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MALAYSIAN FOREST-BASED INDUSTRIES IN THE GLOBAL ECONOMY

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ABSTRACT

The forest-based industries (FBIs) in Malaysia have experienced tremendous development over the last few decades. The sector's contributions to the nation's export earnings and creation of employment for the rural poor are substantial. In fact, statistics on export values still list the FBIs as one of the three most important sectors, next to petroleum and oil products, in terms of bringing foreign exchange earnings into the country. If one were to trace the development of the FBIs in particular and other industries in general, one would realize that direct foreign investment has contributed to such growth. This clearly indicates the openness of the Malaysian economy from the perspective of trade, liberalization of investment, and privatization. As a result, the gross domestic product (GDP) of most goods, including timber projects, has increased. Timber products from Malaysia have faced both tariff and nontariff barriers for decades, in efforts to penetrate the international market. One of the most serious nontraiff barriers that Malaysia has faced over the years is the introduction of bills by local councils in importing countries, calling for a ban on the use of tropical species in public and other development projects. Such a move has affected the overall performance of the FBIs in the international arena. With the development of information technology, which allows the movement of information across national boundaries, a more challenging situation of world trade is expected in the future. This paper, therefore, not only highlights the performance of the FBIs in different eras but also discusses their future in the context of globalization.

***Key Words**: forest-based industries, foreign direct investment, tariff, nontariff, and globalization*

INTRODUCTION

The forest-based industries (FBIs) in Malaysia have long been known as one of the major contributors to the development of the national economy. The inception of the FBIs involved three main activities, namely, logging, sawmilling, and producing plywood/veneer. The FBIs, which are also usually referred to as resource-based industries, started to expand when the Government of Malaysia (GoM) began to place more emphasis on the expansion of the so-called manufacturing sector, in 1959. However, much of the early expansion of the so-called resource-based industries was due to relatively low labour costs and abundant natural resources, i.e., timber (Norini, 2000).

The FBIs continued to expand with the introduction of various incentive packages. One of the earliest methods used for industrial expansion was called the aggressive export strategy (AES), which was introduced under the Investment Incentives Act of 1968. Under that act, incentives such as export allowances and investment tax credits were introduced. This was followed by the Promotion Investment Act 1986, which allowed foreign investors to have up to a 100% share of equity in any newly established company (Malaysia, Malaysian Industrial Development Authority, 1986). To further encourage the sustainable development of manufacturing industries in Malaysia, Industrial Master Plan 1 (IMP1) and Industrial Master Plan 2 (IMP2), which covered the years between 1986 and 1995 and 1996 and 2005, respectively, were introduced. It was through IMP1 that FBIs started to expand into other production, such as furniture, joinery/moulding, and rubberwood products, whereas IMP2 further strengthened the growth already experienced by those sectors.

The importance of the FBIs can easily be traced from the amount of annual export earnings and the numbers of people, especially the rural poor, engaged in such activities. It can be seen from Table 1 that the export values for timber products (including sawlogs, sawn timber, dressed timber, moulding and dowels, veneer sheets, plywood particleboard, and furniture) have been increasing, although they declined in 1998 and 2000.

Table 1. Export value of selected primary commodities, Malaysia (RM million)

Product	1996[a]	1997[a]	1998[b]	1999[b]	2000[c]
Timber products	13,887.0	14,721.3	14,203.4	16,587.9	15,574.3
Natural rubber and rubber manufactures	7,693.0	7,217.8	8,567.3	7,404.6	7,266.1
Palm oil and palm oil products	11,378.1	12,758.4	22,662.7	19,510.3	14,500.7
Crude petroleum, petroleum products and liquefied natural gas (LNG)	14,252.5	16,640.3	17,661.6	21,825.6	32,776.3

Sources: [a]Anonymous (1999); [b]Anonymous (2000);1 [c]Anonymous (2001).

In general, similar trends also have been observed for the other primary commodities, except for crude petroleum, petroleum products, and liquefied natural gas (LNG). Looking at the statistics in Table 1, one can conclude that the boom and bump experienced by these primary commodities in either domestic or international trade is a normal phenomenon for most business entities, or what are usually called business cycles. Nonetheless, what is important at this juncture is to analyze the extent of such an impact, and find out what causes such a situation to arise. Learning from the booms and bumps experienced by any business entity may help prevent similar situations from recurring.

From the standpoint of employment, the numbers of workers engaged in FBI activities also evidenced upward and downward trends. For instance, the total workforce in the forestry and FBIs was more than 210 thousand in 1997, rose to almost 280 thousand in 1997, and declined to slightly more than 250 thousand by the year 2000. The number of workers is highly associated with the activities for the year. If, for example, mills receive more orders for the following year, millers will need to hire more workers to meet the demand.

Table 2. Employment in forestry and forest-based industries, Malaysia

Region	1996	1997	1998	1999	2000
P. Malaysia	60,571	65,943	49,961	87,806	86,905
Sabah	81,142	89,936	85,277	78,893	75,159
Sarawak	69,700	123,607	98,400	98,236	94,400
Total employment	211,413	279,486	233,638	264,935	256,464

Source: Malaysia, Ministry of Primary Industries (1996, 1997, 1998, 2000, 2001).

The rising and falling export earnings experienced by the FBIs are closely related to the shocks taking place in the international market. Because a majority of timber products produced in the country are exported, a sudden shock in international trade affects manufacturers and exporters alike. It is often mentioned, for instance, that the anti-tropical timber campaign has seriously affected the Malaysian timber trade. Nonetheless, the extent to which this anti-tropical timber campaign has affected individual industries has not been quantified. Therefore, this paper is aimed not only at reviewing the performance of the FBIs in the different eras, including the anti-tropical timber campaign, but also at discussing their future in the context of globalization.

SOURCES OF DATA

To quantify the effect of a sudden shock, for instance, the impact of the anti-tropical timber campaign on the Malaysian timber trade, trends in export statistics over time were used. The data used for the analyses came mainly from various publications such as statistics on commodities published by the Ministry of Primary Industries (MPI), and partly from a series of Maskayu publications by the Malaysian Timber Industry Board (MTIB). Comparisons of export trends before and after the campaign are highlighted, especially for important buyers such as the European Union (EU). Because the focus of the anti-tropical timber campaign was on timber species from the forests, analyses included in this paper cover only sawn

timber, plywood and moulding, except furniture. Furniture is not included because a majority of the raw material used in furniture making comes from rubberwood, a by-product from agricultural plantations.

The Malaysian Timber Trade

As mentioned at the outset, the performance of the forestry industry in general and the FBIs in particular is outstanding. From producing primary products such as sawlogs and plywood/veneer, the industry has grown not only in capacity but also in production of new value-added products. The most remarkable development recorded in the late 1980s was in the field of furniture manufacturing. The discovery of rubberwood as an alternative raw material has served the industry well, making Malaysia an emerging producer of wooden furniture in the world today. Because a majority of the furniture manufacturers in Malaysia use rubberwood, the products have not encountered any problems in entering the international market. Nonetheless, timber products such as sawn timber, veneer, plywood, and moulding from both hardwood and softwood are subjected to tariff and nontariff barriers.

Tariff and nontariff trade barriers are important trade-protection instruments. Any campaign, such as quotas, that discourages the use of a certain good is considered a nontariff barrier. The difference between a tariff and an anti-timber campaign, which is discussed in greater detail in the following section, is that the latter is more restrictive and selective in nature.

International Campaign on Tropical Timber

As they were expanding their horizons to other parts of the world, timber exporters were shocked by a new campaign throughout Europe against the use of timber from what was termed "nonsustainable forests." According to the International Tropical Trade Organization (ITTO), the campaign against the use of tropical timber started way back in 1986. Leading the campaign were environmentalists who focussed on the destruction of the tropical rainforests—a gift of nature—as a result of the unsustainable way in which timber was extracted. The most successful environmentalist group in the Netherlands was the Friends of the Earth (FoE), which had its office in Amsterdam. By 1992, FoE together with other environmental nongovernment organizations (ENGOs) such as Oxfam Netherlands and the World Wildlife Fund Netherlands launched what they called the Heart of the Wood campaign (ITTO, 2002), which in this case focussed on the use of certified timber. Through this campaign, the ENGOs successfully influenced more than one-third of the Dutch markets (ITTO, 2002).

Market Trends for Timber Products

A majority of timber products produced in Malaysia are exported. For instance, in 1990 alone, the export volume of sawn timber was almost 60% of the total production (Tables 3 and 4). In line with the efforts to add value to primary timber products, which indirectly helped to create more jobs through the establishment of more value-added factories such as furniture and others, the amount of sawn timber destined for export started to decrease (Table 4). This means that there is more sawn timber for domestic use, which indirectly indicates positive development towards high value-added products.

Table 3. Production of sawn timber, Malaysia (1990-2000)
('000 m^3)

Year	P. Malaysia	Sabah	Sarawak	Malaysia
1990	6,513	1,910	733	9,156
1991	5,610	2,403	913	8,926
1992	5,542	2,797	1,119	9,458
1993	4,927	2,855	1,442	9,224
1994	4,733	2,248	1,722	8,703
1995	5,593	1,820	1,762	9,175
1996	4,441	1,510	1,542	7,493
1997	4,139	1,415	1,622	7,176
1998	2,796	1,014	1,281	5,091
1999	3,229	796	1,192	5,216
2000	3,299	806	1,451	5,555

Source: Malaysia, Ministry of Primary Industries (1999, 2000, 2001).

Table 4. Production versus export of sawn timber, Malaysia (1990-2000)

Year	Production ('000 m^3)	Export ('000 m^3)	Surplus ('000 m^3)
1990	9,156	5,283	3,873
1991	8,926	4,932	3,994
1992	9,458	5,417	4,041
1993	9,224	5,371	3,853
1994	8,703	4,560	4,143
1995	9,175	4,796	4,379
1996	7,493	3,660	3,833
1997	7,176	3,007	4,169
1998	5,091	2,703	2,388
1999	4,420	2,787	1,633
2000	5,556	2,901	2,655

Source: Malaysia, Ministry of Primary Industries (1999, 2000, 2001).

If the matter is viewed from a different perspective, such a situation also indicates that the Malaysian economy is highly dependent on the external market for income generation. To say it differently, should anything happen to the economies of those buyers, the Malaysian economy would also be affected. A similar observation can also be made with regard to other timber products such as plywood/veneer (Tables 5 and 6). In fact, the earnings for plywood/veneer can be considered as more highly dependent on the export market. For example, dependence on the export market ranged from a low of 64% in 1993 and 1994 to a high of 94% in 1996 (Table 6). As for moulding, because the statistics reported for export are given in Malaysian Ringgit rather than volume, it is difficult to compare production and export.

Table 5. Production of plywood/veneer, Malaysia (1990-2000), in m^3

Year	P. Malaysia	Sabah	Sarawak	Malaysia
1990	1,206,704	464,812	299,866	1,971,382
1991	1,227,064	674,496	397,029	2,298,589
1992	1,368,380	1,238,061	758,144	3,364,585
1993	1,344,997	2,338,528	1,204,941	4,888,466
1994	1,201,750	2,414,373	2,020,054	5,636,177
1995	955,725	2,368,703	2,679,254	6,003,682
1996	1,085,467	2,175,879	1,680,444	4,941,790
1997	1,055,310	1,846,088	2,709,900	5,611,298
1998	657,506	1,311,902	2,694,000	4,663,408
1999	770,743	1,291,022	3,068,775	5,130,540
2000	758,484	1,513,092	3,219,208	5,490,784

Source: Malaysia, Ministry of Primary Industries (1999, 2000, 2001).

Table 6. Export of plywood/veneer, Malaysia (1990-2000)

Year	Production	Export of Plywood/Veneer		Surplus
		Volume ('000 m^3)	Value (RM'000)	('000 m^3)
1990	1,971	1,349	1,065,851	622
1991	2,299	1,663	1,303,746	636
1992	3,365	2,435	1,852,094	930
1993	4,888	3,141	3,365,405	1,747
1994	5,636	3,617	3,979,528	2,019
1995	6,004	4,055	4,101,956	1,949
1996	4,942	4,717	5,031,141	225
1997	5,611	4,572	5,054,227	1,039
1998	4,663	4,361	4,157,898	302
1999	5,131	4,298	4,946,260	833
2000	5,491	4,070	4,647,745	1,421

Source: Malaysia, Ministry of Primary Industries (1999, 2000, 2001)

Table 7 also indicates that foreign direct investment (FDI) is an important component in new approved forest-based projects in Malaysia. The FDI, for instance, registered a record high of more than 38% in 1994, tapering off to 26% by 1999. The policy of encouraging more involvement of foreigners in the development of new projects directly indicates liberalization in trade.

Table 7. Total approved FBI projects, Malaysia (1990-August 2000)

Year	Number of Projects	Potential Employment	Local Investment (RM '000)	Foreign Investment (RM '000)	Total Capital Investment (RM '000)
1990	113	23,981	1,133,788	651,330	1,785,118
1991	125	32,196	672,173	828,352	1,500,525
1992	64	12,809	380,275	317,816	698,091
1993	69	11,580	382,823	316,888	699,211
1994	105	23,224	1,541,534	957,205	2,498,736
1995	117	27,998	1,202,709	852,403	2,055,112
1996	78	11,267	754,706	214,425	969,131
1997	65	8,473	549,189	135,950	730,139
1998	89	15,221	931,403	350,309	1,281,712
1999	77	7,769	315,583	112,288	427,871
2000*	34	3,322	273,731	180,736	454,467
Total	937	178,760	8,182,912	4,917,703	13,100,615

Source: Malaysia, Industrial Development Authority (2000).

*Data for the year 2000 are only through the end of August.

If the total investment data are analysed further, it can be seen that the largest investment for the last 10 years was in the plywood/veneer subsector (Table 8). That subsector, in the context of investment, included both hardboard and particleboard mills. Nonetheless, even though these two types of mills are treated together, their outputs are not measurably different from that of plywood/veneer as a whole. On the other hand, moulding included planing mills, window and door mills, and joinery works, whereas other related industries included prefabricated wooden houses, other wood products, wooden and cane containers and small cane ware, and wood and cork products not classified elsewhere.

Table 8. Breakdown of approved FBI projects, Malaysia (1990-August 2000)

Subsector	Number	Potential Employment	Local Investment (RM '000)	Foreign Investment (RM '000)	Total Investment (RM '000)
Plywood/veneer	296	92,941	5,452,593	3,489,153	8,941,746
Moulding	221	28,609	1,487,809	562,011	2,049,820
Other related industries	25	2,474	69,426	65,656	135,082
Furniture	395	54,736	1,173,085	778,780	1,951,865
Total	937	178,760	8,182,912	4,917,703	13,100,615

Source: Malaysia, Industrial Development Authority (2000).

In short, one can conclude that, basically, the targets set for IMP1 (1986-1995) and partly for IMP2 (1996-2005) have been achieved if the success of the FBIs is viewed from the angle of export earnings. IMP1 was introduced for the purpose of expansion into other products, whereas IMP2 helped strengthen the development of the manufacturing industries.

Nonetheless, from the standpoint of international trade, the impact of the anti-tropical timber campaign has been tremendous. In tracing the development of nontariff barriers such as the anti-tropical timber campaign, especially from major buyers like the EU, Japan, Australia, and the United States of America (USA), it can be seen that some types of restrictions were already in place before 1986. By 1988, Australia had imposed some form of nontariff barrier against the importation of sawn timber, whereas the EU started to restrict the use of tropical timber by imposing an import quota of 86,000 m^3 for plywood that same year (Ministry of Primary Industries, 2000). Nontariff barriers were in the form of bans on the use of tropical timber by certain local municipalities in the EU, subjection of imports to fumigation requirements in Australia, and

introduction of bills by many local councils in the USA. Besides nontariff barriers, a tariff rate was also charged for tropical timber products. The rate ranged from a low of 3% to a high of 10%, depending on the types of products and the countries (Appendix I). This percentage is also termed an *ad valorem* tariff. By definition, this is just like a sales tax, which is imposed on the value of the imported good as it enters the importing country. The latest statistics available also indicate that the USA does not impose any tariff rates except for plywood (Appendix I).

Other International Developments

Echoing concerns about the issue of buying timber products from nonsustainable forests, sustainable management of the natural forests has been the main issue deliberated in most international arenas. The world has witnessed the inauguration of the so-called Tropical Forestry Action Program (TFAP) and the creation of ITTO, the forum that brings together producers and buyers of tropical timber. Other international arenas where tropical forests and their management have received attention include the World Commission on Environment and Development, the Inter-Governmental Panel on Climate Change, and the United Nations Conference on Environment and Development (UNCED).

Like any other tropical timber producer, Malaysia is committed to achieving sustainable forest management (SFM) as set forth in ITTO's Guidelines for the Sustainable Management of Natural Tropical Forests and its Criteria for the Measurement of Sustainable Tropical Forest Management. In fact, a National Committee on Sustainable Forest Management was set up in 1994, consisting of various agencies under the Ministry of Primary Industries (GTZ, 1997). Under ITTO's criteria and indicators for SFM, 92 activities were identified. The areas include forest resource security, continuity of flow of resources and services, and the importance of forests as a sustainable resource. Because of the legal and administrative requirements, each individual state has to be declared a forest management unit (FMU). According to GTZ (1997), the National Committee has identified 84 activities to be implemented at the FMU level under the six criteria of ITTO and its 23 indicators. Above all, the level of management can be further reviewed as the present silvicultural and management systems are refined. The National Committee added seven indicators to those identified at the national level.

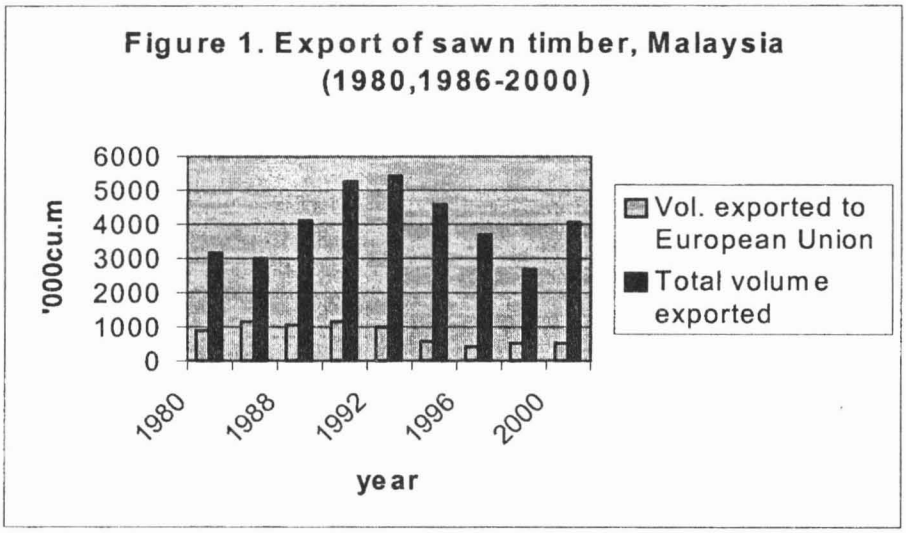
To date, Malaysia has identified 64 indicators and 200 activities to operationalize the ITTO's seven criteria at the national level, as well as 56 indicators and 171 activities to operationalize those criteria at the forest management level (Department of Forestry, Peninsular Malaysia, 2000). Permanent Reserved Forests in the states of Pahang, Terengganu, and Selangor have undergone certification procedures. The Netherlands' Keurhout Hallmark System carried out the certification exercise. As claimed by the Dutch government, the hallmark system it introduced would enable customers to distinguish whether timber came from a sustainable or a nonsustainable forest.

Other areas of interest in trade development are the so-called trade-liberalization moves, such as Asia-Pacific Economic Cooperation (APEC), the World Trade Organization (WTO), the Association of South-East Asian Nations (ASEAN), and the Association of Free Trade Areas (AFTA). Because this paper is not intended to cover the whole spectrum of trade development, individual associations or economic integration is not discussed. However, it is worth mentioning that, through AFTA, restrictions with regard to international trade, payments, and factor mobility will be reduced between 0% and 5% by the year 2003.

RESULTS AND DISCUSSION

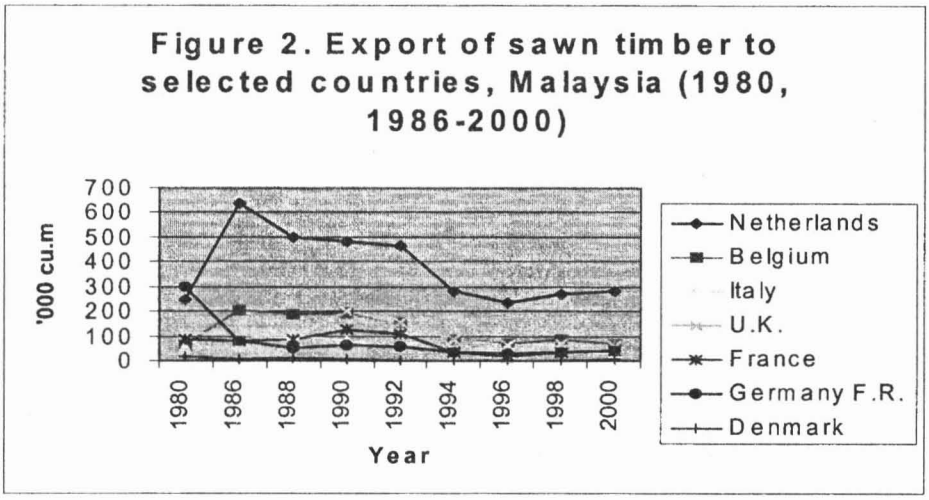
The anti-tropical timber campaign initiated by ENGOs in the Netherlands has had an adverse effect on the Malaysian timber trade, although some quarters have claimed that it did not. Let us look at the pattern of sawn timber over the years, i.e., after the campaign was launched in 1986. Besides the EU, Singapore was also an important consumer of sawn timber exported from Malaysia. For example the EU imported more than 39.2% (almost 1.2 million m^3 worth RM 682 million) of Malaysia's sawn timber in 1986, whereas Singapore's percentage share of Malaysian sawn timber exports was 25.1% (752 thousand m^3 worth RM 172 million) the same year (Ministry of Primary Industries, 1987-2001). Figure 1 gives the percentage share of the EU over the years. Clearly, the pattern of export showed a downward trend immediately after the anti-tropical timber campaign, i.e., from a percentage share of more than 39% in 1986 to 25.6% in 1988. The downward trend in importation of tropical sawn timber from Malaysia by the EU continued and reached its lowest level in 1996, when the percentage share recorded was only 11.6% (423 thousand m^3 worth RM 671 million), a decline of more than 27% since 1986. If the decrease in volume is translated into

value, the amount of lost export earnings from sawn timber is roughly RM 624 million. This is calculated by taking the free on board (f.o.b.) unit value and multiplying it by the loss in volume. Although this method may be considered a crude way of estimating, considering the different grades of sawn timber, such an estimation indicates how serious the implications were in terms of lost export earnings. The decreasing trends in imports by the EU indicate not only that the campaign was successful in convincing buyers not to use tropical timber, but also the danger of a restricted market. The campaign was considered a blow to most sawn timber producers. This is because the EU is known to purchase higher grades of sawn timber as compared to other international buyers. To maintain their share in the world market, exporters redirected their sawn timber to other countries that do not require certification, such as West Asia. These countries now have become some of the most important international buyers of sawn timber.



Source: Malaysia, Ministry of Primary Industries (1987, 1996-2001).

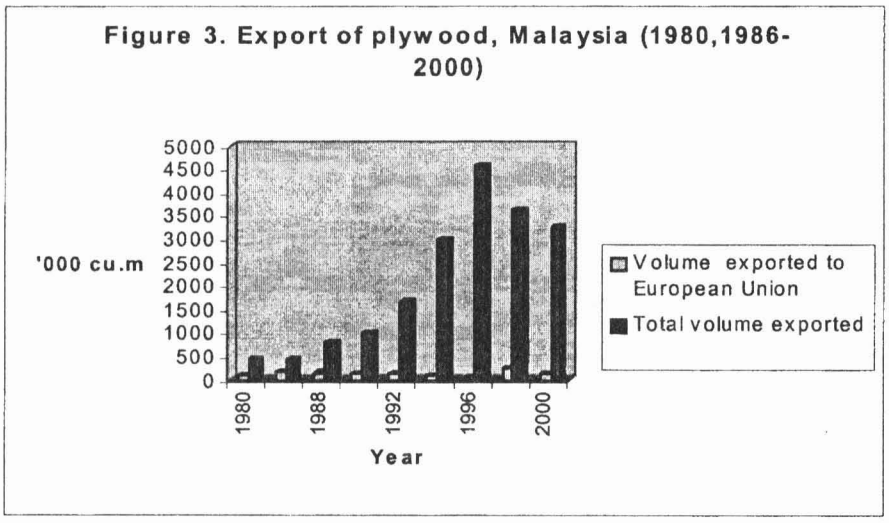
Among the most important importers of sawn timber in the EU were the Netherlands, Belgium, and the United Kingdom (UK). If the import market of the EU is reviewed by country, it can be seen that the Netherlands' import share in 1986 alone was more than 21.3%, whereas the percentage market shares of Belgium and the UK were 6.8% and 3.4%, respectively (Figure 2).



Source: Malaysia, Ministry of Primary Industries (1987, 1996-2001).

Figure 2 also indicates that there was a sharp decline in imports from the Netherlands in the two years immediately following the anti-tropical timber campaign, from 21.3% share of the EU's total import of sawn timber in 1986 down to 12.3% in 1988—a decrease of 9% over a two-year period. Decreases in the share of imports of sawn timber by the Netherlands continued until the year 2000, although there was an increase of almost 10.0% in 1998.

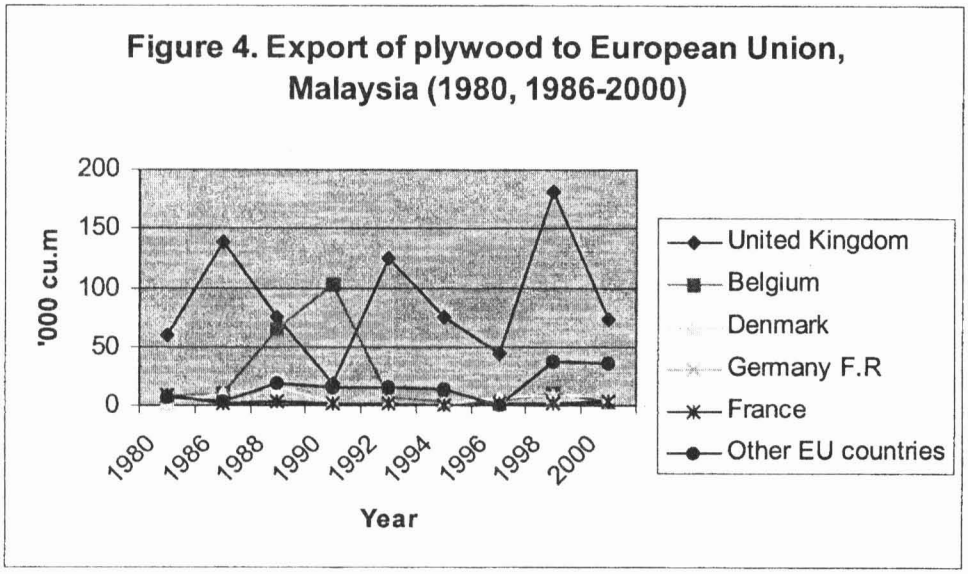
A similar situation was also observed with regard to the importation of plywood during the same period. The difference was that, instead of the Netherlands, the UK and Belgium were the two major importers of plywood from the EU. Even though by volume the annual imports were small, by percentage the EU's contribution to the Malaysian export figures for plywood were substantial. For example, the EU together constituted about 37.4% (169 thousand m^3) of the total export market for plywood in 1986. Importation from the EU immediately decreased to almost 20%--a decline of more than 7% by 1988. The percentage share of the EU declined further and reached its lowest point of 1.2% (134 thousand m^3) by 1996 (Figure 3). However, the import situation for the EU improved slightly, and a higher percentage of 4% was recorded in 2000.



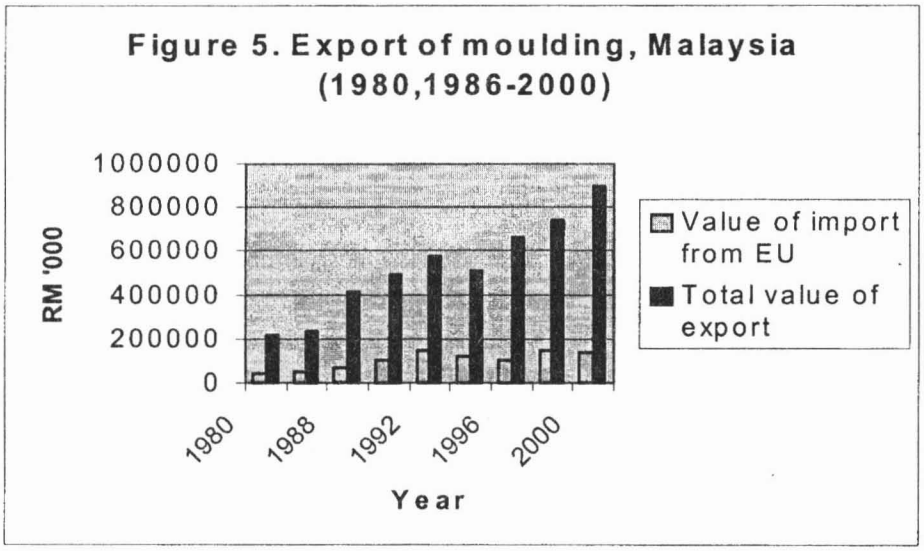
Source: Malaysia, Ministry of Primary Industries (1987-1996-2001).

Figure 4 indicates serious fluctuations in imports by countries like the UK and Belgium, whereas the rest of the EU had a more or less stable import situation. Fluctuations in imports by the EU indirectly indicate how serious and effective was the anti-tropical timber campaign towards Malaysian trade. To compensate for the shortfall in imports by the EC, Malaysian exporters redirected their plywood to Japan and China. However, Malaysian exporters were again caught by surprise by China's implementation of a stricter tariff for importation of plywood over sawlogs. As a result, China, which used to buy more than 35.6% of plywood exported from Malaysia, in 1994 started to reduce her imports, which declined to 4.8% by the year 2000 (Figure 5).

Source: Malaysia, Ministry of Primary Industries (1987, 1996-2001)

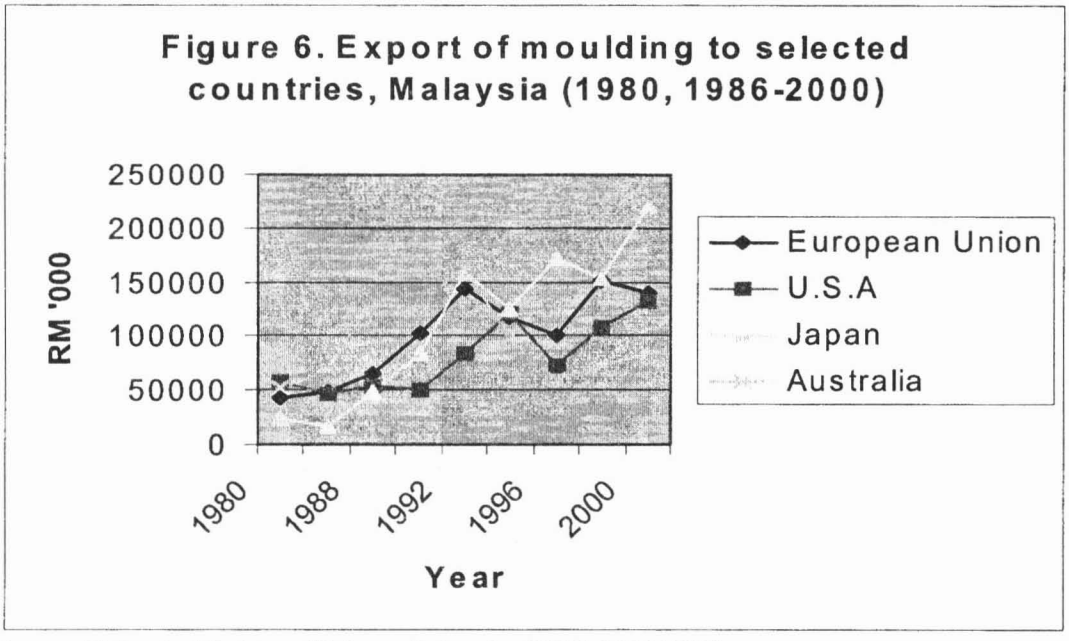


With regard to moulding, besides Australia, the USA, and Japan, the EU is also an important importer. If one were to trace the trend of import values from the EU and Australia, the impact of the anti-tropical timber campaign on Malaysian exporters would not be readily apparent. The reduction in value could also be a result of changes in prices. For instance, the value of moulding imported by the EU was RM 65 million in 1988 (approximately 15.9% of the total value of export of RM 410 million), compared to RM 140 million (approximately 15.6% of the total value of export of RM 894 million) in 2000. The value of all moulding exported by Malaysia was RM 212 million in 1980 (Figure 5).



Source: Malaysia, Ministry of Primary Industries (1987, 1996-2001).

The value of moulding exported to selected countries also indicated both upward and downward trends (Figure 6). For the purpose of tracing trends in trade, it is advisable to have volumes rather than values reported.



Source: Malaysia, Ministry of Primary Industries (1987, 1996-2001).

CONCLUSION

Quick analyses of market trends indicated that the anti-tropical timber campaign had an enormous impact on Malaysia's external trade. Besides the campaign's impact on trade, i.e., reduction in volume imported by most of the EU, perhaps the worst effect of all was the loss of market confidence in Malaysian timber. In the absence of tropical timber, a new wave of preference for temperate timbers and other nontimber substitutes has emerged (GTZ, 1995). In addition to the anti-tropical timber campaign, Malaysian exporters also faced other uncertainties in the trade environment, such as the economic crisis of the ASEAN region in late 1997 and the economic slowdown of importing countries like Japan and the USA.

The aftereffects of the anti-tropical timber campaign should be a good lesson for all Malaysian exporters, even though some of them do not export their products to countries that demand certification. The fact that there is a growing awareness of the importance of managing forests in a sustainable manner should not be viewed lightly. It is just a matter of time until other buyers request timber certification. Therefore, Malaysian exporters must be prepared for such a situation.

The possibility of other types of certifications being imposed to conform to requests from international buyers is also likely. It is high time for producers to look for other certification, such as products produced from green technology.

To sustain the performance of the FBIs, Norini (2001) stressed the importance of paying attention to other factors such as final demand and primary input content. Final demand refers to important subsectors such as private and government consumers, change in inventory, gross capital formation/investment, and exports. Rationalization, caution in changing consumer preferences and substituting products, promotion of more forest plantations, and stepped-up efforts to produce expensive imported materials locally so as to reduce unwanted outflow of currency were further recommended, in order for the FBIs to stay competitive (Norini, 2001).

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Tariff and nontariff barriers in selected importing countries

Appendix I

Item	Market 1988								Item	Market 1999							
	E.C		Japan		Australia		U.S.A			E.C		Japan		Australia		U.S.A	
	Tariff Rate %	Non-Tariff	Tariff Rate %	Non-Tariff	Tariff Rate %	Non-Tariff	Tariff Rate %	Non-Tariff		Tariff Rate %	Non-Tariff	Tariff Rate %	Non-Tariff	Tariff Rate %	Non-Tariff	Tariff Rate %	Non-Tariff
SAWNTIMBER									SAWNTIMBER								
Hardwood	0*	Nil	0++	Nil	0-10***	SC	Free	Nil	Hardwood	2-2.5	*	6+	Nil	0-5	**	Free	***
Softwood	0*	Nil	0	Nil	0-10***	SC	Free	Nil	Softwood	Free	*	4.8-6	Nil	0-5	**	Free	***
VENEER									VENEER								
Hardwood	4-6	Nil	0-10+++	Nil	12	Nil	Free	Nil	Hardwood	3-6	*	5+	Nil	5	**	Free	***
Softwood	4-6	Nil	0-10+++	Nil	12	Nil	-	Nil	Softwood	3-4	*	5	Nil	5	**	Free	***
PLYWOOD									PLYWOOD								
Hardwood	12.5-20	86,000m3+	10	Nil	15	Nil	8	Nil	Hardwood	10	*	6	++	5	**	0-8	***
Softwood	12.5-20	-	10	Nil	15	Nil	8	Nil	Softwood	7	*	8.5-10	++	5	**	0-8	***
MOULDINGS									MOULDINGS								
Hardwood	0-5**	Nil	0-4**	Nil	10	Nil	0-8.5**	Nil	Hardwood	Free	*	3.6+	Nil	5	**	Free	***
Softwood	0-5**	Nil	0-4**	Nil	10	Nil	0-8.5**	Nil	Softwood	Free		3.6	Nil	5	**	Free	***

Source: Ministry of Primary Industries Malaysia (1990, 2000)

Note: + Japapan accords duty free to Malaysia under the GSP
++ Differential rates are imposed for Plywood and Hardwood
* Ban on use of tropical timber by certain local municipalities and active campaign by local environmentalists
** Imports subhect to fumigationrequirements
*** many local councils have introduced bills that restrict trade in tropical timber