji, Nauru, Tonga, Samoa, Cook Islands, Niue, Papua New Guinea, Solomons, Tuvalu, Kiribati and Vanuatu) to the Australian and New Zealand markets. Among the products given special treatment are some wood and wood products.

4/ Council for Mutual Economic Assistance. Signatory countries are Bulgaria, Cuba, Czechoslovakia, German Democratic Republic, Hungary, Mongolia, Poland, Romania, USSR, Vietnam.

are likely to have little effect on trade in forest products for a number of reasons. In some cases the countries involved may have limited forest resources, or the markets in the countries may be small. In others, the countries may have very similar forest resources, with the result that little trade develops. In yet other situations additional clauses, requirements for inter-industry consultations, etc., may control trade flows.

In the case of the CER agreement between New Zealand and Australia, trade barriers between the two countries for forest products had previously been removed or reduced to low levels under an agreement initiated in 1965^{1/}.

3.6 Ocean freight

Freight problems are one of the most major difficulties facing those engaged in international trade in forest products. For a great many countries transport places a significant restriction on their competitiveness. This reflects the fact that the majority of forest products which enter international trade are bulky with a low value per shipping unit. Products such as logs, sawn timber, plywood, woodchips and pulp and paper, which make up the greatest share of world trade all have this characteristic. Additionally, distances between the location of the resource and the export market are often extensive. As a consequence, ocean freight costs make up a significant proportion of the cost of landing the product in an overseas market. Freight costs can range from 13% to 94% of the FOB cost, depending on the product, the route involved, and the time of shipping. Typically, however, the range is 15% to 30% (Table 5).

Appendix 2 provides details of a number of aspects of sea freight which create difficulties for those shipping forest products. All of these difficulties are real and major barriers to international trade, a situation which applies for most countries but particularly for the developing countries. There is little evidence, however, that they are the result of concerted restrictive practices imposed with the aim of limiting or distorting trade. They reflect natural comparative advantage (or disadvantage) or commercial decisions made by shipping lines. Certainly the conditions associated with particular services place exports from the developing countries at a disadvantage with competitors in other locations, but the decisions surrounding the services are predominantly made on commercial grounds.

There are nevertheless some practices concerning international shipping that distort trade patterns and may be classified as non tariff barriers. In many instances government impose restrictions on the free operation of shipping services. Most are intended to assist or protect some sector of the economy other than the forest sector, but their effect is often to either increase the costs faced by their own exporters, or provide unintended protection for domestic processors.

^{1/} New Zealand-Australia Free Trade Agreement (NAFTA). In this agreement forest products featured as one of the major commodity groups to be deregulated.

Table 5 - Ocean freight cost as proportion of product value^a

Product	Route	Freight as Proportion	
		FOB value	CIF value
Logs	East Africa - Europe	Over 50%	
	Indonesia - Japan	20-31	16
	New Zealand - Japan	48	32
Plywood	Indonesia - Japan	14	12
	Malaysia - Japan	13	11
Sawntimber	New Zealand - Japan	33	21
	New Zealand - Australia	30	25
	West Africa - Europe	23-31	
	South America - Europe	17-94	
	Papua New Guinea - Europe	29	
	South East Asia - Europe	17-35	
	South East Asia - USA (West Coast)	15	

a/ Proportions reflect specific examples. They should therefore be used only as approximations.

Sources: UNIDO (1982 and 1983 e), Takeuchi (1983), Horgan & Theron (1983)

A number of countries have restrictions which force exporters to use domestically owned shipping lines. The regulations usually seek to protect domestic shipping companies and/or the jobs of that country's seamen. This protection is only necessary if the domestic shipping industry cannot compete in a free market. In the Philippines, a law requiring the use of Philippine flag carriers for a proportion of export shipments, was enacted in 1977 but competition between non conference and conference shipping created difficulties for national flag carriers. As a result, the 40% guarantee for national carriers which covered the exports and imports between the Philippines and the USA was removed in 1984. In Sabah, a 1982 revision to timber license agreements made it compulsory for log exporters to use government nominated shipping lines. Although availability and coordination of ships were stated as likely to slow the implementation of the law (World Wood, Sept. 1983) the goal was to give priority to Sabah owned shipping. Indonesian and Japanese shipping firms attempted to use their combined power to share the shipping of timber from Indonesia to Japan. In 1975 shipowners in the two countries reached a trade sharing agreement. However, the Indonesian Government effectively blocked the Japanese lines by denying permits to them, thus giving preference to national carriers. As a result, by 1982 Japanese ships were carrying only 18% of the lumber volume. It was reported in 1983 that the controls were to be relaxed, (World Wood, Sept. 1983).

1/ Shipping conferences are cartels of a number of shipping lines. The group coordinates schedules, services and freight rates, and has therefore often been considered to limit competition, and therefore increases freight rates to users.

It is difficult to assess the effect of measures such as these on export shipments. Where the national carriers are less efficient than alternative lines, costs to the exporter are no doubt raised. On the other hand, such moves can have positive effects. They can enable more regular services, service previously unserved areas, and also serve to balance any restrictive practices that importers may engage in. For instance, Japanese importers commonly purchase forest products such as logs at FOB and arrange shipping themselves. In many cases the FOB price negotiated with the supplier is a residual price, that is market levels less all relevant costs bring the price back to FOB. In this situation shipping cost estimates become important, and where a small number of large buyers who also own the shipping lines exist, as is the case in Japan, smaller suppliers are at a disadvantage. In these situations the shipping rates can be manipulated to favour the buyer. Although evidence that this manipulation occurs is difficult to obtain because of the complexities of shipping and the variability of rates, it does seem likely that it exists.

Restrictions concerning lines who may carry imports into developing countries are also common. Many developing countries restrict the carriage of imports, or a proportion of them, to domestically registered ships. Brazil, Colombia, Republic of Korea and the Philippines are examples.

Although the evidence is only fragmentary and inconclusive, there is some evidence to suggest that developing countries may be at a disadvantage on some routes. Members of conference lines, which operate liner services to fixed schedules, generally have specified rates with varying surcharges and discounts depending upon custom and circumstances at the time. These conferences tend to segment their markets and charge higher prices on routes where little competition from non conference lines exists, and lower prices where competition is greater. UNIDO (1983e) suggests that in East Asia where considerable competition in shipping occurs and where most shipping lines operate outside the conferences, price competition is strong, unlike the situation facing exporters in West Africa. This discrimination appears to be the result of conditions facing the shipping company - both competition and the characteristics of the trade involved - rather than a deliberate attempt to influence trade patterns in favour of a particular country. Nevertheless the final result may in fact be to do this.

Certainly, however, shipping companies attempt to take advantage of the situation and increase their profits wherever possible, and developing countries are usually less able to combat such actions.

A final case of practices which distort trade is that of subsidised national shipping lines. Since freight is such an important part of the movement of forest products, measures which artificially reduce export costs give exporters an unfair advantage over exporters in other countries, enabling them to compete where they would otherwise be uncompetitive.

3.7 Other measures

As indicated by the UNCTAD inventory on non tariff measures (see Appendix Table 1) a wide array of other measures exist which act, or may potentially act, as trade barriers. Some encourage domestic production by

allowing domestic producers to compete domestically where they would not otherwise be able to. Others encourage domestic producers to export.

Production grants, preferential loans and subsidies, tax concessions, research and development funding etc. all can reduce costs of production below levels that would otherwise exist. Export encouragement measures can also include tax concessions, grants, preferential exchange rates, government-funded marketing and promotional activities etc. These may reduce costs to the exporter or provide services that exporters would otherwise be unable to provide for themselves.

Many countries have government policies which encourage forest management or the establishment of commercial plantations. These may range from free advice or enforced management practises to the use of direct subsidies. These policies, if successful, reduce wood production costs and may thus encourage exports. For example countries such as Chile, Brazil, New Zealand, Fiji and Finland amongst others have developed major export oriented forest industry on the basis of heavily subsidised plantation forests.

Measures such as these can improve the competitiveness of domestic producers either directly or indirectly. The measures may or may not, however, be specifically aimed at providing this assistance. Some, such as export tax concessions or freight subsidies, are clearly targetted at export encouragement. Others are less clear, and may be for other reasons, but can have substantial effects on trade. In particular production subsidies can ensure inefficient domestic industries exist and even grow. These producers can profitably compete against other more efficient producers both on the domestic and export markets.

It is generally very difficult though to clearly identify the measures and their impacts. In particular domestic subsidies which can have a major impact on international competitiveness are often not specifically linked to particular products. Policies which have no clear association with forestry may be of considerable assistance - for example general freight subsidies, regional development grants and broad macro-economic policies all have major impacts.

Government policies on the sale of state-owned wood can provide industry with low-cost resources which enable profitable exports.

No attempt will be made to analyse these barriers any further. It is important to note though that they exist, and can be of much greater importance than many of the barriers already discussed.

Subsidies in particular are of major concern and at the extreme can result in large volumes of cheap products being dumped on international markets^{1/}. For forest products government stumpage policies, freight subsidies, plant construction and modernization grants etc are common in many countries.

^{1/} EEC agricultural policies are a prime example of this.

Recognition of the need to reduce the impacts of many of these measures has resulted in efforts to provide ground rules on many of these policies at an international level. GATT rules clearly identify some and provide guidelines which GATT signatories should operate within. For example rules governing dumping and subsidies have been addressed in the GATT Code on Subsidies/Countervailing Measures developed in the Tokyo Round. While providing useful boundaries the code has only had partial success. The small number of signatories, the difficulty of defining all relevant conditions, and the restricted ability to enforce the rules has meant that the code has only provided limited protection for those affected by subsidies or dumping.

IV. MEASURES TO REDUCE BARRIERS

1. Introduction

In this chapter some of the main actions which have been taken to reduce trade barriers are discussed. The main international and regional negotiations that have had an influence are briefly covered, and the extent to which they have been successful is analysed. One main trend in barriers referred to in numerous documents, is the substitution of NTBs for tariffs. As tariff rates have declined, NTBs are believed to have increased. This chapter addresses this issue for forest products.

2. International Agreements

2.1 Multilateral Trade Negotiations (MTNs)

A number of tariff cutting rounds of negotiations have taken place under the auspices of GATT. The most recent of these, the Tokyo Round was the first to address the issue of non-tariff barriers. Explicit inclusion of agriculture, non-tariff barriers and an emphasis on the interests of the developing countries were the main features which distinguished the Tokyo Round from previous rounds of negotiations on trade liberalization.

Two results arose from the Tokyo Round - GATT members agreed to a programme of tariff reductions, and a set of 'codes' on non-tariff barriers were developed.

In the case of tariff reductions, countries signing the MTN Tariff Protocol agreed to implement a series of reductions which were to be completed by 1 January 1987. In most cases an agreed timetable of cuts was established and involved a series of equal reductions.

For many forest products the agreed concessions provided substantial reductions; for others, however, no concessions were given. For example Japanese tariffs on spruce, pine, fir sawnwood were reduced from 10% to 6%, fibreboard from 22.5% to 6.5%, particle board from 20% to 12%; and newsprint from 5.5% to 3.9%. On the other hand Japan was unwilling to reduce its tariffs on dressed coniferous sawnwood or coniferous plywood. Hardwood plywood remained unchanged for some sizes, while being reduced from 20% to 17% for larger thicknesses. EEC changes included reductions from 5% to 3.8% on coniferous sawnwood, 5% to 4% on dressed sawnwood and 13% to 10% on plywood. Newsprint was reduced from 7% to 4.9% and kraft paper from 8% to 6%. The USA changes included reductions on veneers which ranged from 10% to 4% and 5% to 0%; hardwood and coniferous plywood from 20% to 8%; other plywoods from 7.5 to 3% and 20 to 8%.

For many products, therefore, substantial tariff reductions will have occurred by 1987; for others, little or no change will have taken place.

Overall for forest products only limited changes will have taken place because most products were not subject to major tariffs prior to the MTN. Average weighted tariffs on wood products are estimated to fall from 3.4% to 1.9% for the USA, 1.4% to 1.0% for the EEC and 1.3% to 0.9% for

eight other markets. Those for paper and paperboard to fall from 0.5% to 0.2% (USA), 4.5% to 4.2% (EEC) and from 7.4% to 4.8% (eight other markets) (Olechowski and Yeats, 1982). The benefits to the developing countries of the MTN tariff reductions alone, while useful in some cases, will be limited.

In addition to agreed tariff reductions, negotiations took place on a wide range of non-tariff barriers. These took two forms. Firstly multilateral agreements on codes of conduct sought to increase the clarity and precision of GATT provisions and to ensure more consistent application of them. Secondly, requests were considered on the removal of specific barriers.

Codes were negotiated on the following:

- (a) Subsidies/Countervailing Measures
- (b) Technical Barriers
- (c) Customs Valuation
- (d) Government Procurement
- (e) Import Licensing Procedures^{1/}

These have provided general guidelines and procedures to be followed, but because of the 'vagueness' of many of their aspects, appear to be of only general value in reducing non-tariff barriers. Many countries give little pretense of following GATT rules when they wish to take certain actions; in many situations strict enforcement is difficult, lengthy or even impossible; and finally many non-tariff barriers are not controlled by GATT regulations (for example Voluntary Export Restraints and other quantitative restrictions).

These codes therefore appear to be of general usefulness but unlikely to have been of any major significance in reducing trade barriers. One benefit is that they have clearly directed attention to some areas where non-tariff barriers are a problem, even though they have not been able to solve the problems concerned.

2.2 Generalised System of Preferences (GSP)

Under the UNCTAD GSP scheme many developed countries provide special tariff rates to developing countries. These rates are lower than apply under the MFN classifications. Duty-free or special rates are provided to developing countries on products specified by the donor country.

Under this scheme substantial gains have been possible for a number of products. However the effectiveness of the scheme has been considerably reduced by limitations or exclusions that apply. Concessions are provided by individual donor countries who specify the products involved, the

^{1/} Useful summaries of the codes may be found in a series of booklets published by the US Department of Commerce.

countries the preferences apply to, and other limitations that apply. In a number of cases products of special interest to the developing countries are excluded (e.g. plywood in Japan), the level of trade may be controlled by ceiling volumes or values (e.g. plywood and carpentry and joinery products in the EEC), or market share restrictions may apply (e.g. amongst products into Japan and the USA).

Only a proportion of imports eligible for GSP treatment actually utilise them because of these restrictions, a lack of knowledge, controls on the timing of entry or similar factors. Wood products are among those products considered to be most hindered by limitations on the GSP schemes in the EEC, the USA and Japan (UNCTAD, 1979).

In 1981/82 only 37.5% of industrial products (includes forest products) eligible for GSP treatment utilised the scheme in the EEC, 64.1% in Japan, 48.5% in the USA, and 97.7% in Australia (UNCTAD, 1984b).

An indication of the limited influence of some GSP schemes is given by an International Trade Commission analyses of the USA scheme (ITC, 1983). This reported that although GSP forest product imports totalled \$349 million in 1981, they only represented 3.6% of total forest products imports, and that this share had grown little since 1978. The ratio for specific product areas included 37% of total imports for miscellaneous wood manufactures, 34% of millwork, 8% of plywood and building boards, 6% of industrial papers and packaging, and 0.2% of lumber. In total only 15% of forest product imports entered under classifications which were eligible for GSP treatment. The report concluded "GSP imports have not resulted in significant increases in the overall import market share of any commodity/import group in forest products sector." This was influenced by the fact that "... many product areas within this sector are not eligible for GSP duty-free treatment."

Overall the GSP scheme has had an important effect for many forest products, providing developing countries with tariff advantages over other suppliers. The potential benefits of the scheme have, however, been considerably reduced in many countries by various limitations and restrictions on products of special interest to the developing countries. A reduction of many of the restrictions, and the inclusion of many products currently excluded from the schemes of a number of countries, would greatly enhance the value of the GSP.

One issue regularly raised in international discussions is whether developing countries should press for a general reduction in MFN rates, or for improved GSP treatment. Lower MFN rates would encourage additional trade for all exporters including the developing countries, while the loss of GSP preferential margins would result in a degree of trade diversion from the developing countries. One view presented is that because GSP preferences are not permanent and can be removed, modified, or subject to various exclusions, LDC's would achieve more security by pressing for further MFN cuts. The counter-view is that concentration on MFN cuts will eventually result in developing countries ceasing to have any preference over developed countries.

Most research studies that have considered this issue have concluded that developing countries would gain more from MFN cuts than they would lose through the erosion of GSP tariff margins^{1/}. These conclusions relate to overall gains and losses, assuming certain specified levels of reduction for all products. The conclusion therefore indicates large net gains which reflect different situations for different individual products.

This conclusion may or may not also apply when individual product groups or individual countries are considered. Thus while developing countries may benefit in total from concerted efforts to further reduce MFN rates, for forest products as a group the conclusion is less certain. Similarly, some individual countries may gain while others lose. As already indicated tariffs on most forest products have reached relatively low levels. Further MFN reductions would in these cases provide relatively minor gains.

There is obviously no clearcut answer to which would be best. The answer rests on which countries are being considered, what MFN cuts might occur, how much improvement could be made to the GSP system, and whether the interests of the forestry sector alone are considered. Developing countries are not a homogenous group and nor are the interests of one sector necessarily the same as those of other sectors in the same country.

3. Bilateral and Regional Agreements

A number of bilateral or regional preference schemes also exist, and were discussed in some detail in Chapter III. Many include forest products, but actual trade flows are often relatively limited because the countries involved have similar characteristics, including resource endowments. For instance, most of the countries in the ASEAN region have extensive forest resources and do not engage in trade in forest products to any extent between themselves.

Informal agreement involving associations of producers, such as SEALPA, have provided a forum for discussing trade barriers facing their members, and for limited efforts to have these reduced. On the other hand, they have also stimulated and encouraged an increase in export controls by their members.

An increasing trend is the use of bilateral and regional agreements which provide special preferences to a limited number of recipients. Such schemes, which are developed outside GATT and therefore circumvent many GATT regulations, have been viewed with increasing concern by many countries. While providing expanded benefits to some countries they create increasing barriers to those not eligible for the preferences. They therefore have important potential implications for trade patterns.

^{1/} Baldwin and Murray (1977), Sapir and Baldwin (1983) Cline et al (1978) for example.

4. Trends in Barriers

4.1 Decline in tariff rates

Tariff barriers, and hence the degree of control and protection given by them, have declined over the past thirty years, with greatest progress being made since 1979 when the Tokyo Round concluded.

This is indicated by average trade weighted rates which will apply by 1987 when countries make the final bound levels available. Average rates will have reached zero for wood in the rough; 1.7% for primary wood products; and 5.7% for secondary wood products. Rates on pulp and paper will also have reached low levels (UNIDO, 1983d).

Although tariff rates are generally relatively low, they are still relatively high for a number of products in specific developed country markets. While the situation varies considerably, the main products affected are plywood, some size and species of sawnwood, reconstituted panels, and some wood manufactures. Additionally, some paper and paper products have moderately high rates, although since few developing countries have important pulp and paper industries, these are of only passing interest.

Special preference schemes reduce the impact of MFN rates and in many cases reduce the rates faced by developing countries to zero. However, for some products of special importance to developing countries - particularly certain sizes and species of sawnwood, plywood, some reconstituted panels, wood manufactures and in some situations, furniture - they are restricted by a range of exclusions or non-tariff barriers.

Tariffs on forest products are likely to continue to decline in the future, although rates on some products in some markets will continue to be relatively high.

4.2 Growth in the use of NTBs

A number of studies on protectionism have presented the view that there is a growing trend towards the substitution of NTBs for tariff controls^{1/}. The broad conclusion is that as tariff protection has declined, countries are increasingly resorting to NTBs to provide protection for domestic producers. This view applies in particular to agricultural products, but textiles and clothing, footwear and automobiles are additional important examples. The problems of quantitatively assessing the use of NTBs makes it difficult to verify the change in emphasis of protectionist measures, but statements on individual countries and commodities tends to provide evidence.

^{1/} The problem is discussed in a number of general reports. A particularly comprehensive discussion on the issue of protectionism is found in UNCTAD (1983a). Other documents which discuss the growing use of NTBs include FAO (1980), FAO (1983c) and UNCTAD (1979).

In the case of forest products information is available on the present use of NTBs. Factual information on whether or not their use has expanded in recent years is more difficult to obtain for a number of reasons. It is difficult to actually identify individual barriers. Much depends on the way in which many are administered: there is no definitive list of what should be considered an NTB; and part of the appeal of using NTBs is their lack of visibility. Further, the UNCTAD and GATT inventories of NTBs are relatively recent developments. There is therefore no similar information available which relates to, say, the early or mid-1970s which may serve as a point of comparison. And finally, the difficulties of quantitatively evaluating the measures in such an inventory are substantial.

For these reasons it has been necessary to rely on a general review of selected individual countries in an attempt to determine whether or not those NTBs which currently exist are relatively new, or have been in place for a long period of time.

Table 1 provides a summary of some of the main barriers (other than tariffs) that have affected forest products over the past twenty years. Although selective this listing does provide a general indication of whether or not NTBs have been increasing.

Points to come out of the table are:

- (a) most quantitative import restrictions have been in place for about 10 years or less.
- (b) quantitative import controls are most common in the EEC and a number of developing countries. Many schemes only become effective when specified import volumes have been exceeded.

Their use appears to have grown in the early-mid 1970s, but to have changed little since that time. It is relevant to note though, that the volumes able to be imported have shown little growth despite considerable increases in domestic consumption in the particular markets concerned.

- (c) Increasing use has been made of official complaint procedures which result in formal anti-dumping or countervailing duty procedures.

Their prevalence is mainly restricted to a small number of countries which have formal legal provisions and procedures and which have an administrative structure for enforcement. The EEC and the USA have made greatest use of such procedures.

- (d) Export controls on volumes or prices have been in place in many countries for 10-15 years but the commitment to them has increased greatly in the last 5 years. Although many countries made half-hearted efforts at restricting logs and some timbers in the early-1970s, a full commitment has only been apparent in recent years. On the other, hand Latin American countries have generally maintained their restrictions, with Chile and Brazil being exceptions by removing their log bans.

TABLE 1: DESCRIPTION OF SELECTED NON-TARIFF BARRIERS USED BY SPECIFIED COUNTRIES FOR FOREST PRODUCTS

	Product	Applies to:	Year initiated	Changes since introduction	Comments
EEC					
Tariff quota	Newsprint	All imports	1969	Modified 1985	EFTA countries exempt from quota from 1984. Additional quantities added to basic quota throughout quota periods
Tariff quota	Paper & paperboard	All imports	1973		
Tariff quota	Plywood	All imports	1977	Unchanged	Separate scheme hardwood and softwood. Little growth in quota level
Tariff quota	Mouldings				
Quota (France)	Softwood Sawn timber	All imports	1983	Extended for year	Temporary quota to allow disposal of wind damaged resource
Quota (France)	Various	E. European countries			
Voluntary export price restraint	Various	No. countries	1980-1983		
Anti-dumping investigation	Various	No. countries	1977-pres.	Proceedings generally of 1-2 year duration	Usually limited periods involved. Some resulted in imposition of duties
Product standards	Logs and Sawn timber	All imports	1981	Requirements increased	Involved oak wilt disease. USA disagreement on W. Germany standards on preservation
Product definitions	Kraft pulp	All imports		Continuing	Dispute between USA and EEC
Price investigation	Pulp	36 named countries	1981	Ruling 1985	Charge of price-fixing over period 1973-81
USA					
Anti-dumping investigations	Plywood	Japan	1975	1976	Duties applied
Countervailing investigation	Softwood Sawn timber	Canada	1982	Completed 1983	No duties applied
Export controls	Logs	All countries	1978	Continuing	
JAPAN					
Voluntary export restrictions	Logs and cants	USA	1976	Removed	
Product standards	Plywood	All imports			Disagreement with USA over standards
Product standards	P. radiata Sawn timber	All radiata imports		Revised 1981	NZ disagreement over treatment of P. radiata in standards
Product standards	Various	All imports	1970s and 1980s	Revisions throughout period	Disagreement over inspection requirements, strength classifications, testing methods etc.
OTHER COUNTRIES					
Quota	Various	Taiwan	1983		Applied by Norway
Quota	Various	No. E. European countries	1978	Removed 1983	Applied by Norway
Quota	Various	Most imports			Commonly applies in many developing countries
Prohibition	Various	Most imports			Applies in some developing countries (eg Nigeria, Tunisia, Columbia, Pakistan)
Export controls	Mainly wood in rough esp. logs	All countries	1970s	Application tightened from 1979	Applied to varying degree by developing countries eg Indonesia, Malaysia, Philippines, South American countries
Anti-dumping investigations	Plywood Sawn timber Paper Sawn timber	New Zealand Sweden No. countries New Zealand	1982 1983 1979-1983 1982	Completed 1983 Completed 1984 Completed 1986-1984 Withdrawn 1985	Australian investigations. Duties imposed. Australian investigations. Australian investigations. Price and volume restraints imposed by Australia, 1983
Tariff quota	Plywood	All imports	1960	Removed 1963	Australian investigations
Licensing import authorisation etc. required	Various	Various			Most countries have this requirement

NOTE: The above list is not all inclusive. Numerous other barriers also apply.

SOURCE: Official documents.

These restrictions range from formal limitations controlled by governments, to more informal agreements between members of regional or product associations such as, for example, SFALPA.

- (e) Product standards for health and safety are common. The extent to which they are developed and used specifically to limit imports is, however, difficult to determine. There is evidence to suggest they are widely used and that it requires effort on a case-by-case basis to have them modified. Only instances where long-standing disputes between countries have existed have been listed in table 1.
- (f) It is difficult to determine whether or not the use of import licensing or import inspection procedures to restrict imports has become more prevalent. Many countries have had such practices in place for long periods. However, even without a change in their prevalence it is possible to increase their restrictiveness, since the manner in which they are operated can easily change.

The above analysis suggests that a definite statement on any change is difficult to make. Informal comments made by trade policy officials, individual exporters and trade associations do tend to suggest increasing difficulty in coping with these procedures.

Overall it would appear that NTBs have become more prevalent in total in the last 15 years. Some barriers have increased while others have decreased. There is little clearcut evidence that they have changed greatly, however, in the last six years, the point at which the last GATT multilateral trade negotiations were concluded.

In the case of individual barriers there has been increased use of anti-dumping and countervailing procedures, and isolated instances of voluntary agreements on volumes or prices. Products standards and administrative procedures such as import licensing, inspection procedures and technical and health regulations have become an increasing problem, although it is difficult to 'prove' this assertion. Certainly export controls on logs and sawn timber have increased in recent years. Although the number of instances where these are used has not necessarily grown, the commitment to these controls and the volume of trade they affect has expanded considerably.

What is clear is that the current range of NTBs is extensive. No one type of barrier is, by itself, clearly of major concern. This in part reflects one of the attractions of NTBs - that they offer the country considerable flexibility in controlling trade. A further point of concern is that NTBs can be combined, so that any particular product can be subject to a number of different barriers, the net effect being to create a significant barrier to trade.

A subjective assessment of the trend in the main barriers is given in Table 2.

Although the examples are somewhat arbitrary, it is clear that the major developed country markets all use many of the measures identified. Evidence of increased use of them is, however, more difficult to establish.

TABLE 2 - Trends in the incidence of individual trade barriers affecting forest products trade

	Direction of Movement	
	1960's-1979	Since 1979
<u>Import restrictions</u>		
Tariff	Declining	Declining
Tariff-quota	Increasing	Static
Total Prohibition	Increasing	Static
Conditional prohibition	Increasing	Static
Quota	Increasing	Static
Import licences	Increasing	Static
Import procedures	Increasing	Static/Increasing
Variable levy	N.A.	N.A.
Anti-dumping/countervailing investigations	Increasing	Increasing
Anti-dumping/countervailing duties	Increasing	Increasing
Voluntary export restraints	N.A.	N.A.
Price control	N.A.	N.A.
Standards	Increasing	Static/Declining
Government procurement	Increasing	Static
Marking and packaging	Increasing	Static/Declining
<u>Export restrictions</u>		
Price controls, levies etc.	Increasing	Increasing
Quotas, prohibitions	Increasing	Increasing

N.A. = little or no importance

1 Subjective assessment based on review of publications and information concerning individual barriers and the dates they were introduced. The assessment does not involve any weighting by the volume of trade affected.

5. Conclusion

International negotiations have played an important part in reducing tariff levels on many forest products. Tariffs have been brought to relatively low levels for most products, although rates are still of importance in a number of cases - in particular rates on plywood, reconstituted panel products, some sawnwood, and certain paper and paperboard products in a number of countries.

Preferences provided under the GSP scheme have been of special importance in providing developing countries with tariff advantages over developed country suppliers. The scheme is, however, considerably hampered by a variety of limitations and restrictions imposed. Efforts to extend and liberalize the scheme would be of considerable benefit to the developing countries.

Bilateral and regional agreements have also provided restricted benefits for some products, although their value to forest products appears to have been rather limited.

If the interests of forest product exporters or the forestry sector in developing countries are considered in isolation, further efforts on GSP rates and conditions would seem likely to offer more scope than further reductions in MFN rates. When a wider perspective is taken however, research has suggested that the developing countries would gain more from MFN reductions. Which avenue to follow will be dependent on detailed study of specific countries or regions, and a clear understanding of their situation and export potential.

NTBs are more difficult to identify and evaluate, but a wide range affect forest products. In many instances they involve products which have had only limited tariff reductions under the MTN, or which are restricted or excluded under special preference schemes such as GSP.

In general terms, the use of NTBs does not show any clear evidence of increasing, other than for a few specific barriers. In particular, import procedures, anti-dumping and countervailing investigations and duties show signs of increasing. On the export side, those which restrict the export of unprocessed products have clearly become more common.

Although the use of NTBs for forest products may not be increasing, there is little evidence that they are declining. The period 1960-1979 showed substantial growth in their use, and many of those introduced over that period continue to affect trade.

V. EFFECTS OF REDUCING BARRIERS

1. Introduction

Previous chapters have looked at the range of trade barriers that can affect trade in forest products and provided a brief look at the East Asian region. Although some coverage has been given to the way in which barriers influence development and the likely effects of liberalizing trade, these issues have not been looked at in any detail. This chapter provides a more in-depth discussion of quantitative estimates that have been made of the gains from liberalization. It then looks at an extremely important issue, the extent to which any natural comparative advantage may be being negated by import barriers. Following this it briefly comments on the effects on trade patterns in the region before looking at the manner in which a reduction in barriers would influence industrialization.

2. Estimates of Trade Expansion

2.1 Overall Effects

Estimates of the effects of the reduction/removal of barriers have been prepared for forest products in a limited number of cases. These use static partial equilibrium trade models to estimate the extent to which trade in these products would change if an indicated reduction in the barriers took place. Both the number of studies reporting estimates for forest products and the level of detail of the estimates has been extremely limited, unlike the situation for many manufactured and agricultural products. Additionally, the range of barriers addressed has also been limited because of the lack of appropriate data and the difficulty of quantitatively evaluating non-tariff barriers other than those which can be expressed as tariff equivalents. Finally, again for the above reasons, studies have either aggregated individual products into broad product groups, such as 'wood and wood products' or 'paper products', or considered exporting countries in aggregate, such as 'developing countries'. This lack of attention to forest products is largely due to the relatively low level of barriers facing most traded forest products, and the low priority placed on forestry trade by the major developed trading regions.

Most studies that include forest products have been limited to assessing tariff levels. In particular a number of studies addressed have the effect of tariff reductions agreed to in the Kennedy and Tokyo Round trade negotiations. The difficulties of identifying non-tariff barriers, developing acceptable models, and developing quantitative information suitable for use in the models means that empirical evaluation within reasonable levels of accuracy is extremely difficult. This has generally precluded their analysis^{1/}. The estimates made, do however, give a broad

^{1/} Details of the more frequently used model forms, their assumptions and limitations can be found for example in Baldwin and Murray (1977), Cline et al (1978), and Sapir and Baldwin (1983).

indication of the size and direction of likely trade changes for selected products and broad regions.

Two elements are important in assessing quantitatively the impact of reducing barriers such as tariffs. The main effect of a reduction is to create additional trade through increased demand. In this trade creation element, the reduction of the tariff reduces the price of imports which in turn stimulates additional demand. The extent of the additional demand created depends on the original level of trade that took place, the size of the price (i.e. the elasticity of demand). The more responsive (elastic) demand is to price the greater the increase in trade that will result.

In addition to trade creation, a degree of trade diversion may also be involved. This diversion will occur if the relative attractiveness of different sources of imports changes. If the tariff fall reduces the level of preferences that some suppliers held before the reduction, their position will decline relative to those benefitting from the tariff cuts since the price of their product will be relatively dearer. As a result importers could be expected to switch part of their purchases to other suppliers. For example, if developing countries have had GSP advantages eroded by general tariff cuts, some trade may be diverted to other suppliers.

The effect of barrier reductions will therefore vary with the particular case being considered - the original level of the barrier, the extent of the reductions, the selectivity of the reductions, the responsiveness of demand, and the extent to which substitute products and/or suppliers exist. These will influence the level of trade created, and for those situations where trade diversion takes place, whether or not any trade lost is significant.

The most comprehensive estimates for forest products are those reported by UNIDO (1983). In this study the effects of a removal of post-Tokyo Round tariffs in ten developed market-economy countries were investigated^{1/}. Using a partial-equilibrium model, estimates of the gains and losses were made for each of the ten markets. Separate details were provided of the effects on developed country exporters, developing country exporters, and socialist country exporters in Eastern Europe and Asia.

The analysis considered the impact of a removal of MFN tariffs, and as a result the consequences of some exporters (particularly the developing countries) losing trade preferences that existed. Thus estimates for each of the ten countries covered both trade creation and trade diversion. The results (table 1) indicate that complete removal of tariffs in the ten developed countries would have an expansionary effect on trade in wood products. The overall effect would be to increase imports by about \$960 million, an increase of 6.4 percent over the 1976 trade base.

Trade created for developed country suppliers amounts to about \$730 million, an 8 percent increase. In addition up to \$ 12 million could be

^{1/} The EEC is considered as one market area.

Table 1 Estimated trade effects from a removal of the post-Tokyo Round tariffs on wood and wood products ^{1/}
in the major developed market-economy countries

Importer	Trade Creation	Imports from developing countries				Trade Creation	Imports from DMFC				Trade Creation	Imports from Socialist countries 2/			
		Trade Diversion		Total effect			Trade Diversion		Total effect			Trade Diversion		Total effect	
		Low	High	Low	High		Low	High	Low	High		Low	High	Low	High
Austria	0.0	-1.2	-1.4	-7.6	-8.3	175.7	3.3	3.4	71.9	71.9	6.1	0.1	0.2	12.5	12.7
Canada	9.3	-13.6	-14.6	-6.0	-7.3	167.6	15.6	16.6	34.1	34.3	1.3	-1.7	-1.7	-7.0	-9.2
EEC (9)	45.2	15.5	25.2	3.7	4.3	78.4	-27.4	-49.8	1.5	1.0	50.1	11.7	19.3	6.3	7.0
Finland	0.0	-0.3	-0.4	-6.7	-9.9	8.5	0.5	0.7	15.3	14.9	0.7	-0.3	-0.4	0.3	0.3
Japan	49.2	-0.1	-0.2	2.7	2.7	15.4	0.3	0.6	0.8	0.8	0.6	0.0	0.0	0.1	0.1
New Zealand	0.0	-1.0	-1.5	-19.0	-27.6	2.4	1.0	1.4	30.7	34.7					
Norway	0.1	-1.0	-1.3	-5.7	-7.3	48.1	2.4	2.8	17.7	17.7	2.3	-1.3	-1.4	10.3	9.3
Sweden	0.4	-1.7	-2.2	-6.3	-8.5	33.2	0.0	0.4	10.2	10.3	13.5	1.8	2.0	14.1	14.3
Switzerland	0.2	-1.1	-1.3	-6.7	-8.5	145.9	1.4	1.6	47.4	47.5	4.7	-0.1	-0.1	33.6	33.7
USA	46.1	-3.4	-5.6	6.3	6.0	56.2	3.4	5.5	2.9	3.0					
Total	150.6	-0.8	-3.2	3.3	3.4	731.4	0.6	-11.8	8.1	8.0	78.8	10.3	18.0	5.2	5.7

^{1/} Including cork and cork products. Increase over 1976 trade level.

^{2/} USA not included due to the lack of data. New Zealand imports from socialist countries are less than US \$ 10 thousand.

Source: Olechowski (1985)

diverted to other suppliers as a result of a loss of preferences. The main diversion (between \$27 and \$50 million) would be in the EEC, primarily due to the erosion of preferences granted to the EFTA countries. The main additional trade created for developed country suppliers would occur in Austria, Canada and Switzerland.

Removal of the tariffs would have a much smaller but nevertheless important impact on the trade of the developing countries. The increase would be about 3.3 percent, a total of \$150 million additional trade created. Trade diversion would amount to about \$1-3 million. The lower level of trade created for developing countries mainly reflects the fact that tariff levels facing such countries are already relatively low for most wood and wood products. The main expansion in trade would occur in Japan, USA and the EEC, while the main losses through diverted trade would be in Canada and the USA.

It should be noted that for the developing countries the additional trade created far outweighs losses through trade diversion. This is also true for the developed countries. However, these estimates represent an ideal situation - the normal procedure is for rates to be selectively reduced, and then usually on a percentage reduction basis. It is therefore highly unlikely that tariffs would be completely removed on those products which presently still have high rates.

In the case of the socialist countries of Eastern Europe the overall effect would be a trade gain of between 5.2 and 5.7 percent. Suppliers in socialist countries would gain \$79 million through trade creation^{1/}, as well as between \$10 million and \$18 million through trade diversion.

One of the few studies considering NTBs (UNCTAD, 1985) has presented estimates on the assumption of the preferential removal by the developed countries of all MFN tariffs facing the developing countries, together with the complete removal of quantitative non-tariff barriers. Imports of 'wood and paper products' by the EEC from the developing countries were estimated to increase over 1980 levels by \$638 million, those by the USA/Canada by \$40 million, and by Japan by \$10 million. It was also concluded that these increases could be achieved with only minor effects on the developed countries. The proportion of each market's consumption provided by imports from the developing countries was estimated to increase by less than 0.5% in the EEC and remain virtually unchanged for the USA/Canada and Japan.

The estimates therefore provide an indication of the effects of the complete removal of many of the main barriers limiting the developing countries. They highlight a number of points:

- (a) in comparison with many other product groupings (such as textiles, clothing, food and beverages) increases in wood and paper trade would be relatively small.

^{1/} The estimates for the socialist countries did not include additional trade with the USA due to data limitations.

- (b) the gains are nevertheless likely to be significant, although there is substantial uncertainty in any estimates developed. For example, in 1976 dollars the gains to the developing countries from tariff cuts only (table 2) on wood and wood products are suggested to be around \$150 million^{1/}; those for wood and paper products from tariff and NTB cuts in the order of \$690 million in 1980 dollars. The estimates are only for a limited number of markets though, and therefore overall trade gains if all markets though, and estimates are only for a limited number of markets though, and therefore overall trade gains if all markets are considered would no doubt be considerably higher^{2/}. Further the latter estimates do not cover all NTBs.
- (c) greatest impact would occur in the EEC, reflecting the fact that a higher level of wood and paper products trade already occurs with that market than with the USA/Canada and Japan, and that current barriers are greatest in that market.

Further estimates were made at a more disaggregated level using 1980 trade levels and the results for five SITC categories of forest products are shown in table 3. These are categories of most importance in the trade of developing countries. Impressive gains are estimated for "furniture" and "other printing papers," and to a lesser extent for "plywood" and "non-coniferous sawn and planed lumber."

2.2 Effects on individual countries

Studies such as these address the overall impact of reducing barriers (mainly tariffs). The main interest at an operational level is on an individual country or group of countries. Each developing country is interested in what benefits it may expect from trade liberalization. Similarly, within a country the producers of specific products or groups of products wish to determine how trade liberalization will affect them. In this respect the producers of forest products wish to know how any liberalization which may involve much broader barrier changes will affect their own trade. This is particularly important since some forms of liberalization may result in some developing countries losing trade to others, although developing countries as a whole may gain.

Any attempt at estimating the effects on an individual country must include a detailed analysis of that country, its own conditions and circumstances including production capabilities, infrastructure, product mix etc, if a true assessment is to be made. Some overall indication of the impact can, however, be made using the partial equilibrium models traditionally used to evaluate the effects of reducing quantitative barriers.

1/ If adjusted by the average rate of developed market economy country rate of inflation over this period (8.6%) this gives a 1980 value of \$226 million.

2/ The estimates do, however, show an optimal situation that is unlikely to be achievable, in that complete removal by all countries would be politically and economically difficult. Agreement by all or even most countries would be difficult if not impossible.

Table 2 Estimated effect of a preferential trade liberalization on import-consumption ratios in selected developed market-economy countries

Product group	European Economic Community						United States/Canada						Japan					
	Imports from developing countries			Ratio of imports from developing countries to consumption			Imports from developing countries			Ratio of imports from developing countries to consumption			Imports from developing countries			Ratio of imports from developing countries to consumption		
	1980 Apparent Consumption (\$mil.)	1980 Est. Value Change (\$mil.)	1980 Est. Value Change (\$mil.)	1980 Apparent Consumption (\$mil.)	1980 Est. Value Change (\$mil.)	1980 Est. Value Change (\$mil.)	1980 Apparent Consumption (\$mil.)	1980 Est. Value Change (\$mil.)	1980 Est. Value Change (\$mil.)	1980 Apparent Consumption (\$mil.)	1980 Est. Value Change (\$mil.)	1980 Est. Value Change (\$mil.)	1980 Apparent Consumption (\$mil.)	1980 Est. Value Change (\$mil.)	1980 Est. Value Change (\$mil.)	1980 Apparent Consumption (\$mil.)	1980 Est. Value Change (\$mil.)	1980 Est. Value Change (\$mil.)
All manufactures	1,733,875	39,359	11,568	2.27	2.93	2.93	2,110,839	43,061	10,282	2.04	2.52	2.52	908,669	13,372	583	1,477	1.53	1.53
Textiles	65,084	2,720	2,097	4.18	7.40	7.40	64,188	1,270	407	1.98	2.61	2.61	36,122	617	80	1,71	1.95	1.95
Clothing	57,049	6,828	4,357	11.97	19.60	19.60	65,013	7,027	6,057	10.81	21.35	21.35	16,671	971	134	5.83	6.02	6.02
Wood and paper products	159,786	2,077	638	1.30	1.69	1.69	224,404	1,211	40	0.54	0.55	0.55	98,947	474	10	0.48	0.48	0.48
Chemicals	207,795	2,867	260	1.38	1.50	1.50	207,735	1,578	27	0.76	0.77	0.77	107,260	795	72	0.74	0.74	0.74
Metals	60,852	2,020	1,861	3.32	6.37	6.37	183,107	3,643	210	1.99	2.10	2.10	68,138	2,466	132	3.62	3.81	3.81
Transport equipment	161,675	1,244	306	0.77	1.00	1.00	234,459	609	23	0.26	0.26	0.26	83,570	200	-	0.24	0.24	0.24
Machinery	394,243	5,558	976	1.41	1.65	1.65	510,386	12,045	687	2.36	2.69	2.69	257,674	1,107	47	0.43	0.44	0.44
Food, beverages and tobacco	308,563	5,986	4,587	1.94	3.42	3.42	309,367	4,145	1,002	1.34	1.60	1.60	119,529	992	1,216	0.83	1.04	1.04

Source: Estimates of 1980 apparent consumption and import penetration ratios are taken from UNCTAD, Handbook of International Trade and Development Statistics: Supplement 1984 (United Nations publication, Sales No. E/F.84.II.D.12), pp. 476-483.

Source: Reported in UNCTAD (1985).

TABLE 3 - Potential Trade Gains from Preferential Barrier Reductions for Developing Countries (1980 base)

SITC Category	Description	Potential Trade Gains ^a (\$ million)	Increase (%) ^a
2433	Sawn lumber, planed/grooved non-coniferous	28.6	0.6
2517	Sulphate wood pulp	5.5	0.2
6312	Plywood	96.0	11.2
6412	Other printing paper	592.3	7.5
8210	Furniture	1030.1	59.5

a Based on the assumption of a reduction to zero of tariff duty rate and elimination of non-tariff barriers for developing countries only. Only quantitative NTBs such as quotas and price controls were included.

Increase over 1980 over 1980 trade level
Source: UNCTAD (1985) (Part I)

As an example, estimates for Indonesia, Malaysia and the Philippines are given below. These suggest the extent to which these countries might benefit individually from further tariff reductions (or an equivalent level of NTBs) on selected forest products in the Japanese market.

The procedure uses the methodology of Baldwin and Murray (1977) and provides estimates of trade creation and trade diversion^{1/}. Current Japanese tariffs on plywood, veneer and sawntimber are assumed removed for products from the developing countries only. The estimates are shown in table 4. The assume that tariffs are reduced to zero for all developing countries, and three levels of demand response are shown - a medium level, which assume an import price elasticity of -1.8 for plywood and veneer, and -1.33 for santimber. The low and high levels shown use the medium level elasticity minus 1.0 and plus 1.0 respectively. Using the assumption that market shares remain constant, the trade increases for Indonesia, Malaysia and the Philippines are calculated.

If the tariff on plywood was removed an estimated additional 31717 m³ would be imported. This represents just under 28% of 1984 imports from all developing countries. If existing market shares are maintained, Indonesia would obtain the major part of this increase. Malaysia and the Philippines would gain very little.

An estimated additional 24492 m³ of veneer would be imported from the developing countries or 17% of 1984 trade. Malaysia is currently the main developing country supplier, and would increase exports by 24000 m³, whereas Indonesia and the Philippines would only increase exports by around 4000 m³.

^{1/} The basic methodology is indicated in appendix 4.

TABLE 4 - Increased Trade Resulting From Removing Japanese Tariffs Facing the Developing Countries (Increase over 1984 trade levels)

Product	Initial tariff level ^a (%)	Demand response ^b	Increased trade for all developing countries			Total as % developing country imports (%)	Total increased trade for:		
			Trade creation (m ³)	Trade diversion (m ³)	Total (m ³)		Indonesia (m ³)	Malaysia (m ³)	Philippines (m ³)
Plywood	18.0	Low	14067	30	14097	12.2	13477	437	42
		Medium	31650	67	31717	27.5	30321	983	95
		High	49234	104	49338	42.8	47167	1529	148
Veneer	7.5	Low	8874	3345	12219	7.7	1931	10447	1772
		Medium	19967	7525	27492	17.3	4344	23506	3986
		High	31060	11710	42770	26.9	6758	36568	6202
Sawntimber	5.0	Low	13378	1237	14615	1.7	4706	2908	2879
		Medium	53916	4987	58903	6.9	18967	11722	11604
		High	94453	8736	103189	12.1	33227	20535	20328

^a Tariff level facing developing countries. Plywood rates are 17% and 20%. The rate used reflects the greater volume of smaller thickness imported.

^b Based on import demand elasticity for medium level plus and minus 1.0, i.e. medium plywood and veneer = -1.8; low = -0.8; high = -2.8. Sawntimber medium = -1.33.

^c Assumes each maintains present market share. Methodology discussed in appendix 4.

The removal of the current preferential tariff (5%) on sawntimber is estimated to increase imports from all developing countries by 58903 m³, or 6.9% of the 1984₃ imports from them. Of this, Indonesia would gain 18967 m³, Malaysia 11722 m³ and the Philippines 11604 m³.

The estimates indicate the gains to the developing countries from the complete removal of tariffs by Japan. The increases from trade creation are substantially higher than those from trade diversion. Trade creation accounts for almost all of the total trade increase for plywood, 73% for veneer, and 89% for sawntimber. Since Indonesia, Malaysia and the Philippines are the major current suppliers of tropical wood products to this market, they would gain most from such a removal.

Worthwhile gains would arise for the developing countries in total. At average 1984 FOB. prices the increased trade could be worth an additional \$ 7.1 million for plywood, \$ 4.1 million for veneer, and \$ 10.1 million for sawntimber.

Under the assumptions used, the gains to each of the three countries analysed are dependent on the market share each achieves. Based on 1984 shares, Indonesia would export an additional \$ 6.5 million of plywood, \$ 520,000 of veneer, and \$ 2.6 million of sawntimber. Malaysia would achieve the following: \$ 200,000 for plywood, \$ 2.8 million for veneer, and \$ 2 million for sawntimber. The Philippines would gain little from plywood (\$21,000), \$ 800,000 from veneer, and \$ 2.3 million from sawntimber.

The complete removal of Japanese tariffs facing the developing countries would therefore provide worthwhile benefits to the developing countries in total, and to individual countries which have shown by current exports that they can export competitive products.

It must be stressed that the models used are subject to a number of limitations. In Particular they assume that each exporter retains its current share of the market. Further, the trade gains are based on existing import levels. In many cases trade shares between exporters may change considerably from existing levels. As an example estimates made prior to Indonesia's rapid expansion in plywood production and trade would have given very different results from those developed at present. The assumption that the increased demand is based on current imports implies that the imported product and the domestically produced product are non-substitutable. In many cases it is more likely that at least some substitution is likely, and therefore that the supplying country may gain more from the trade liberalization than is shown. Additionally, products with high tariff rates which effectively stop most imports will show smaller gains from a tariff reduction than those with lower current rates and consequently higher current trade. For these reasons the estimates given should be considered minimum levels in most cases. They should also only be considered broadly indicative of the degree and direction of trade changes.

3. Effects on Competitiveness

A commonly presented view is that the forest-rich developing countries have a comparative advantage in the production and processing of

wood. These countries have shown over a lengthy period of time that they can successfully and profitably export logs to overseas markets. In addition to providing a range of preferred hardwood species these countries have been able to supply high-quality material at competitive prices.

Little progress, however, has been made over this time in expanding exports of more highly processed products. This is suggested to be a reflection of the import restrictions that are faced. The view is that import barriers protect domestic producers in the importing countries by raising the landed price of more competitive suppliers. Additionally, tariff escalation and restrictive purchasing policies artificially ensure that the developing countries continue to find the export of raw logs more attractive than more processed products. Export restrictions imposed by many log exporting developing countries, such as export taxes on the least processed product forms, log export bans, etc., are attempts to compensate for the import barriers they face. Restrictions of this type deny competitive processors raw material, and/or raise the cost of this material to them. They also move local firms towards more processed products by reducing the profitability of the export of logs.

While appealing, these arguments do not necessarily guarantee success. Two major criticisms can be raised. While the raw material exporting countries may have a comparative advantage in producing logs, this does not necessarily imply an advantage in processing. Success may therefore rest largely on the ability to deny other processors raw material, unless additional advantages can be developed such as lower costs from improved infrastructure, greater production efficiency, etc.

A Second criticism rests on the fact that it can be extremely difficult to ensure sales by denying competitors raw materials. Unless the exporting country can genuinely be competitive in wood processing, it will be difficult to develop viable export activities. At one extreme buyers may substitute other products rather than pay higher prices or accept poorer products. Other materials such as cement, steel, or plastics may be used, or reconstituted products such as medium density fibreboard or oriented strand board may be used as substitutes for solid wood products. At the other extreme alternative sources of raw material will be found. Unless an exporter or group of exporters are dominant raw material suppliers and few alternatives exist, restricting log exports may not have all the anticipated benefits. Numerous examples exist where this has been the case. The effect of log bans in most South American countries was diluted by Chile abandoning its controls in 1975 and placing major emphasis on log exports; the effects of Peninsular Malaysia have been affected by contrary policies being followed by Sarawak and to a lesser extent Sabah; and Philippines efforts have been unsuccessful to date.

Japan has partly compensated for declining raw materials by finding other hardwood suppliers and investigating the feasibility of substituting softwood logs.

Much of the basic premise on which the relocation of processing in the log producing countries is based, is that these countries are lower cost producers than current producers. Log producing countries believe

their major advantages are access to a plentiful and cheap supply of labor, and control over the wood resource. In addition, the first stages of wood processing such as sawntimber, plywood, and veneer are highly weight reducing. Since transport costs are a major proportion of the CIF cost of logs in the importing country, this weight and volume reduction, which can amount to 40-60%, should result in substantial freight cost savings. It is suggested that these advantages will more than compensate for areas in which the developing countries are at a disadvantage, such as skilled manpower, access to capital, and infrastructure.

Two important questions are therefore raised:

- (a) Do the log producing countries have a comparative advantage in processing logs as well as in growing them? and
- (b) Are import barriers one of the primary impediments to their competitiveness?

(a) Cost Competitiveness

It is difficult to make firm cost comparisons between nations because of the many factors which affect competitiveness, the lack of relevant data, and the fact that considerable variation can exist in how some costs should be valued. A limited number of studies provide some information on the subject although the information they provide is far from conclusive. Takeuchi (1983) indicated a number of Asian developing countries held cost advantages over Japan in the production of plain hardwood plywood. His estimates (Table 5) suggest that in 1980 the cost advantage, CIF Japan, over Japanese based production ranged from 9% for Singapore to 39% for West Malaysia. At FOB, the advantage ranged from 15% to 47% for Singapore and West Malaysia, respectively.

Another study estimated that in 1975 African timber-producing countries had a comparative price advantage over European producers of plywood, veneer and plywood, ranging from 7 to 33%^{1/}.

Comparative cost information for other products and countries is both difficult to obtain and evaluate. Fragmentary evidence such as that mentioned by IIASA (1984) when compared with that presented by Takeuchi for example, suggests plywood costings ranging from US \$240/m³ for plants in West and Central Africa to around \$220-300/m³ for Asian countries (Table 6 and 7). The relative importance indicated for the main cost elements suggests absolute differences in the labor costs but little difference in capital charges. Energy costs are the main item in Africa while the Asian estimates assume all energy requirements are met by burning wood wastes. Differences in assumptions such as this make comparisons of the importance of each item difficult.

1/ "Possibilité de création d'industries exportatrices Africaines et Malagaches associées." Commission des communautés Européennes, Bruxelles, 1976.

The major difference, however, between the figures is the absolute and proportionate level of raw materials. The IIASA figures indicated raw materials, of which logs are the major part, are only \$50/m³ (32%) in Africa compared with Takeuchi's cost of \$202/m³ (71%) for Indonesia (Table 7). Even though different regions are concerned, differences of this size are rather difficult to reconcile when statistics on domestic market prices are studied.

TABLE 5 - Estimated cost of production for plain plywood at selected locations in Asia (early 1980) (US\$ per m³ of plywood)

	Indonesia	Sabah	West Malaysia	Philippines	Singapore	Japan
Costs:						
- logs	152	127	100	99	201	286 ^a
- labor	24	20	24	25	35	36
- other cost	119	143	90	132	206	70
Total cost to FOB (Export price)	295 (323)	290 (310)	214 (270)	256 (303)	342 (358)	402 ^c (385)
Sea freight and insurance	43	26	31	23	26	0
cost CIF Japan:						
- without import duty	337	317	245	279	368	402 ^c
- with import duty	410	383	305	344	445	402 ^d
Price advantage relative to Japan :						
- at FOB ^b	27%	28%	47%	36%	15%	d
- at CIF ^b						
- without duty	16%	21%	39%	31%	9%	d
- with duty	-2%	5%	24%	14%	-11%	

Source: Based on Takeuchi (1983)

Estimates assume wood waste is burned to provide fuel.

- a Log input assumed to be "South Sea" tropical hardwood. Therefore includes log freight to Japan, whereas freight on plywood in other columns is indicated as a separate item.
- b Japanese duty of 20% of import price (i.e. export price plus freight and insurance).
- c Japanese price is assumed to approximate an ex-factory price.
- d Comparison is not completely appropriate as Japan costs relate to 0.9 m x 1.82 m sheets, while others are 1.2 m x 2.42 m. Takeuchi suggests a price of \$468/m³ may be more reasonable.
- e Percentage by which price is below the Japanese price.

1/ Log costs plus glue and other supplies.

Further confusion is given by estimates for Japan reported by UNIDO (1983)¹ which suggest timber and adhesives, labor and other expenses are 75%, 14% and 11%, of total costs respectively. Comparative figures for South Korea for these costs are 81%, 7% and 12%, little different to those for Japan, although they markedly different from those for West and Central Africa.

Table 6 - Unit Processing costs for Mills in West and Central Africa

Cost item	sawntimber		Veneer		Plywood	
	m ³	(%)	m ³	(%)	m ³	(%)
Raw material	32	(40)	80	(40)	50	(21)
Labor	20	(25)	20	(10)	12	(5)
Energy	4	(5)	60	(30)	60	(25)
Capital	8	(10)	40	(20)	86	(15)
Total	80	(100)	200	(100)	240	(100)

Source: IIASA (1984)

Table 7 - Plywood Processing Costs - Comparison

	Indonesia* (Takeuchi)		West & Central Africa (IIASA)	
	\$/m ³	(%)	\$/m ³	(%)
Raw material	202	(71)	50	(32)
Labor	24	(8)	12	(8)
Energy	-	-	60	(38)
Capital	38	(13)	36	(22)
Other	19**	(8)		
Total	283	(100)	158	(100)

* Excludes packaging and transport and charges to the port.

Assumes energy provided by wood waste.

** General management costs (e.g. health facilities, technical fees)

^{1/} UNIDO (1983b)

Looking specifically at the issue of freight rates, although the processing of logs into sawntimber or plywood is a weight and volume reducing activity, part of this weight/volume loss advantage is lost because of the manner in which sea-freight rates are established. Characteristics of ocean shipping and the many factors which affect rates are discussed in detail in Appendix 2, but two features are worth repeating here.

Firstly, while the weight/volume of the product to be shipped is reduced, the per-unit freight rate generally rises^{1/}. This reflects the fact that the rate is partly determined by the value of the product being shipped. In addition greater care must be taken with more processed products since they are more easily damaged, and more sophisticated storage and loading facilities may be needed. The result is that the full freight savings that might otherwise be expected do not arise.

Secondly, the lower volumes to be shipped, the generally more diverse destinations and smaller volumes required by any single buyer which result from the more processed products, make it difficult to assemble the volumes needed to allow the use of charter shipping. Charter rates are consistently below those of liner rates with the result that if liner shipping must be used, much of the advantage from lower shipping weight is lost.

As an example of the relative position, table 1, appendix 2 indicates that depending on the year, rates for plywood shipped from Indonesia to Japan are some \$10-\$13/m³ of product shipped higher than for logs. Assuming a weight loss of about 45% in processing and increased insurance and packaging costs^{2/} of \$18/m³, the cost of shipping one cubic metre of plywood is \$10.30 lower than for shipping the equivalent volume (1.85m³) of logs. Using 1980 freight rates the margin in favour of plywood falls to \$2.50. While this comparison appears to suggest the shipment of plywood is less costly than the shipment of logs, it should be appreciated that unless large volumes of plywood destined for a limited number of ports can be shipped, it is likely that liner rates would apply rather than the lower charter rates. If this is the case, the \$10-15/m³ higher rate on plywood that applies would remove any savings in freight - in fact, freight costs would be higher.

In summary, although these estimates suggest that production of plywood can be carried out more cheaply in the log-producing countries than (in this case) Japan, this does not provide conclusive proof that these countries possess a comparative advantage.

The cost advantage shown is in fact predominantly a reflection of the cost of the raw material, logs. In Takeuchi's analysis the implied prices paid for logs in the countries indicated are substantially less in each

^{1/} Freight rate escalation has been commented on by Yeats (1981) among others.

^{2/} Insurance 0.7% of FOB cost and packaging \$9/m³ (Takeuchi, 1983).

case than those paid by Japan. Assuming the estimates relate to roughly equivalent grades of logs, the price advantage held over Japan ranged from US \$147/m³ for West Malaysia, to US\$ 112/m³ for Indonesia (Table 8). Singapore, a log-importing country, had a US \$92/m³ advantage over Japan.

TABLE 8 - Implied Log Prices Paid by Plywood Producers at Different Locations (1980)

Location	Unit cost (\$/m ³)	Difference from Japan
Indonesia	80	112
Sabah	66	126
Peninsular Malaysia	45	147
Philippines	50	142
Singapore	100	92
Japan	192	--

Source: Takeuchi (1983)

These differences cannot be accounted for by ocean freight costs which were shown earlier to be around \$25-30/m³. In the case of Indonesia a substantial part (\$55/m³) is the result of export taxes^{1/}, but \$27-32/m³ is still unexplained. While part of the difference may be a result of quality differences, it seems reasonable to conclude that the export restrictions have resulted in a substantial differential above and beyond what can be explained by these factors.

The advantage suggested for the log-producing countries, on the basis of these estimates, therefore, is not a reflection of two of the main advantages indicated as reasons for a changed location of processing, namely the extensive weight reduction which therefore provides lower freight costs, and the lower labor cost. The primary cost advantage would appear to be the cost of the logs^{2/}. Since the species, quality and source of the logs is essentially the same in all cases, it becomes clear that the dominant cost advantage results from artificial controls such as local export taxes, royalty systems etc. which discriminate against export logs in favour of those destined for domestic processing. From this it must be concluded that the comparative advantage that many reports^{3/} imply the log-producing countries hold, is not in fact true comparative advantage.

^{1/} See Takeuchi (1983).

^{2/} For Indonesian logs Takeuchi indicates a price differential between domestic and export logs of comparable quality of \$55-65/m³ in 1980.

^{3/} See for example the studies of Takeuchi (1983), UNIDO (1983e) and UNCTAD (1982), all of which imply these countries hold a comparative advantage.

This is further reinforced when it is considered that the countries with the strongest competitive position in plywood production in the past have been South Korea and Taiwan. In both cases, as with Singapore, their exports have been based on log imports from the major log-producing countries, and an important reason for their declining market share is the difficulty of obtaining logs, not declining competitiveness.

The available information on tropical plywood production seems to suggest that ignoring barriers:

- i) Production costs for Asian developing countries may be similar or slightly above those of Japanese producers if log costs are ignored;
- ii) with a log price differential the developing countries are able to sell at lower prices than Japanese producers;
- iii) if either the log differential is maintained, or the log producing countries improve their processing activities and achieve lower costs in processing and ocean freight, and assuming their quality is comparable, they can become fully competitive. Critical factors in processing are factors such as the level of utilization of the plant, and the conversion rate^{1/}.

(b) Barriers

The second main argument put forward for export restrictions in the log producing countries, is that these compensate for the entry barriers imposed by the importing countries. This implies that these barriers raise the price of imports to uncompetitive levels. The export restrictions are therefore seen as compensating for this disadvantage by making the price of the log higher to the processors in the importing country.

In the plywood example analysed by Takeuchi, the import duty of 20% of the import price is estimated to represent from 17-20% of the delivered cost of plywood. As indicated in table 5, the duty resulted in the CIF price for Singapore and Indonesia being above the Japanese price while for Sabah, West Malaysia, and the Philippines the margin enjoyed by them was reduced. Given the approximate nature of the cost estimates, it is reasonable to suggest that in this example the import duty alone is capable of having a major impact. Duty levels in the order of US\$ 60-70/m³ of plywood on landed prices of US\$ 300-400/m³ are clearly likely to have a major effect on competitiveness.

Import duty rates in other major consuming countries vary considerably, generally reflecting the extent to which a local industry exists.

^{1/} For example, the plants compared by Takeuchi assumed higher conversion rates (wood recovery rates) and higher capacity levels for Japan than for most other production sites.

Non-tariff barriers are more difficult to comment on. For some products in some major markets they are clearly restricting trade below the level that would occur under free-trade. The tariff quotas and limitations placed on GSP eligibility have an effect on panel products and some furniture products. Although difficult to substantiate in any clear way, import licenses and entry procedures have an impact on the ease with which trade can occur. Even where they may be issued automatically they can have a deterrent effect, especially if not consistently administered. At best they may merely be an irritant, at worst a considerable barrier. Voluntary export restraints (VERs) and anti-dumping or countervailing duty investigations have been used in a limited number of cases for forest products, but there is some evidence to suggest they are becoming more common. Equally, health and technical standards affect trade but cannot be quantitatively measured.

NTBs are, therefore, restricting trade from the log producing countries. The specific barrier and its effect varies with both the product and the individual importing country. The effect is difficult to determine but because a number of separate barriers may apply at any one time, the overall effect is likely to be greater than appears on the surface. This barrier "stacking" means that in most cases a number of non-tariff barriers apply to the product in addition to tariff barriers that exist.

Thus, in total, trade barriers do represent a disincentive to the processing and export of forest products by the log-producing countries. The exact effect is hard to establish but the relaxation of tariff and non-tariff barriers would assist increased local processing in these countries. Tariffs place an added cost on imports, which restricts competitiveness. In an equivalent manner non-tariff barriers raise costs or make it difficult for the developing countries to export. Since there are few signs that trade barriers are being relaxed to any extent the use of export restrictions by the log-producing countries is an important competitive strategy. Their cost competitiveness will continue to be closely linked to effective government policies, particularly those which create differential prices for logs. This is likely to continue to be the case for the foreseeable future.

4. Effects on Trade Patterns

Only broad comments can be made since the specific results will be influenced by the exact nature of the changes that are made.

Some general points are:

- (a) trade barriers are not the only, or even the main factors, affecting the competitive ability of the developing countries;
- (b) reduced import barriers in the developed countries would encourage an expansion of more processed exports by the developing countries;
- (c) the extent of any growth in processed forest product exports will be dependant on how well the developing countries can meet market

requirements. Particularly important will be the relative price, quality of the product, its consistency and the reliability of these countries as suppliers;

- (d) expansion of processed forest products trade will depend on an expanded processing sector and therefore the investment environment;
- (e) an important element in the growth in forest products trade will be the buoyancy of the main import markets. Unless demand expands, price competition will continue to a major factor in achieving sales;
- (f) selective reduction of trade barriers would have quite a different effect on trade patterns than would more broadly-based removals. Reductions which favour individual markets or suppliers such as through regional trade agreements or from unilateral changes by individual markets would alter present patterns to a greater degree than if multilateral agreements occur; extension of the GSP to additional products (e.g. hardwood plywood in Japan) or the removal of limiting conditions (e.g. tariff quotas on panels into the EEC) would encourage increased trade in selected products by the developing countries;
- (g) pressure for reduced trade barriers from the major forest product developed country exporters (e.g. U.S.A., Canada) may have spin-off benefits for the developing countries, but will also increase competition for them;

For example recent Japanese reductions in tariffs on wood products (particularly panels) will increase competition from softwoods (including reconstituted panels). This will increase the likelihood of substitution for hardwood products unless price differentials are sufficient to attract continued trade;

- (h) export restrictions will continue to have a greater impact on trade patterns than import restrictions;
- (i) the effects of these export restrictions will depend on the exporting countries continuing to enforce them. Pressure from domestic producers, government revenue difficulties, etc. will influence the level of continued commitment;
- (j) assuming continued commitment, plywood and sawntimber exports will expand in the log-producing countries at the expense of production in the main markets and in-transit producing countries. The rate of expansion will also be influenced by the success these latter countries have in finding alternative sources of supply, including softwood logs;

This trend will be encouraged as processors become more skilled in both production and marketing, and as infrastructure is improved;

- (k) trade in panels and processed hardwood products will decline in Korea, Taiwan, Singapore and Hong Kong as these export restrictions limit log supplies. These countries will modify their operations as much as possible by leaving primary processing to the log-producing countries and concentrating on more capita-intensive secondary processing;
- (l) the Asian producers may increase sales to Europe in addition to the current emphasis on Japan and China;
- (m) increasing competition for many markets is likely from reconstituted panel products produced in developed countries, and from softwood solid panels.
- (n) increased exports of wood manufactures and furniture are likely to grow more slowly.
- (o) unless further dramatic restrictions in supply occur, such as those instituted by Indonesia, major changes in trade patterns are unlikely in the short term. Without these supplies - imposed changes developing countries will make slow progress, mainly dependent on their processing, distribution and marketing improvement than on trade barriers.

All of these general trends depend heavily on factors other than changes in trade barriers. In particular market demand and the ability of the developing countries to produce and market competitive product are critical.

5. Effects on Industrialization

It is difficult to assess what effects further reductions in trade barriers might have on industrialization. The benefits of industrialization based on forestry are obvious for the log producing countries, but there is a need to fully assess overall sector strategies and individual projects before major commitments are made. Although there is evidence to suggest that these countries can benefit from resource-based industrial development there is little a priori evidence that they necessarily have a clear comparative advantage in the processing of many products. Each case must be determined on its merits.

A reduction in import barriers can assist development efforts but since these barriers are already relatively low for many products the gains are unlikely to be of major significance. Benefits are only likely to be of any importance for products where barriers are still relatively high, such as plywood and some wood manufactures. Even with these reductions, successful industrialization will depend more on other factors than barriers. Unless the developing countries can produce products which are competitive in all respects, including quality, technical performance, reliability of supply, and provision of marketing services, industrialization based on these products is unlikely to succeed without government assistance. Reduced barriers will provide an important stimulus rather than ensure success. Demand factors and competitive conditions will have an important effect on profitability.

Trade barriers are most likely to have a direct impact where they artificially restrict entry rather than where they add to the costs of the product, unless this added cost is substantial. For this reason barriers which control entry such as quantitative controls, import regulations and safety and technical requirements potentially have most effect.

Currently the most direct influence on industrialization is from the export barriers imposed by the developing countries, rather than import barriers. Without these much of the impetus for industrialization would slow, since these have the effect of forcing changes which might not occur otherwise. The ability of Indonesia and Malaysia to take over markets from Singapore, Taiwan and South Korea is closely related to their ability to deny these countries raw material rather than any clear natural advantages. As an example, UNIDO (1984) has suggested that although wage levels in Indonesia were well below other developing countries in the region, the potential comparative advantages it might enjoy because of this are largely offset by low levels of productivity. The ratio of value-added per worker in both the wood and furniture industries was lower than in Malaysia and the Philippines, for example. The conclusion reached was that Indonesia's "potential advantage due to low wage levels will only be realised in industries and plants which can show internationally comparable levels of labor productivity".

This same study indicated that the developing countries as a group have comparative advantage in simply worked wood and wood manufactures. They may also have an advantage in veneer and plywood, but for this the newly-industrialised countries (NICs) (such as Republic of Korea, Taiwan and Singapore) have greater comparative advantage. The NICs were suggested to have comparative advantage in veneer and plywood manufacture; while the developed countries were seen as most competitive in pulp, paper and paperboard, and furniture.

This underlines the fact that a number of elements are important in overall competitiveness, and that control of the resource does not necessarily equate with comparative advantage in producing and marketing processed products. In the past Republic of Korea and Taiwan were able to be extremely competitive in selling processed products on export markets, based on imported logs. On the other hand, Japan, which also purchases logs for processing, has been unable to compete for third markets against these two countries. Its own domestic market has also required protection to withstand competition.

Indonesia's export controls however resulted in substantial reductions in market shares held by Republic of Korea and Taiwan. Indonesia's share of Japanese plywood imports has risen from zero in the mid-1970s to 92% in 1985. At the same time Korea's share has fallen from 65% to almost nothing and Taiwan's share from 30% to almost nothing. By comparison Malaysia and the Philippines, both log exporting countries, have also declined in importance as suppliers of plywood to the Japanese market.

VI. BARRIERS AND TRADE POLICY

1. Introduction

In previous chapters the range of trade barriers that exist, the effect they have on forest products trade of the developing countries, their role in development and the effects of liberalization have been analysed. This chapter draws the previous analysis together and provides suggestions on the policy steps that must be taken in order to reduce the impact of trade barriers. It comments on likely future trends, and suggests a number of measures that would reduce the impact of the various barriers addressed in this report.

2. The Relative Importance of Tariff and Non-Tariff Barriers

Import barriers have little effect on the trade of unprocessed products such as logs, woodchips and wood pulp with the main developed country markets. Tariff levels are either zero or minimal in most cases; few cases exist where quotas and other quantitative controls are used; price controls, investigations etc are rarely used; and safety regulations have little effect.

This lack of restriction reflects the limited forest resources in many of the main markets, or at least the lack of hardwoods such as those grown in the developing countries; the fact that these products do not compete directly with domestic supplies; and the fact that raw materials which require further processing to produce a final product are important to domestic industries. Since these raw materials are able to be turned into a number of other products safety standards have little relevance. The only barriers of any note are health standards which are used to ensure diseases are not introduced into the country.

Barriers become increasingly important as more processed products are traded, with both tariff and non-tariff barriers becoming more prevalent. Additionally, the manner in which they are enforced becomes increasingly severe. The effect is to restrict the ability of the developing countries to produce more processed products which provide the opportunity for increased economic and social development. Since industrialization has^{1/} been shown by many studies to be an important contributor to development, these restrictions work against the development efforts of the developing countries. Some of the main problems identified have been the escalation of both tariffs and NTBs, the wider range of barriers used as products become more processed, and the greater number of developed country markets imposing these barriers.

Tariff barriers have been addressed in a number of multi-lateral trade negotiation rounds the most recent of which, the Tokyo Round, also attempted to address NTBs. As a result of these negotiations and other

^{1/} Discussed in Chapter II.

moves, tariffs have generally reached low levels on a wide range of products. For specific products in individual countries, however, rates are still significant. In particular plywood, certain sawntimber products, manufactured wood products and some paper and paperboard products face relatively high rates. Major developed countries which maintain high tariffs on some of these products include Japan, the EEC and Australia. Developing countries themselves generally have higher rates than those in place in the developed countries. Those facing the developing countries are, however, reduced by special preferences and this further reduces the effect for most forest products. Nevertheless, there are still situations of considerable importance to the developing countries.

As tariffs have declined NTBs have tended to increase, and have become of growing concern. In many cases they are substituted for tariffs because of their variety, ease of modification to take account of changing conditions, greater certainty of effect, and their lower visibility. While this is less true for forest products than for many other products, NTBs do have a significant effect on selected products. Of particular note is plywood which often faces a variety of these barriers.

Non-tariff barriers are much more difficult to identify and evaluate. Nevertheless the wide array that exist, the increasing frequency with which many appear, and the number that can apply to a given product suggest they are a problem. They are a greater problem for the developing countries than for developed country exporters.

Countervailing duties or antidumping investigations create uncertainty or involve heavy costs to exporters. Other barriers such as standards restrict exports because the developing countries are less able to meet the regulations, do not have adequate facilities or expertise to ensure the requirements are met (e.g. grading, drying, treatment, quality control procedures), have inadequate infrastructure to ensure the physical distribution system operates effectively, and lack technical information on the wood they are increasingly attempting to export.

Other NTBs which impact on forest products are health and technical standards, customs entry regulations, and import authorizations. These range from formalities which act as irritants, to requirements which can be met by the developing countries but which increase the cost of doing business, to practices which developing countries have considerable difficulty adapting to. In general, the forest products most affected involve have been those from developed countries, but cases affecting the developing countries seem likely to increase.

Many of these are marketing or development problems rather than trade barriers but the problems are magnified if the rules and regulations are unnecessarily strict, complicated or obscure. For example, grading and marking regulations which may present difficulties to developed countries because of their complexity or the need for extensive (unnecessary) testing can be almost insurmountable problems for developing countries which lack appropriate testing facilities, have relatively unknown or unproven species, or lack knowledge and expertise for conducting the required testing, sampling or marking. At very least such difficulties add considerably to both the cost and the uncertainty involved.

Because of the generally low tariff levels applying to imports from developing countries, greatest benefit to these countries would come from a reduction in NTBs which limit the flow of products or which make the marketing more difficult or more expensive. This is especially true of restrictions which limit the application of the GSP scheme. Special preference schemes modify the tariff rates in most developed countries and give developing country exporters an advantage over other exporters. For some products which are within the processing capabilities of developing countries, however, such as veneer, plywood, and many wood manufactures, exclusions, quotas, tariff quotas and similar restrictions limit the preferences. Quantitative restrictions limit the volume of products that the GSP applies to; value or market share limits on individual countries restrict trade; product exclusions remove some products from the scheme altogether.

An important point to note is that the impact of many of the barriers discussed is increased because a number apply to any given product. One barrier operates in addition to others, with products facing both NTBs and high tariffs. The net effect is therefore considerably greater than if only one barrier applied.

3. Future Trends

3.1 Tariff Reductions

For a number of reasons it appears likely that tariff levels on forest products will continue to decline. Firstly the continuation of staged reductions agreed to in the Tokyo Round will occur. Thus, unless bound commitments are not fulfilled, rates will decline until 1987. In addition individual countries are still making some reductions which were not included in the Tokyo Round agreements. Of special note are the planned reductions on veneer, plywood and some manufactured wood products announced in early 1986 by Japan. Through this, tariffs on these products could decline by between 12.5% and 33.3% by 1988. Secondly, since tariffs on many forest products are already relatively low further cuts will have little negative effect on domestic producers in these countries. Countries may therefore be willing to make further reductions. Equally though, these reductions will have little positive effect in the exporting countries. Thirdly, considerable pressure is being applied by major developed country exporters on some important forest product markets. The USA has identified forest products, particularly plywood and paper and paperboard products, as one of five sectors to press for improved trade access into the Japanese market^{1/}. Canada is seeking improved access to the EEC for newsprint; North American softwood plywood interests are seeking greater access to the EEC; North America has identified markets as diverse as Australia and Brazil as being subject to varying degrees of restriction. And finally, the ease with which other countries can identify, compare and evaluate tariffs of other countries, means that these tariffs are likely to continue to decline. Declining tariffs in the main markets are also likely to provide pressure on the currently high import tariffs that exist in developing countries.

^{1/} In the Market-Oriented Sector-Selective (MOSS) negotiations begun in early 1985 telecommunications, electronics, forest products, pharmaceuticals and medical equipment have been emphasised.

Although tariffs seem likely to continue to decline, this does not necessarily mean that all products will benefit. Many of the products indicated in this report as being of most interest to the developing countries still have relatively high tariffs which show little sign of any sizeable reduction. Even the considerable pressure applied by the USA has to date only shown limited gains for many forest products in Japan and the EEC.

3.2 Non-Tariff Barrier Reductions

Poor market conditions, a lack of economic growth worldwide, and growing protectionism in many non-forest products all suggest that the desire to protect domestic producers and isolate the country's economy from world pressures, will continue to mean that countries look to trade barriers to restrict imports. Because tariff levels will continue to decline, for the reasons given above, NTBs are likely to become more prevalent. The use of bilateral trade agreements, which encourage trade between the countries involved but discourage it with other countries, is one procedure which is restricting trade in some areas.

Internal supports such as subsidies, export grants and production assistance give producers in some countries a competitive advantage. The fact that many countries provide an extensive array of assistance measures to forest growing ensures that disputes will arise over the fairness of competition. A common reaction to these situations is to institute controls which 'compensate' for the alleged unfair competition. Unless demand expands in the main import markets so that the prices received for forest products increase, the pressure to use NTBs barriers to control imports is likely to continue.

There is little evidence to suggest that trade barriers for forest products in total will become increasingly restrictive in the future. The main difficulties at present relate to selected products and selected markets, and there is little to suggest these barriers will become more restrictive. On the other hand there is little to suggest that any significant improvement will occur. Without encouragement, coercion, or a strong commitment by interest groups, NTBs are likely to remain. Forest products are most likely to gain through flow-on reductions which are mainly negotiated for other products, or where the interests of the major trading countries coincide with those of the forest sectors in the developing countries. The limited but useful Japanese reductions on wood product tariffs are an example of this. Without strong pressure from the USA these reductions would probably have not occurred. Further, the pressure was primarily directed at some other product categories rather than forest products. The net effect has been reduced tariffs which will benefit all forest product exporters. Nevertheless, for some plywood groupings softwood plywood still retains its current tariff advantage over hardwood plywood. For some categories, though, the rates may become equal by 1988.

The greatest impact on trade flows will continue to be from the export barriers imposed by the developing countries themselves. The exact effect of these restrictions will depend on a number of factors, including the degree of commitment to these controls; the viability of processing in

the forest-growing countries; the extent to which importers can find alternative sources of supply; and the extent of competition with other suppliers. Indications are that as long as the governments of Indonesia, Malaysia and the Philippines continue to be willing to maintain the barriers by effectively subsidising domestic log prices (unless total bans are imposed), and to continue to provide regional support for processing development, an increasing proportion of exports of hardwood plywood, hardwood timber, and wood manufactures will come from these countries. It is less clear at this stage whether these countries have a true competitive advantage in these products which will allow them to increase their market shares in the absence of export restrictions.

4. Policy Implications

Although in general formal trade barriers are not a serious problem for forestry trade in most situations, for certain products (e.g. plywood, some sawntimber, reconstituted panels, and some wood manufactures) in certain markets, they create difficulties. In these cases, and to ensure that NTBs do not increase it is important that continued efforts are placed on containing and/or reducing them. The benefits of freer undistorted trade were discussed throughout this report.

While recognising the value of efforts on trade barriers it is worth emphasising that improvement in industrial development and marketing infrastructure to support export activities are of much more importance. Limitations in these appear to be of more significance in limiting export activity than trade barriers. Major effort should therefore be placed on improving these areas. Suggestions are indicated in section (c) of this chapter.

Notwithstanding the greater importance of these other factors, improvements surrounding trade barriers are also of value to the developing countries.

Positive steps must be taken if the impact of import trade barriers is to be reduced. It is not sufficient to leave any improvement to the goodwill of the countries concerned, since there is little evidence to suggest that major changes will take place unless either clear benefits exist for the importing countries, or concessions are forced on them.

Efforts to reduce these barriers should take place at a number of different levels, and can be broadly considered in three categories. Those which:

- a. reduce barriers;
- b. make it easier to avoid or overcome barriers;
- c. reduce the importance of barriers.

a. Procedures to reduce barriers

- (i) Every opportunity should be taken to discuss and negotiate reductions in tariffs. Multilateral trade negotiations have been effective in reducing many tariffs. Further efforts should be made to continue these moves. International agencies

such as GATT, UNCTAD and FAO should provide the forums at which these issues can be aired and agreements negotiated. These activities should extend to regional and subregional gatherings which bring importing and exporting countries together.

- (ii) Exporting nations with essentially similar interests and situations should expand efforts to cooperate in presenting united views to importing countries. Where possible, coordinated regional policies should be developed and procedures strengthened to ensure they are adhered to by all participants. Groups (possibly with wider responsibilities) such as SEALPA could have an important role.
- (iii) Developing countries should establish united views on what changes should be made by developed importing countries. In earlier negotiations, there was wide disagreement between developing countries on questions such as what changes were preferred and how negotiations should be conducted. Although unanimity will obviously be difficult to achieve, overall gains will be increased if developing countries avoid internal dissension. For this reason countries must be prepared to compromise to establish a united position.
- (iv) Increased research which identifies and analyses many of the issues surrounding trade barriers is required. This research would provide a sound basis for developing effective trade policies, highlighting problems facing specific developing countries or groups of countries, and establishing the situation of individual forest products. Currently little attention is paid to forest products by most studies of trade barriers, mainly because other products face greater barriers. FAO could undertake further studies in this area, as well as assist and encourage other organizations, including the developing countries themselves, to also do so. Studies of the barriers faced by specific countries and the present and potential impact would be useful.
- (v) Increased attention should be given to extending and improving the UNCTAD Inventory of Trade Measures. The number of countries reported in the inventory should be increased, and the information included extended. Means of making the information more comprehensive, such as using non-official sources should be investigated, and the information should be made widely available. A possible approach would be to provide each country included in the inventory with a copy of its own information (obtained from a number of sources) annually. The country would be requested to indicate any changes that should be made by a specified date, following which the revised information on all countries would be made available to any governments, international bodies, and research organization requesting the information.

These moves would increase the transparency of NTBs and make the information more widely known. It would also enable a considerable expansion in research that might be undertaken.

- (vi) Developing countries as a group (or regional associations) should press for improved conditions surrounding the GSP scheme. Moves such as extension of the products included, removal of restrictions such as tariff quotas improvements to the means of allocating volumes between exporting countries would greatly enhance this scheme. Although research has suggested that developing countries would gain more from reductions in MFN tariffs than they would lose through reduced preferences, the main evidence for this conclusion is related to studies covering all products traded. If only forest products trade is considered this conclusion is much less obvious.

Developing countries with important forestry sectors should therefore assess the relative benefits from each option to their overall development and support the most appropriate option. Considering forest products in isolation, it is possible that further improvements to the GSP system would give greatest benefit.

- (vii) A number of major exporting countries (particularly developed countries) are making strenuous efforts to have trade barriers reduced in selected importing countries. Developing countries should pay close attention to these, and where possible support these efforts. In addition they should ensure that their own products are not placed at a disadvantage through these moves. For example many of the developed countries are pushing for reduced tariffs on softwood products. Developing countries must ensure that any tariff reductions on these are matched by reductions on hardwood products.

b. Procedures which make it easier to avoid or overcome barriers

The following procedures would assist the developing countries to avoid facing some of the current barriers, or make it easier for them to meet the requirements:

- (i) Improve awareness of the existence of various regulations, how they are administered, what rules exist, who is responsible for decisions, what documentation is needed etc. This could be achieved by more widespread publication of information, and through advisory assistance, seminars, workshops etc.

International organization, trade associations, governments and research organizations could all assist.

- (ii) Continue pressure through international and regional negotiations for unnecessary and obstructive regulations to be modified or removed. Individual countries and trade associations should also press for such changes.
- (iii) Expand research and product testing which provides information on the performance and characteristics of materials. This should be accompanied by regional cooperation to develop and implement harmonized grading rules and manufacturing standards. This would ease the difficulties faced by having to conform to a number of standards and specifications in order to meet customer needs in a number of markets. It would also enable more effective product promotion.
- (iv) Continue efforts at developing more effective and workable international rules concerning dumping and subsidies.
- (v) Place emphasis on the development of the domestic market. This would enable processing, distribution and marketing skills to be improved, and allow export efforts to work from a sound domestic base. Quality control systems could also be developed. The latter should be industry-wide and effectively enforced.

c. Procedures which reduce the importance of barriers

Improvement in a number of additional areas is important to the effective development of forest product exports. Although these are not directly linked to the formal trade barriers identified in this report, their improvement would indirectly reduce the relative importance of the barriers. The reduction of costs and/or improved ability to meet market requirements will reduce the relative importance of trade barriers by making the export of many products easier and more profitable. Most of the following factors have not been investigated to any depth in this report but their importance is clear.

- (i) Sea freight. Since freight rates represent a major element in total costs, small improvements could have important effects. Improved port facilities, greater efficiency in their use, internal infrastructure, coordination of shipping volumes, improved bargaining strength, etc are all factors of relevance.
- (ii) Technical improvements in processing, which enhance production skills, conversion rates, plant productivity, product quality etc.
- (iii) Product development. Greater awareness and experience in product design, manufacturing techniques for more processed products, quality control and packaging.
- (iv) Marketing. Improved information on market requirements, demand, and end-uses for a range of existing and potential markets; expertise in selling, distributing and promoting the products; the identification of market opportunities; improvement in administering marketing programmes.

- (v) Planning and implementation. Assistance in project evaluation, plant design and commissioning, to ensure only projects which stand a high chance of success are established, and to ensure problem areas are identified at an early stage.
- (vi) Alternative business structures. Assessment of ownership forms including the benefits of joint ventures, and selection of the most effective distribution channels.
- (vii) Development of the domestic market. Expansion enables product development, achievement of economies of scale, product testing, staff development, together with many of the points noted above. Exports can then be developed more easily.

5. Responsibility for Policy Action

The issues identified above require that action be taken at a number of levels. Some areas may only require improved policies and activities by individual countries, and can therefore be addressed by individual governments or trade associations. Others can be more effectively addressed by improved regional cooperation, while still others are more appropriate to international action. In most cases, however, action at all three levels can contribute to overall improvement.

International agencies can:

- (a) provide the opportunity for governments to negotiate barrier reductions and establish the framework and policies concerning international trade;
- (b) undertake or fund research evaluations (studies of trade policy options, the impact of alternative actions, etc) and develop statistical information to support discussions and provide a basis for developing countries to determine their own most appropriate policies;
- (c) provide finance and technical expertise for evaluating problems and solutions, conducting training courses, identifying individual country and product problems, and sponsoring seminars which address trade problems;
- (d) sponsor and publish studies which provide information on individual barriers;
- (e) encourage regional cooperative action in areas as diverse as industry-wide grade standards, marking, quality assurance programmes and the coordination of transport.

In addition to international agencies such as FAO, UNIDO, GATT, UNCTAD and the World Bank, the proposed International Tropical Timber organization could have an important role to play. It could encourage, initiate and promote relevant research, policy evaluation and negotiation.

Regional organizations can:

undertake similar activities on many of these issues for their own geographic region. They can encourage close cooperation on a more selective basis.

Governments and country trade associations can:

provide an input at a more detailed level which identifies and implements programmes which meet their own specific needs. They must also provide the input which ensures effective action at both the regional and international level.

6. Suggestions for Further Research

In the course of this study a number of issues relating to trade barriers requiring further research have been identified. Those are listed below.

- (a) Further estimates of the effects of removing or liberalising trade barriers should be made. The estimates should provide detail at the individual product level for an extended number of forest products. Trade gains should be estimated for developing countries individually and collectively. Quantitative assessments of the effects of removing NTBs should be made wherever possible. Most existing studies only address tariffs.
- (b) Detailed case studies should be carried out of trade barriers affecting forest products and their effects for individual countries, particularly those in the African region. These should consider in detail specific policies and the practical implications for exporters in the selected countries.
- (c) The practical importance of barriers and differences in relation to different wood species grades, sizes etc should be investigated by regional and/or country studies.
- (d) Analyses should be made for forest products of the relative benefits to individual countries of further improvements in the GSP scheme versus reductions in MFN tariff rates. These should also consider the effects in relation to other products exported by the countries being considered.
- (e) The extent to which developing countries hold a comparative advantage in the processing of wood should be considered in more depth. Such a study could identify where comparative advantage exists, where developing countries are at a disadvantage, and where improvements may be necessary.
- (f) Studies which identify and analyse trade policy options and strategies for individual countries and regions would provide valuable guidance for governments. These should specifically address the forestry sector.

- (g) Improved information on market requirements and future market potential for forest products in individual markets would provide a basis for more effective export marketing, decisions on processing activities, and for trade strategies.

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TABLE 1

The UNCTAD Classification Scheme for Product-Specific Non-Tariff Measures

1. FISCAL MEASURES BEARING ON IMPORTS

1.1. Import specific charges and measures

1.1.1. Constraints to the operation of MFN tariffs

1.1.1.1. Tariff quotas

- 1.1.1.1.1. Ad valorem tariff with quota
- 1.1.1.1.2. Specific tariff with quota
- 1.1.1.1.3. Combined tariff with quota

1.1.1.2. Seasonal tariffs

- 1.1.1.2.1. Seasonal ad valorem tariff
- 1.1.1.2.2. Seasonal specific tariff
- 1.1.1.2.3. Seasonal combined tariff

1.1.1.3. Ad valorem tariff with specific (tariff) minimum

1.1.2. Non-tariff charges applied on basis of declared value

- 1.1.2.1. Ad valorem charges
- 1.1.2.2. Specific charges
- 1.1.2.3. Combined ad valorem and specific charges

1.1.3. Non-tariff charges applied on basis of decreed value

1.1.3.1. Variable import duties

- 1.1.3.1.1. Variable import levy
- 1.1.3.1.2. Variable import price component

1.1.3.2. Transaction-specific import charges

- 1.1.3.2.1. Countervailing duty
- 1.1.3.2.2. Anti-dumping duty

1.2. Product-specific taxes including excise taxes

- 1.2.1. Ad valorem tax
- 1.2.2. Specific tax
- 1.2.3. Combined tax

2. VOLUME-RESTRAINING IMPORT MEASURES

2.1. Prohibitions

2.1.1. Total prohibitions

- 2.1.1.1. Prohibition total
- 2.1.1.2. Prohibition (health and safety)
- 2.1.1.3. Prohibition (wildlife)
- 2.1.1.4. Prohibition (censorship)
- 2.1.1.5. Prohibition (seasonal)
- 2.1.1.6. Prohibition with exceptions

2.1.2. Conditional prohibitions

- 2.1.2.1. Prohibition on basis of origin
- 2.1.2.2. Prohibition except for certain purchasers
 - 2.1.2.2.1. State monopoly of imports
 - 2.1.2.2.2. Sole importing agency
- 2.1.2.3. Prohibition for certain uses
- 2.1.2.4. Conditional prohibition (health and safety)
- 2.1.2.5. Conditional prohibition

2.2. Quotas

- 2.2.1. Global quota
- 2.2.2. Quota by country
- 2.2.3. Seasonal quota
- 2.2.4. Quota
- 2.2.5. "Voluntary" export

TABLE 1 (Cont'd)

3. IMPORT AUTHORIZATIONS

3.1. Non-automatic authorizations

3.1.1. Authorizations to restrict entry

3.1.1.1. Discretionary authorizations

- 3.1.1.1.1. License requirements
 - 3.1.1.1.2. Discretionary license
 - 3.1.1.1.3. Import authorization
 - 3.1.1.1.4. Import permit
 - 3.1.1.1.5. Declaration with visa
 - 3.1.1.1.6. Authorization to selected purchasers
- 3.1.1.2. Conditional import authorization
- 3.1.1.2.1. Authorization dependent on export
 - 3.1.1.2.2. Authorization dependent on domestic product purchase
 - 3.1.1.2.3. Authorization dependent on foreign financing
 - 3.1.1.2.4. Authorization dependent on availability of domestic supply

3.1.2. Authorizations to control compliance with standards

- 3.1.2.1. Authorization dependent on certification (health and safety)
- 3.1.2.2. Authorization dependent on certification (technical standards)
- 3.1.2.3. Authorization dependent on certification (censorship)

3.2. Automatic authorization

- 3.2.1. Automatic license procedure
- 3.2.2. Liberal license procedure
- 3.2.3. Declaration without visa
- 3.2.4. License for surveillance purposes
- 3.2.5. Intra-community surveillance

4. PRICE LEVEL CONTROLS

4.1. Minimum price systems

4.1.1. Decreed minimum prices

- 4.1.1.1. Minimum import price
- 4.1.1.2. Reference import price
- 4.1.1.3. Basic import price
- 4.1.1.4. Trigger price

4.1.2. "Voluntary" export price restraint

4.2. Price investigations

- 4.2.1. Anti-dumping investigation
- 4.2.2. Countervailing investigation

4.3. Price surveillance measures

5. OTHER MEASURES

5.1. Technical requirements

- 5.1.1. Health and safety regulations
- 5.1.2. Technical standards
- 5.1.3. Marking and packing requirements

5.2. Measures to assist import-competing production

5.2.1. Preferential credit facilities

- 5.2.1.1. Preferential interest rates
- 5.2.1.2. Availability of credit
- 5.2.1.3. Loan guarantees

5.2.2. Assistance to production

- 5.2.2.1. General grant to producers
- 5.2.2.2. Investment grant
- 5.2.2.3. Payment to material inputs
- 5.2.2.4. Preferential provisions of services
 - 5.2.2.4.1. Subsidised freight charges
 - 5.2.2.4.2. Preferential insurance terms
- 5.2.2.5. Research and development grants
- 5.2.2.6. Grant to purchasers
- 5.2.2.7. Equity participation by government

TABLE 1 (Cont'd)

- 5.2.3. Tax concessions
 - 5.2.3.1. Tax exemption
 - 5.2.3.2. Tax rebate
 - 5.2.3.3. Tax refund
 - 5.2.3.4. Tax deferral
 - 5.2.3.5. Deduction from the tax base
 - 5.2.3.5.1. Preferential depreciation allowance
- 5.2.4. Preferential treatment of imported inputs
 - 5.2.4.1. Concessions on import charges
 - 5.2.4.2. Procedural import preferences
 - 5.2.4.3. Preferential exchange rates for imports
- 5.2.5. Sales promotion of import competing goods
 - 5.2.5.1. Assistance for producer's product promotion
 - 5.2.5.1.1. Grant to producer promotion scheme
 - 5.2.5.1.2. Government-operated promotion scheme
 - 5.2.5.2. Assistance to product marketing
 - 5.2.5.2.1. Grant to producer marketing scheme
 - 5.2.5.2.2. Government-operated marketing scheme
- 5.2.6. Price support measures including domestic subsidies
- 5.3. Other import measures
 - 5.3.1. Measures pertaining to the Multifibre Arrangement (MFA)
 - 5.3.1.1. MFA quota
 - 5.3.1.2. MFA consultation level
 - 5.3.1.3. MFA export control
 - 5.3.2. Additional customs formalities
 - 5.3.3. Import deposits

APPENDIX 2

Ocean freight

Ocean freight costs are highly variable both between products, trade routes, and over time. Differences between products can reflect differences in the value of the product, with higher valued products typically facing higher rates, or the load factor of the product^{1/}. In addition the differences can reflect the volume of the product to be shipped, and the availability (or lack of it) of backhaul cargo. Large volume cargoes of logs, pulp, newsprint, woodchips, and to a lesser extent sawntimber, are traded. As a result, for these charter shipping is often a viable option, specialized ships can be used (e.g., woodchip and woodpulp carriers), or attractive long-term rates can be negotiated. If products can be shipped in large volumes, in specialized ships, from a limited number of export ports, to a limited number of buyers, substantial advantages in rate levels can be obtained.

As well as differing between products, however, rates for the same product can also differ at any particular time period. Rates on the spot market can be considerably different from long-term contract rates, which reflect the prevailing conditions in the market as well as conditions when the contracts were signed and expectations of the future held at that time. Rates on different routes of approximately similar length differ, reflecting the specific characteristics of the route. Ship turnaround time (influenced by port conditions such as facilities, labor force, congestion etc.), type of ship plying the route, availability of backhauls, and the level of competition between shipping lines all serve to give highly variable freight rates even for the same products. Even more significant is the fact that because of differences in factors such as these, there is often only a loose relationship between the freight cost and distance.

As an example of the variability in rates, Table 1 indicates the differences that exist for the same products over different routes and different time periods; and the differences between products.

^{1/} Load factor combines the weight of the product, its volume and ease of stowing.

TABLE 1 - Ocean freight rates for selected forest products

Product	Route	Rate			
		1980	Feb 1982	March 1983	1984
\$ / m ³					
Logs	Sabah - Japan	25.5	27.6	14	21
	Sarawak - Japan	28.5		15	23.5
	Indonesia - Japan	30.2	26	22	26
	Papua New Guinea - Japan		21.5	26	28
	New Zealand - Japan	26			20
	Chile - Japan	30			21
Sawn- timber	US (West Coast) - Japan (charter)	20			15
	Indonesia - Japan	40	38.5	33	
	New Zealand - Australia			42	46
	New Zealand - Japan	25			19
	Chile - Japan	28			20
Plywood	Indonesia - Japan	40	38.50	33	
	Philippines - Japan	20			
	W. Malaysia - Japan	31			
Particle Board	East Africa - Europe		40		
\$ / tonne					
Pulp	US (West Coast) - Japan	37	47 ^{1/}		32
	US (West Coast) - Korea		60		
	New Zealand - Japan	45			37
	Chile - Japan	61			56
Paper ^{3/}	US (West Coast) - Japan		68 ^{2/}	105	
	US - S.E. Asia			90	
	Europe (Rotterdam) - US (East Coast)			65	
	Finland - Japan			90	
\$ / Bone dry unit					
Woodchips	Rotterdam - US (West Coast)			100	

Note: Most rates indicated are approximate and should only be taken as a general guide. Rates do not include port charges or, where relevant, container packing.

Sources: Takeuchi (1983); UNIDO (1983b); UNIDO (1983c); CE Doan (1983); Swiderski and Heilborn (1983); Pulp & Paper (May 1985); FAO (1985), Japan Lumber Journal.

1/ Charter rate. For containers add \$23.00

2/ Charter rate. For containers add \$3.00

3/ Rates for printing and writing papers.

Bone dry unit = 1090 kg of oven dry woodchips

Of special note is the reported rate of \$90/t to freight printing and writing papers from Finland to Japan, compared with the US west coast rate to Japan of \$105/t. Thus the US rate is \$15/t higher for a voyage less than half the distance. Similarly, the rates for sawntimber from the US west coast to Japan are less than half the Indonesia-Japan rates although the distance is nearly double.

Ocean shipping difficulties place a considerable burden on developing countries attempting to develop profitable exports of forest products, particularly of more processed products such as panel products and furniture components. On the one hand, internal conditions, particularly in the tropical countries, make shipping difficult and costly (for example, poor facilities, climatic conditions, and product volumes). On the other, the forest resources are usually isolated and distant from regular shipping routes. Much of Indonesia and Papua New Guinea's forestry industry suffers from problems of this nature, as do African countries with substantial forest resources such as Cameroon, Zaire, and the Ivory Coast. Further difficulties are the lack of sophisticated port facilities and the limited opportunities offered shipping lines for backhauls. Problems such as these limit the opportunities for attracting shipping lines to service the regions (thus reducing competition), and result in more expensive shipping operations.

It is difficult for developing countries to overcome the impasse of inadequate and expensive shipping services resulting from low shipping volumes, while volumes will not expand because shipping services are inadequate and expensive. This situation is less of a problem for logs, because large volumes are involved and both loading and shipment can be carried out without sophisticated equipment.

APPENDIX 3

BARRIERS AND THE DEVELOPING COUNTRIES : THE CASE OF THE EAST ASIAN REGION*

1. Introduction

The East Asian region includes some of the world's major forest product exporting developing countries. Included in this category are both countries which base their exports on their own forest resource, and those which have developed exports based largely on imported wood. In the former category are Indonesia, Malaysia, the Philippines and Papua New Guinea. In the latter, Republic of Korea, Taiwan and Singapore.

This section discusses the barriers which are affecting the trade development of these countries. The objective is to highlight some of the main barriers and their effects by briefly looking at Indonesia, Malaysia and the Philippines. Using these countries as examples some of the barriers discussed in chapter III are covered in more detail.

2. Background to East Asia

The following information provides a brief background to the main countries in the region.

Table 1 indicates the wide differences that exist between the main developing countries in the region. Populations range from 2.5 million in Singapore to 156 million in Indonesia. Gross National Product (GNP) is highest in Indonesia (\$87,000 million) and lowest in Singapore (\$17,000 million). On a per capita basis the reverse is true, with Singapore reaching \$6,620 per capita in 1983 and Indonesia being less than 9 percent of this figure (\$560).

Two of the three forest-rich countries which will be the focus of this chapter, Indonesia, and the Philippines, have low per capita GNP levels. These are less than half that of Malaysia. Indonesia and Malaysia showed annual average per capita growth rates of around 7 percent over 1973-83, while the Philippines achieved just over 5 percent.

Indonesia, Malaysia, Papua New Guinea, and the Philippines have large operable forest areas (Table 2) which range from about 7 million ha in the Philippines to almost 74 million ha in Indonesia. Industrial roundwood production is also varied, but large. Exports of industrial roundwood are relatively small, however, except for Malaysia.

* Broadly defined as the Western Pacific Rim, excluding the People's Republic of China.

TABLE 1 - Selected Country Indicators - 1983

	Population (mid-1983) millions	GDP (\$ 000 million)	GDP per capita (\$)	GDP growth 1973-83 (% per annum)
Indonesia	155.7	78.3	560	7.0
Malaysia	14.9	29.3	1860	7.3
Philippines	52.1	34.6	760	5.4
Singapore	2.5	16.6	6620	8.2
Thailand	49.2	40.8	820	6.9
Rep. of Korea	40.0	76.6	1916	7.3
Hong Kong	5.3	27.5	5187	9.3

UNIDO, Industrial Development Review Series

Although the forest sector is important to Indonesia, Malaysia and the Philippines the proportion of export income earned by this sector is not high. Malaysia develops 14 percent of its export revenue from forest products, while Indonesia and the Philippines receive 5.7 percent and 5.2 percent respectively (Table 3).

TABLE 2 - Forest Resources and Industrial Roundwood

	Operable Forest Area (million ha)	Industrial Roundwood 1984	
		Production (million m ³)	Exports (million m ³)
Indonesia	73.7	29.1	2.0
Malaysia	15.6	32.8	17.1
Philippines	6.9	7.0	1.3
Papua New Guinea	14.1	1.4	1.5
Rep. of Korea	..	2.3	..
Taiwan	..	..	..
Thailand	4.6	4.4	..

Source: UNIDO (1983f), FAO (1986)

.. small

TABLE 3 - Proportion of Export Revenue from Forestry Exports (1983)

	Total Exports ^a	Forest Products Exports ^b	%
	(\$ 000 million)	(\$ million)	
Indonesia	19.6	1113	5.7
Malaysia	15.8	2224	14.1
Philippines	6.9	358	5.2
Rep. of Korea	28.3	189	0.7
Thailand	9.0	30	0.3
Singapore	29.2	463	1.6

a UNIDO (1985)

b FAO (1986)

Table 4 shows that the proportion of the production of logs, sawntimber and plywood exported varies between the main countries of the region. Except for Korea, the countries listed export a high proportion of their plywood production (50-123%); a smaller proportion of their sawntimber (except for Papua New Guinea and Singapore) (35-45%); and except for Papua New Guinea and Malaysia, less of their logs (0-33%).

3. Barriers Affecting the Developing Countries of the East Asian Region

The main forest rich developing countries -- namely Malaysia, Indonesia, The Philippines, and Papua New Guinea -- direct most of their trade to Japan, the EEC, Australia, and the USA. The main products traded are unprocessed logs and rough-sawntimber. Trade in more processed products such as veneer and plywood, furniture, and to a lesser extent mouldings and other carpentry items is increasing, but apart from the dramatic gains in plywood exports made in recent years by Indonesia, total exports of most are still relatively small. Obviously many factors have had an influence on this performance. This section will discuss the role of trade barriers.

3.1 Import Barriers

(a) Barriers in the Developed Countries

Three features of import barriers are clear: (1) tariff levels for many forest products are generally low, (2) in general more highly processed products face higher tariff rates than the unprocessed forms, (tariff escalation) and (3) a number of non-tariff barriers exist which, when added to the tariffs, result in more restrictive conditions facing exports of processed products.

TABLE 4 - Production and Exports of Major Products 1984 : Selected East Asian Countries

	Saw and Veneer Logs			Sawntimber			Plywood		
	Production	Export	%	Production	Export	%	Production	Export	%
	(million m ³)			(million m ³)			(million m ³)		
Indonesia	26.4	1.6	6.1	6.3	2.2	34.9	3820	3046	79.7
Malaysia	31.6	16.0	50.6	7.3	2.8	38.4	787	400	50.8
Philippines	3.9	1.3	33.3	1.1	0.5	45.4	414	269	65.0
Papua New Guinea	1.2	1.2	100	0.1	0.2	200 ^a	..	..	..
Rep. of Korea	1.1	..	..	3.5	..	..^a	1304	377	28.9
Singapore	..	..	..	0.4	0.8	200 ^a	482	591	122.6 ^a

.. Negligible
a re-exports important
Source: FAO (1986)

Of greatest significance to the developing countries are the barriers on panels -- both solidwood and reconstituted panels. In particular, plywood faces barriers which, potentially at least, restrict the ability of the developing countries to compete with domestic production in the main import markets^{1/}.

(1) Tariff Barriers

Tariff rates for the EEC, Japan, the USA, Australia and New Zealand for selected broad categories of wood and wood products are shown in table 5. These are the main markets of interest to East Asian producing countries. The products shown are those which are generally within the technical^{2/}, financial and management capabilities of many developing countries

MFN tariff rates on these products are in most cases within the range 5-20%, a significant level^{3/}. The MFN rates are however, reduced by GSP rates which apply to the developing countries in most of the markets shown. However, plywood, and to a lesser extent veneer and particleboard are excluded from the GSP in some markets, particularly Japan and Australia, while in other cases the benefits of the preferences are limited by certain restrictions.

Since Japan is the largest market for unprocessed logs from the Asia-Pacific region and a major consumer of hardwood plywood and veneer, (the main use for hardwood logs) the lack of preferences on plywood is of special significance. Of further concern is the fact that softwood plywood has a lower tariff rate than that facing hardwood plywood -- 15% vs 17 or 20% depending on thickness. Although softwood and hardwood plywoods are not direct substitutes there is a degree of interchangeability in many end-uses^{4/}, and the potential for more if either product becomes limited in supply. A tariff differential can therefore have important impacts.

^{1/} Estimates by Takeuchi (1983) tend to suggest developing countries in Asia have a competitive advantage which is negated by high tariffs.

^{2/} In a classification of manufactured products according to their export potential for developing countries, UNCTAD (1984) considered plywood and veneer to be already within their production capacity, and wood manufactures and paper articles as likely to come within their capacity in the foreseeable future. Paper and paperboard products, and furniture were considered beyond their capacity in the foreseeable future.

^{3/} As discussed in chapter II, effective rates of protection for these products may be substantially higher than suggested by these nominal rates.

^{4/} For example current log export restrictions have resulted in some plywood plants carrying out trials on the suitability of softwoods.

TABLE 5 - Import tariff rates for selected wood products

(% ad valorem)

Tariff No. (CCCN)	Product	Japan		EEC(c)		USA		Australia(c)		New Zealand(c)	
		MFN	GSP	MFN	GSP	MFN	GSP	MFN	GSP	MFN	GSP
44.01- 44.04	Wood in rough	0		0		0		0		0	
44.05	Sawntimber										
	- Hardwood	10.0	5.0	0	0	0	0	5.0	5 less	0	
	- Softwood	7.0(b)	0	4.1	0	(a)		(a)	\$0.43/m3	(a)	
44.13	Sawntimber planed, tongued, etc										
	- Hardwood	10.0	0	4.3	(0)	0-2.5	10.4	2.15	0	10	0
	- Softwood	0, 10.0	0	(a)		(a)				(a)	
44.14	Veneer	15.0	(0, 7.5)	6.1	(0)	0	10	5.0	—	30	20
44.15	Plywood										
	- Hardwood	17, 20	—	(10.4)	(0)	3.6-9.5	0	28	—	35	25
	- Softwood	15.0	—	(a)		Tropical 8.0 20.0	— (0)	(a)			
44.18	Particleboard	12.0	0	10.5	(0)	4.5	0	22.0	—	20	10
44.20-28	Carpentry, Joinery	2.5-7.2	(0)	2.6-9.1	(0)	0-8.0	0	15.0	0	20	10
94.01/03	Furniture	4.8	0	5.6, 6.3	(0)	2.8-5.8	(0)	30.0	(20.0)	40	22.5

a No distinction between softwood and hardwood.

b In contrast to other softwoods some of the main North American species are free of duty.

c Preferential agreements exist for some countries or regions in addition to the GSP.

— No preferential rate.

() Quantitative restrictions also exist.

Source: Tariff schedules, official documents.

Prepared February 1986.

Rates on sawntimber are generally zero, except for Japan. In that market the preferential rate on sawn hardwood is 5%. This compares with duty-free entry for sawn softwood species other than spruce, pine, fir and larch^{1/}.

Many of the products which are a natural progression to more value-added processing therefore continue to face tariff and/or quantitative controls. sawntimber, and panel products -- particularly plywood -- face this problem.

Other processed products such as beading and moulding, carpentry and furniture tend to have more open or duty-free access.

Both pulp and paper products show a similar situation. While being a much more processed form than most wood products, pulp is usually given duty-free entry; paper products which involve much greater processing technology and high capital cost are subject to low tariff rates. Preference systems provide duty-free entry to most products from developing countries, no doubt because most developing countries are high cost producers and/or have little processing capacity. (Table 6)

It is therefore clear that, at least at the present stage of development, Asian exporters face greatest difficulty with panel products, furniture, and to a considerably lesser extent, sawntimber and semi-processed wood products.

(ii) Non-Tariff Barriers

NTBs such as quotas and tariff quotas have been discussed above and clearly restrict the developing countries of the region. Other NTBs operating in addition to these restrictions also create difficulties. The extent and degree to which they are restricting exports is, however, difficult to document. The lack of detail therefore creates considerable difficulty when attempting to assess how much these barriers affect trade. On the limited information available, the main non-tariff barriers, other than tariff quotas, affecting Asian producers are probably health and technical standards, and to a lesser extent, licensing procedures. In most instances, although licensing procedures add to the exporters costs and are an irritant, they are probably not a major barrier to trade. Health and technical standards are more of a problem. This does not necessarily reflect unreasonable standards but rather the level of development of the developing countries and the importing country's own domestic market requirements.

^{1/} Two of the main species exported by North America, Douglas fir and hemlock, enter duty-free.

TABLE 6 - MFN Tariff Rates in Selected Developed Countries : Wood chips, Pulp and Paper

	Australia a)	EEC a)	New Zealand a)	Japan	Canada	USA
Wood chips	5(0)	0	0	0	0	0
Pulp	2-15(0)	0	0	0	0	0
Newsprint	0	5.4*(0)*	10(0)	3.9(0)	0	0
Other printing papers	6-14(0)	4.1-12.8	0-40	8.5(0)	6.5-9.2	0
Paperboard	20(0)	6	0-40 (0-20)	5.0(0)	4	1.9(0)

GSP rate in brackets

* Some or all items in the category limited by quotas, ceilings or similar restrictions

a) Preferential agreements exist for countries or regions in addition to the GSP

Source: National tariff schedules; official documents.

It is difficult to determine whether these non-tariff measures do create difficulties for the Asian exporters. There is clear evidence of imported temperate softwoods facing difficulties meeting health and technical standards in Japan, the EEC and Australia to name a few markets. The evidence for commonly traded hardwoods is more difficult. It is, however, likely they do face similar difficulties. Certainly the problems facing exports of lesser-known species are obvious.

(b) Barriers in the Developing Countries

Singapore, Hong Kong, and Thailand import sawntimber and panel products, while although Indonesia, Korea, Malaysia, the Philippines and Taiwan are important consumers, they import little. With the exception of Singapore and Hong Kong (not included in the table) which maintain open trade policies, most of the developing countries mentioned have tariff rates which are substantially above those in the developed countries discussed. On most products, rates of 20-30% are common (Table 7). These levels probably overstate the situation, to a degree as preferences applying to inter-region trade between the ASEAN^{1/} countries are not taken into account. Nevertheless, the general observation that tariffs are significantly higher than for the developed countries remains true.

As with the developed country markets, tariff escalation appears to exist in the tariff schedules. If Singapore and Hong Kong are excluded, rates on wood in the rough range from 5-20%; primary wood products 5-40%; and secondary wood products 10-50%. Tariffs on paper range from 5-50%. Actual rates for the Philippines and Papua New Guinea are higher than indicated since duty is assessed on the f.o.b. price + 10% in the case of the Philippines, and a 3.5% surcharge applies for Papua New Guinea.

As might be expected, countries with limited wood resources which have built important industries on the processing of imported wood, such as Singapore, Korea, Taiwan and Hong Kong, all have zero or low tariffs on logs and large section sawntimber. Countries with large forest resources such as Indonesia and Malaysia on the other hand still maintain rather high tariffs, possibly in order to ensure logs or sawntimber from other nearby resource-rich countries do not substitute for their own products. All countries in the region, except Singapore and Hong Kong, protect their domestic wood processing industries - including plywood and veneer plants - with high tariffs. Whether or not significant increases in inter-regional trade would occur if tariff levels were lowered or removed is difficult to determine. Countries imposing these high tariffs must, however, believe this would be the case. Although these developing countries do not necessarily have large domestic markets, they are important to their domestic industries and therefore considered worthy of protection. The size of their populations also suggests significant potential demand. In addition, a 'captive' domestic market is seen as an important element in establishing a viable industry of sufficient size to develop export markets. Restrictions such as these also serve to conserve the use of valuable overseas exchange, as well as providing a source of revenue. For these and other reasons most of these developing countries have maintained high tariffs.

^{1/} Singapore, Malaysia, Thailand, the Philippines and Indonesia. Brunei has also been recently admitted.

TABLE 7: Tariff Rates - Selected Developing Countries in Asia-Pacific Region
(%Ad Valorem)

	Singapore	Malaysia	Philippines ¹	Indonesia	Korea	Papua-New Guinea ²
44.03 Wood in rough						
- pulpwood	0	20	10	15	5	12.5
- saw and veneer logs	0	20	10	15	5(C) 5-20(NC)	17.5
44.04 Wood roughly squared	0	20	10	15	5(C) 5-20(NC)	17.5
44.05 Wood sawn lengthwise sliced or peeled	0	20	20	15	20(C) 20(NC)	17.5
44.09 Chips and particles	0	25	20	15	5	
44.11 Fibre building boards	0	25	30	30	20	15
44.13 Wood planed, tongued etc.	0	25	30	30	20	17.5
44.14 Veneer	0	0,45	30	20(C) 10-20(NC)	20(C) 10-20(NC)	15
44.15 Plywood	0	25	40	30		15
- Coniferous					30	
- Non-coniferous					30	
44.18 Reconstit. boards	0	25	40	30		15
- Particleboard					20*	
- Other					20	
44.19 Wood bearings mouldings etc.	0	25	50	30	30	17.5
44.23 Builders carpentry, joinery	0	25	50	30	40	17.5
47.01 Wood pulp	0	3	10,20	5	10	
47.02 Waste paper	0	\$29.53/t	10	40	5**	
48.01 Paper & paperboard						
- Newsprint	0	5	30	5	40	10
- Printing	0	0	30	30		20
- Kraft	0	5	50	30		0
48.05 Corr. paper & board etc.	0	20	40	30	40	0
94.01, 94.03 Furniture	5	55,60	50	50	50	30

Source: Country tariff schedules; GATT Document TD/W/345 & addendums; Bulletin International des Douanes.
Prepared February 1986.

Notes: Members of the ASEAN group (Indonesia, Malaysia, Philippines, Singapore and Thailand) grant special rates to other members. For example Malaysia gives 20% exemption from import duty on products in Categories 44 and 94, and full exemption for many items in 47.

C - coniferous NC = non-coniferous

* In April 1985 temporary reduction to 20% on imports up to 100,000 m3 entering before January 1986.
Unless extended, the rate then reverts to 30%.

** Temporary rate. Bound GATT rates are higher

1 Duty assessed on FOB value plus 10%

2 Surcharge of 3.5% also applies

Other NTBs of importance are licensing schemes, strict controls on access to foreign currency, limitation of shipping to domestic lines, a strong tendency for centralised government purchasing, and tied counter-trade purchasing. All are common practices for developing countries. In total, therefore, with certain exceptions, developing countries maintain highly restrictive import policies which limit the ability of other developing countries (and developed countries) to compete on their markets.

3.2 Export Restrictions

The most important barriers affecting trade patterns in the region are export barriers erected by the exporting countries. These restrictions are dramatically affecting the types and volumes of products traded, and consequently the level of industrialization in the developing countries. A feature of trade in forest products is the export of relatively unprocessed products such as logs, sawntimber and to a lesser extent wood chips by the developing countries. These basic products are exported to the main developed country markets where in many instances they are subject to further processing to produce final product forms. The most obvious example is the extensive volume of hardwood logs shipped to Japan from South East Asia, and converted to plywood and sawntimber. A similar situation occurs with logs from Africa to Western Europe.

Limited efforts have been made for many years to encourage more of the raw material processing to be carried out in the developing countries. The main approach to this change has been through the use of export quotas or bans, and export taxes. Because of the structure of the industry in these countries, the level of investment needed for processing plants, and the method used by governments to sell the resource, most firms engaged in the industry have found it more profitable to sell logs than to undertake processing. As a consequence, progress towards more processed exports had been slow. Attempts at encouraging processing through formal and informal agreement among those in the industry had little impact. Government encouragement through various assistance policies, by themselves also had little effect. Recent moves in some countries in the region are, however, having a significant impact.

More direct control measures were imposed by the governments of Malaysia, the Philippines, and Indonesia, both as a means of raising revenues but more importantly to speed up the rate of growth in processing. These governments all impose restrictions which limit the export of logs, and to a lesser extent sawntimber and veneer. Log export quotas and export taxes are used to give encouragement and incentive for more domestic processing. In addition, they seek to encourage better utilization in order to conserve what is in many situations a rapidly diminishing resource. The Philippines, Indonesia, Peninsular Malaysia and Sabah, which together constitute the South-East Asian Lumber Producers Association (SEALPA) have followed policies of restricting log exports. SEALPA has been an important force in supporting the voluntary establishment of export quota levels by its members.

(a) Philippines

In 1972 the Philippines decided in principle to phase out log exports, and subsequently passed a law to this effect. Under this law log exports were to be gradually phased out by 1976. Although there has been a total log export ban since 1977 the urgent need for the overseas exchange generated by log exports, has meant that the commitment to the phaseout has been less than complete. Restrictions have been imposed and lifted at various times, with current controls using export quotas which are allocated according to the Government's perceived policy goals. These quotas have ranged from 1.6 million m³ in 1983, to the 1985 situation where no formal quota was announced, but permits were issued on a case-by-case basis. Since January 1986 an export quota of 800,000 m³ has been available with its allocation being on a one cubic metre for one cubic metre of finished wood product exports actually achieved in 1985. (Japan Lumber Journal, 20 February 1986).

Despite variation in the severity of the controls and their on-off nature, they clearly contributed to the rapid decline in log exports that has occurred -- a decline from almost 10 million m³ in 1970 to a 1984 level of 1.3 million m³ 1/. In addition to quantitative restrictions export levies are imposed. These vary with the product form concerned, and aim to both discourage the export of unprocessed forest products and provide revenue to the government. Levy rates in 1984 were: logs 25%, veneer 6%, lumber 6%, plywood 2%, and logs 25% ad valorem.

The contribution of these controls to the decline in log exports is difficult to assess, since both the rapid rate of depletion of forest resources that has occurred in the Philippines and the low economic activity in the major markets have obviously also contributed. Nevertheless, the dramatic decline that occurred in the mid-1970s was clearly heavily influenced by these restrictions.

The restrictions appear to have had little impact on the degree of further processing. Since the mid-1970s, production of sawntimber, veneer and plywood has seen little improvement, sawntimber production fell from 1.5 million m³ in 1975 to 1.1 million m³ in 1984; and veneer rose from 99,000 m³ in 1975 to 122,000 m³ in 1983, and then declined to 71,000 m³ in 1984. 1975 was substantially below the levels achieved from 1970-1974. Plywood remained stable at 414,000 m³ in 1984. For each of these products, however, production in 1984 was considerably below that in 1970 (Table 8).

1/ Official Philippine figures are considered to substantially understate actual shipments because of extensive smuggling and the understatement on shipping documents of shipped volumes by some exporters. Some unofficial estimates suggest actual exports may be understated by as much as 300% (FAS, 1985)

TABLE 8 - Production and Exports of Forest Products : Philippines

	Production			Exports			
	Saw and Veneer logs	Sawntimber	Veneer Plywood	Saw and Veneer logs	Sawntimber	Veneer	Plywood
	(million m ³)		(000 m ³)	(million m ³)			(000 m ³)
1975	8.4	1.5	99	4.6	0.3	99	157
1980	6.4	1.5	133	1.2	0.7	63	367
1981	5.4	1.2	138	1.7	0.6	39	398
1982	4.5	1.2	98	1.6	0.6	45	249
1983	4.4	1.2	123	1.0	0.7	123	312
1984	3.9	1.1	71	1.3	0.5	71	269

Source: FAO (1986)

In contrast to production, since 1975 exports of sawntimber and plywood have risen while veneer has dropped, partly as a reflection of moves towards the use of other, cheaper core material in plywood production. In the 1980s exports of veneer and plywood have fluctuated from year-to-year, while sawntimber has remained stable. A high proportion of veneer and plywood (30-100%) is exported, while around 50% of sawntimber production is exported (Table 9).

TABLE 9 - Proportion of Production Exported : Philippines

	Saw and Veneer logs	Sawntimber (%)	Veneer	Plywood
1975	55	20	100	37
1980	19	47	47	66
1981	31	50	28	86
1982	36	50	46	57
1983	23	58	100	67
1984	33	45	100	65

The impact of the restrictions is therefore difficult to assess with any certainty because of the inconsistent policies followed, the effects of other factors, particularly the state of the general economy, the declining resource availability, and the suspect nature of some of the statistics. The general points that emerge are that the restrictions probably have contributed to the significant decline in log exports. However, the decline may also be the result of falling harvesting, since logging controls aimed at conserving the declining resource have also been in place. It is clear though that controls on log exports have not resulted in an appreciable increase in production of more processed products.

The effects are mixed, and appear to have been limited in achieving their goals. This clearly underlines the fact that restrictions such as these are of limited value by themselves. Other conditions must be favourable if processing is to expand.

(b) Malaysia

Malaysia is composed of eleven States in Peninsular Malaysia and the two East Malaysian States of Sabah and Sarawak. State Governments generally control forestry matters such as harvesting restrictions, logging conditions, royalties, etc. The States of Peninsular Malaysia are controlled as a group.

Peninsular Malaysia began restricting log exports in 1972, by banning the export of ten species. Log exports were subject to quota control from 1976 when 5% of total log production was allowed to be exported. Quota levels were steadily reduced from that period until a total ban took place

from 1 January 1985^{1/}. This ban has been introduced to compensate for log shortages, and as a result Peninsular Malaysia has effectively become an importer of logs. The export of logs has fallen from 1.6 million m³ in 1970, to nil in 1985, and the region is likely to be a permanent importer in the future if local sawmillers are to obtain adequate supplies^{2/} (Table 10).

TABLE 10 - Sawlog and veneer log exports : Malaysia (million m³)

Total	Peninsular Malaysia	Sabah	Sarawak	
1975	0.4	9.2	1.3	10.9
1980	0.3	8.2	6.7	15.2
1981	0.3	8.7	6.9	15.9
1982	0.2	9.9	9.2	19.3
1983	0.1	9.5	9.2	18.8
1984	Neglig.	7.0	9.0	16.0

Source: Asian Timber, (Various) and FAO, (1986).

Despite the reduction in log exports from Peninsular Malaysia exports of sawntimber, veneer and plywood have all declined in recent years (Table 11).

TABLE 11 - Exports of Forest Products:
Peninsular Malaysia

	Sawntimber ³ (million m ³)	Veneer ³ (000 m ³)	Plywood ³ (000 m ³)
1981	2.25	92	444
1982	2.24	88	380
1983	2.32	65	523
1984	1.84	43	324
1985	1.62	33	292

Source: Maskayu

Sabah has also restricted log exports, but less tightly because log export returns are of major importance to the State's revenue. Log royalty payments currently constitute about 60% of total revenue.

1/ Limited volumes of certain species and sizes may be exported under permit.

2/ The utilisation of rubberwood from unprofitable or aged plantations is receiving emphasis at present. The export of rubberwood sawntimber reached 89,000 m³ in 1984. Proposals by Peninsular Malaysia sawmillers that they be able to purchase East Malaysian logs at reduced or subsidised rates have so far met with little support.

Export quotas have been applied since the mid-1970s and the original goals were to reduce log exports by 5% per annum in 1977 and 1978, and then by 10% per annum for the next four years. Additionally, encouragement for domestic processing of logs was given by providing lower royalty rates on logs for domestic utilisation than on those for exports. This differential has continued to operate.

The stated objective of these moves was to phase out log exports by 1985. Although this goal has not been achieved the level has been substantially reduced from the volumes exported in the 1970s. Volumes fluctuated over the period from over 12 million m³ in the early 1970s to the 1984 level of 7 million m³ (Table 10). The target was set at not more than 5 million m³ per year from 1985 onwards. Although this target may not be achieved if world market demand expands, the policies are likely to ensure volumes are kept below the level that would occur without restrictions. The goal of these policies is to reduce export of logs and encourage domestic processing. As part of these objectives the State Government has participated in investment in processing plants.

Other restrictions affecting log exports have included the use of check prices to base royalties on, policies aimed at giving Sabah - owned ships priority in carrying logs, and the requirement that only members of the Timber Association of Sabah be permitted to export logs.

Sarawak has followed a different path to that of Peninsular Malaysia and Sabah. More extensive areas of commercially attractive forests and a less developed processing sector capable of utilising the resource have encouraged the State to be far less restrictive. In fact log exports have expanded steadily since 1975 from 1.3 million m³ to 9 million m³ in 1984 following a decline in the early 1970s. This rising trend has reflected the lack of quantitative restrictions, low royalties and export taxes and the lack of any preference for domestic users of logs.

Despite the stated goals of restricting log exports and encouraging the export of more processed products, log exports from Malaysia in total are higher than in previous years with 1984 exports being 16.0 million m³ compared with levels of 15-17 million m³ from 1975 to 1980. The peak of 19.3 million m³ was achieved in 1982 (Table 10).

Although generally committed to controlling and reducing log exports, the differing policies followed by the three regions of the country have resulted in little overall decline. Specifically, the lack of a developed processing sector has encouraged Sarawak to expand its log exports, while Sabah and Peninsular Malaysia have been following restrictive policies. Of note is the fact that the move away from log exports is directly linked to the tightening of restrictions. Export barriers are therefore forcing structural changes by reducing volumes available to importing countries. Difficult market conditions in the early 1980s have also been a factor in affecting export volumes.

The effectiveness of these policies has been somewhat hampered by the differing emphasis of the three regions. Total exports of veneer Sheets for Malaysia have expanded considerably in recent years, rising

from 124,000 m³ in 1979, to 566,000 m³ in 1984. This followed a drop from the 170,000 - 299,000 m³ exported in the mid 1970s. Sawntimber exports have remained in the range 2.8 - 3.5 million m³ since 1976, while plywood exports have fluctuated between 344,000 and 479,000 m³ over the same period (Table 12). Overall, therefore, exports of veneer and plywood have grown and sawn wood exports have been maintained during a period of restricted world demand.

TABLE 12 - Exports of Forest Products:
Malaysia

	Sawntimber ₃ (million m ³)	Veneer ₃ (000 m ³)	Plywood ₃ (000 m ³)
1979	3.5	124	466
1980	3.3	127	474
1981	2.8	160	467
1982	3.1	176	402
1983	3.5	554	479
1984	3.5	566	400

Source: FAO (1986)

As well as the export restrictions indicated, Malaysia maintains high import tariff barriers for most forest products. As shown in table 6 most wood and wood products face rates of 20% or 25%. Pulp and paper products have low rates while furniture products have very high rates (55 - 60%).

(c) Indonesia

During the 1970s Indonesia was the world's largest exporter of logs, with volumes averaging 17.1 million m³ over the period 1975-80. Exports reached a peak of 19.5 million m³ in 1978. Although exports fluctuated with changing demand conditions throughout the 1970s, the 1980s have seen a dramatic decline in log exports. Volumes fell from 15.2 million m³ in 1980 to 6.5 million m³ in 1981, with further declines to reach 1.6 million m³ in 1984 (Table 13). 1985 exports are likely to be negligible.

These falls are the direct result of the Government's policies which aim to ensure a higher proportion of the resource rents from logging are received by the Government, and to encourage increased wood-processing to take place in Indonesia. Additionally, the policies seek to encourage more efficient utilisation of a natural resource which has been increasingly under threat.

Although these general goals were part of the Government's stated policies throughout the 1970s, little serious attempt was made to enforce them until 1978. Since that time increasingly restrictive measures have been introduced to ensure an increasing amount of processing takes place in Indonesia rather than in the end-user market of Japan and the 'in-transit' processing centres of Singapore, Taiwan and Korea. In particular, emphasis has been placed on the expansion of plywood, the main end-use of the previously exported log resource.

TABLE 13 - Sawlog and veneer log exports:
Indonesia

	Volume	Value
	(million m ³)	(\$million)
1970	7.8	86.2
1973	18.5	561.3
1975	12.9	409.6
1977	18.9	899.0
1979	18.2	1550.0
1980	15.2	1514.8
1981	6.5	618.2
1982	3.2	332.6
1983	3.1	310.8
1984	1.6	164.3

Source: FAO (1986)

The main thrust of the Governments policy has been towards restricting the export of logs by a number of trade barriers. Additionally other restrictions and encouragements have been used to move industry development in the direction desired by the government.

In 1978 the Government moved to increase local processing and expand its own revenue by increasing the export tax on logs from 10% of "check prices" determined quarterly by the Government, to 20%. In addition a new tax of 5% was placed on roughly sawntimber in 1979. Log export quotas were linked more directly to industrialization in 1980 by tying the allocation of cutting and export quotas of forest concession holders to their recent performance in local processing.

In 1981 log export quotas were only provided to those forest concession holders with integrated processing plants operating, or under construction. Emphasis on plywood production was ensured by requiring that plywood be the main activity of the processing plant. Those with existing plants were required to process 80% of their log production locally or sell it to other plants capable of doing so. Those erecting plywood plants were required to sell one-third domestically, with a two year limit. All exports were subject to the issue of licenses. These moves created a substantial differential between the prices of export logs and domestic market logs. This differential was reported to be in the order of 50% in 1980. Differentials were also reported between domestic and export plywood prices, with domestic prices being some 15% above the export price.

Further moves took place in 1982 with a ban on the export of green rotary peeled veneer. The aim of this control was to ensure domestic drying and hence encourage (force) plants to upgrade their facilities to full plywood manufacture. The general policy followed is for high export levies on logs, low taxes on semi-processed products and none on most processed products. Details of the charges on logs in 1980 are shown in table 14.

TABLE 14.

VOLUME BASED CHARGES ON LOG PRODUCTION AND EXPORT CHARGES ON LOGS: INDONESIA

Volume Based Charges on Logs Indonesia (1980)	Representative Average Level (Based on an average check price on logs of U.S. \$135/m ³)	
	(Rupiah/m ³)	(US \$/m ³)
<u>On Log Production</u>		
1. <u>Timber Royalty</u> (Iuran Halishutan, IHH) - 6% of posted export prices, "check prices"/m ³	Rp 5,000	\$ 8.00
<u>On Log Exports</u>		
2. <u>Additional Timber Royalty</u> (IHH Tambahan) - roughly Rp 500-1000/m ³ , varies by region - on export logs only - intended to finance river and harbour dredging	Rp 700	\$ 1.20
3. <u>Timber Export Tax</u> (Alokasi Devisa Otomatis, ADO) - 20% of posted export prices "check prices"/m ³ - on export logs only	Rp 16,900	\$27.00
4. <u>Industrial Contribution</u> (Simpanan Wajib Industri) - on export logs only - refunded upon investment in processing plant	Rp 2,000	\$ 3.20
5. <u>MPO Tax</u> (MPO Exim) - Rp 40/m ³ /U.S. \$ of check price - on export logs only - withholding tax on corporations	Rp 5,400	\$ 8.60
6. <u>Reforestation Deposit</u> - U.S. \$4.00/m ³ - on export logs only - refunded when reforestation achieved	Rp 2,500	\$ 4.00
<u>Total Volume Based Charges</u>		
On Domestically Processed Logs	Rp 5,000	\$ 8.00
On Export Logs	<u>Rp 32,500</u>	<u>\$52.00</u>

Source: FAO (1983b)

In addition to the export charges other restrictions have also been introduced. Of note was the establishment of seven plywood joint marketing boards (JMBs) in late 1984 to control export prices and volumes. Under this scheme export licenses are only issued to members of the JMBs, and companies must operate within price and volume guidelines set by the boards. By 1985 volume quotas were confined to the United States and Western Europe. (Philippine Lumberman, January 1985).

The effects of the determined efforts of the Government have been dramatic. Log exports have virtually ceased. Sawnwood exports have doubled since 1978 to nearly 2 million m³, and plywood exports moved from negligible levels in the mid-1970s to 2.2 million m³ in 1984. Since 1980 sawnwood exports have been around 20-23% of total production, while plywood exports have moved from a low of 50% of total production in 1981 to 84% in 1983, and 80% in 1984.

Processing facilities expanded rapidly as firms sought to ensure their access₃ to log supplies. 2,571 sawmills with a production capacity of 15 million m³ are reported as at December 1984. 294 of these have Forest Exploitation Rights^{1/}. Plywood mills expanded rapidly from 29 mills with an installed capacity of 1.5 million m³ in 1980 to 96 mills with a capacity of 4.7 million m³ in 1984. In addition 27 more were under construction and a further 34 had been approved (FAO, 1985b).

Export barriers have clearly had a major impact on the development of Indonesia's forestry sector. Extensive structural changes have occurred and Indonesia has moved rapidly from an exporter of unprocessed logs to an exporter of processed products, particularly plywood. The attendant benefits of greater industrialisation, particularly employment, both in the industry and associated industries and services have probably been achieved, but some reports suggest substantial employment losses (50,000) have occurred in the logging industry (World Wood, Nov. 1984).

The effects of the restrictions have also been felt outside Indonesia, as have those of the other forest growing countries of the region, but the impact of Indonesia has been more significant for a number of reasons. Firstly Indonesia is particularly dominant in the region. As the major log supplier in the mid-1970s, the effects of its cut-back have been felt, particularly by Japan, its main market. Secondly, its commitment to reducing (eliminating) log exports has been greater than other countries. And thirdly, unlike other countries of the region, Indonesia has a significant resource still available for use. It's reduction has therefore been less related to an already declining resource than, for example, Peninsular Malaysia or the Philippines. Finally the reduction in log exports has not only deprived a number of markets of a raw material, but the strong move towards plywood production has placed large volumes of this product onto end-use markets ensuring that prices have been held down. It is reported that Indonesia has created significant difficulties for competitors because it has had to resort to severe price-cutting to encourage purchases. (Asian Timber, various).

^{1/} 700 sawmills account for most of the exports (FAO, 1985b).

Indonesia's moves have meant that log markets, such as Singapore, Taiwan and Korea have been forced to make significant cut backs in their own plywood processing industries. In some instances the affected firms have relocated their processing activities in Indonesia through joint-ventures. Japanese plywood manufacturers have suffered a severe recession and many closures have occurred at least partly due to a lack of adequate supplies.

The impact of the decline in Indonesian logs has been reduced somewhat by the fact that world demand for wood and wood products has been depressed. In addition Japan has moved to other sources of hardwoods such as Sarawak, Papua New Guinea, and the Solomon Islands. Some Japanese plants are also evaluating softwood logs as a substitute input. With plentiful future supplies of softwoods projected such a move would lessen the effect of declining hardwood logs.

Although such attempts at compensating for reduced supplies of tropical hardwood logs are taking place, increasing quantities of Indonesian plywood have penetrated a range of markets, including those of Hong Kong, Singapore, Japan, the USA, the EEC and the Middle East (Table 15).

TABLE 15 - Export Destinations:Indonesia
(000 m³)

	Sawntimber		Plywood	
	1980	1984	1980	1984
Hong Kong	42	95	100	674
Singapore	267	437	50	464
USA	43	44	26	820
Japan	129	202	9	145
Taiwan	87	187	-	111
Netherlands	51	44	-	8
Middle East	*	*	18	417
Rep. of Korea	11	136	*	*
United Kingdom	*	*	16	124
Other	573	1053	26	283
Total	1203	2198	245	3046

* Included in 'other'

Source: Economic Review, (Bank Bumi Daya, October 1985)

APPENDIX 4

Calculation of Increased Trade from a Reduction in Japanese Tariffs

The following method has been used to calculate the increased imports reported in table 4, chapter VI. The procedure uses the methodology of Baldwin and Murray (1977). The percentage increase in imports is estimated by multiplying the percentage change in price caused by the barrier reduction, by the responsiveness of the demand for imports to a price change (import price elasticity of demand). The percentage change in imports is then applied to existing import levels to determine the absolute change in imports. The percentage change in price equals the change in the tariff divided by one plus the original tariff.

Trade creation (TC) resulting from a reduction in import tariffs is estimated using equation (1). This uses assumed changes in tariff levels, estimates of the responsiveness of the imported product to a reduction in price (import price elasticity) and data on current import levels. (Table 1).

$$TC_i = M_i E_i \left(\frac{t_i}{1 + t_i} \right) \quad (1)$$

where:

- TC = trade volume created
- i = product
- E = import demand elasticity
- ti = change in tariff
- M = initial level of imports from beneficiary country

Trade diversion (TD) is estimated using equation (2),

$$TD_i = TC_i \left(\frac{M_{ni}}{V_i} \right) \quad (2)$$

where:

- Mn = initial level of imports from non-beneficiaries
- V = initial level of domestic production in tariff cutting country

Tariff information has been drawn from various sources and is shown in table 5, Appendix 3. The rates shown are only approximate in some instances as individual rates within a broad product category may differ. Production and trade data is drawn mainly from the FAO Yearbook of Forest Products 1984 (1986) and the Japan Lumber Journal. The selection of import demand elasticities has been limited by a lack of current estimates for the range of products and markets being considered. Considerable variation exists between estimates reported by different researchers. In addition the range of products reported is limited. Estimates used were reported by Cline et al (1978) or Stern (1976), and are for broad product groups only.

TABLE 1 - Japanese Imports : 1984

	Japan domestic production (m3)	Total imports (m3)	Imports from developing countries (m3)	Imports from:		
				Indonesia (m3)	Malaysia (m3)	Philippines (m3)
Plywood	7,291,000	135,000	115,270	110,160	3,510	405
Veneer	300,000	272,000	159,000	25,076	136,000	23,000
Sawntimber	28,667,000	4,492,000	851,300	273,800	169,700	168,000

Source: FAO (1986); Japan Lumber Journal