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**THE ROLE OF INDUSTRIALIZATION IN
INDONESIA'S ECONOMIC DEVELOPMENT:
THE CASE OF THE PLYWOOD INDUSTRY**

By

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International Development Studies

Saint Mary's University

Halifax – Canada

1998



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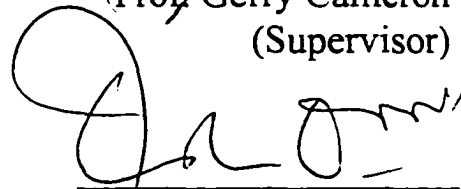
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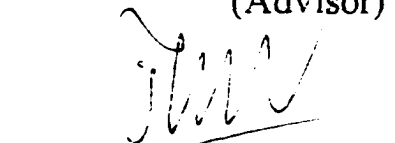
A thesis submitted in partial fulfillment of the requirements for the
degree of Master of Arts in International Development Studies at
Saint Mary's University, Halifax, Nova Scotia, Canada

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ABSTRACT

THE ROLE OF INDUSTRIALIZATION IN INDONESIA'S ECONOMIC DEVELOPMENT: THE CASE OF THE PLYWOOD INDUSTRY

This thesis analyzes the role of the plywood industry in the industrial sector and its contribution to the development of the Indonesian economy. In analyzing this industry, the study is mostly based on a historical presentation. The Indonesian government has consisted of two regimes, the "Old Order" and the "New Order" period. Prior to 1965, Indonesia initially implemented the first stage of Import Substitution Industrialization (ISI) policies. Entering the new order period in 1967, the industrialization policy changed gradually to Export Oriented Industrialization (EOI) without ignoring the existing ISI. The discussion on the role of manufacturing sector includes the trade orientation with an R index, which refers to the comparative advantage of the product. Based on the R index, plywood has an R which is positive and greater than 0.01. It indicates that plywood has a substantial comparative advantage. The thesis concludes that the plywood industry in Indonesia developed when the government applied ISI by protecting domestic industries. The government policies on industrialization were the combination of ISI and EOI policies. These policies have favoured the plywood industry, such as by imposing logs export ban to satisfy domestic input, and set up regulations in the marketing system. Since this policy has been applied, plywood immediately became a prominent product in generating foreign exchange in the non-oil sector. Since the world demand of plywood is increasing, Indonesia can maintain this industry as the main foreign exchange earner. However, several factors have to be taken into account. These include the supply of logs, the restructuring of the machines, the marketing system, the quality of plywood, and the improvement of the infrastructure in Irian Jaya. In addition, regulations pertaining to the plywood industry need to assist the industry to improve exports and prevent log smuggling. To assure the log supply the government should encourage the use of small diameter timber and increasing the area for industrial timber estates. In the current economic crisis, Indonesia keeps exporting plywood to maintain its market and trying to penetrate the new ones.

April, 1998
Tulus Budhianto

ACKNOWLEDGMENTS

I would like to express my thanks and appreciation to the many people who have contributed to the completion of my study.

Firstly, my thanks to Professional Human Resource Development Project (PHRDP) which has given me the opportunity to study in Canada.

Secondly, many thanks to Prof. Gerry Cameron, Supervisor, for his guidance and patience. This thesis might not have come to reality without his encouragement. My gratitude and appreciation to Dr. J. Colin Dodds, Advisor, for his invaluable advice, suggestions and time to improve this thesis. Many thanks also to Ibnu Widiyanto, External Examiner, for his encouragement and valuable discussions throughout my study. I extended my thanks to Tara Pratt for her time in improving the style of writing this thesis, and Pak Widjanarko, who encourages me in completing my study. Deep appreciation is also due to my colleague at the Ministry of Industry and Trade for sending data and materials. Gratitude and appreciation is due to Kim Anh for her inputs and open critique.

Lastly, thanks to my beloved wife, Dhanie, and my two daughters, Elfin and Yayang, for their prayer and patience during my study in Canada. None of them bear responsibility for the opinions expressed.

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LIST OF ABBREVIATIONS

APKINDO	: Indonesian Wood Panel Producers Association (<i>Asosiasi Panel Kayu Indonesia</i>)
ASEAN	: Association of South East Asian Nations
ASMINDO	: Indonesian Furniture and Handicraft Association (<i>Asosiasi Pengusaha Mebel dan Kerajinan Indonesia</i>)
DR	: Replanting Tax (<i>Dana Reboisasi</i>)
GATT	: General Agreement on Trade and Tariff
GDP	: Gross Domestic Product
HTI	: Industrial Timber Estates (<i>Hutan Tanaman Industri</i>)
HPH	: Forest Concessionaire Holder (<i>Hak Pengusahaan Hutan</i>)
IGGI	: Inter Governmental Group on Indonesia
IHH	: Forest Products Fee (<i>Iuran Hasil Hutan</i>)
IMF	: International Monetary Fund
INHUTANI	: Indonesia Forest Industry (<i>Industri Kehutanan Indonesia</i>)
IPK	: Timber Use Concessionaire (<i>Izin Pemanfaatan Kayu</i>)
JMB/BPB	: Joint Marketing Board (<i>Badan Pemasaran Bersama</i>)
MPI	: Indonesian Forest Community (<i>Masyarakat Perhutanan Indonesia</i>)
MITI	: Ministry of Industry and Trade of Indonesia
MNE	: Multi-National Enterprise
PJP	: Long-term Development Plan (<i>Pembangunan Jangka Panjang</i>)
REPELITA	: Five-Year Development Plan (<i>Rencana Pembangunan Lima Tahun</i>)
RKL	: Five-Yearly Forest Work-plan (<i>Rencana Karya Lima Tahunan</i>)
RKT	: Yearly Forest Work-plan (<i>Rencana Karya Tahunan</i>)
SKM	: Machine-made Kretek Cigarettes (<i>Sigaret Kretek Mesin</i>)
SKT	: Hand-made Kretek Cigarettes (<i>Sigaret Kretek Tangan</i>)

SAKERNAS : National Census on Labour Force (*Sensus Angkatan Kerja Nasional*)

SUSENAS : National Census on Social and Economic (*Sensus Sosial-Ekonomi Nasional*)

TGHK : Land Use by Consensus (*Tata Guna Hutan Kesepakatan*)

TNE : Trans-National Enterprise

CHAPTER I

INTRODUCTION

1.1. PROBLEM STATEMENT

During the period 1968 to 1981 Indonesia enjoyed rapid economic growth at 8.2 percent annually (Nasution, 1991: 12 - 26). This growth was primarily from the dramatic increase of oil revenue, and to lesser extent from exporting tropical hardwood. However, in 1982 the economy slowed because of the collapse of the oil prices. The average annual rate of growth in 1981 – 1986 declined to 4 percent. The current account changed from a surplus of 4 percent of GDP in 1980 to a deficit of 5.5 percent in 1986. Because Indonesia's economy was mostly dependent on the oil sector, the shock in the oil prices caused external and internal imbalances in the economy. Recognizing the need to reduce the country's dependence on oil exports, the government took several actions: encouraged non-oil exports through subsidies and other fiscal policies, devaluing Indonesia's currency (*rupiah*), and investing revenue from oil in manufacturing traded sector. The government also imposed the log export ban to provide more raw materials for domestic plywood industry. As a result this industry has expanded and become one of the largest foreign exchange earners.

1.1.1. The Old Order Period

Industrialization in Indonesia began in the 1950s. During this period, known as the *old order* period¹, the government played a crucial role by strongly intervening and applying an inward-looking industrial strategy. The government strategy was to give priority to the development of state enterprises in the manufacturing sector. Many incentives were given by the government to favour state enterprises, among other things, the allocation of bank credit, government subsidies and foreign exchange.

In this period, there were two factors that influenced national economic stability. The first was that the reserves of foreign exchange were small and improperly managed. The second factor was the instability of the political situation. As a result, the government had to tighten the control over the issuing of foreign exchange, which in turn caused shortages of imported raw materials and components. Those factors combined with the continual deficits of the government's budget, very high inflation (up to 635 percent) (Woo, Glassburner and Nasution, 1992) and strong government intervention in the market system created an unfavourable condition for industrial development. This factors led to a decline in both public and private enterprises production in which the utility of manufacturing capacity declined to less than 30 percent (McCawley, 1981; and Poot, 1992).

¹ This term was popularized by new administration.

1.1.2. The New Order Period

Indonesia's economic reform started in 1966 in the *New Order* period². The New Order characterized as several special periods. After General Soeharto received the transfer of power on March 11, 1966, he established a reformation program. His focused was not only on the rehabilitation and stabilization of political structure, but also, and more importantly, on economic development. One of his actions was 'an open door policy' of facilitating foreign and domestic investments, eliminating price controls, reducing import protection, devaluing the exchange rate to realistic levels, and to balance the national budget.

During this period the government set up measures that benefited the industrial sector, among other things, the liberalization of the foreign trade administration, and the unification of the exchange rate so that raw materials and spare parts became more easily available to manufacturers. To support those actions, the Government passed regulations such as, Foreign Investment Act and Domestic Investment Act, in 1967 and 1968, respectively. The State also approached International Monetary Fund (IMF) to ask for financial assistance, and eliminated the import-licensing system. At the same time, the Government maintained the inward looking policy by applying certain import protection and tariffs, and restricting foreign companies to distribute their products in the domestic market.

² Soeharto's, the new president's, administration call their regime as the *Orde Baru* or New Order and the period before 1966 as *Orde Lama* or the Old Order.

The second period of the New Order was indicated by the rise of government's revenue. The period of 1974-1981 was referred to as the *oil boom* period. Indonesia received enough foreign exchange from oil and gas exports that enabled the government to develop several infrastructures related to the developing of economy, such as industrial, transportation, telecommunications, and agriculture.

The result was a progression in economic performance, indicated by the movement of public investment from traditional sectors into heavy industries (mining and petrochemicals). The 'weaknesses' in that period were the protection for certain products and the interference of the State on trade and industrial policies. The protection meant some domestic companies could not compete internationally, and the strong interference of the State meant the companies, particularly state-owned companies, could not work efficiently. As a consequence, it made a high cost economy in those sectors.

The third period was indicated by a couple of shocks which came from external sources or referred to as 'the environment shocks'. The first shock was the decline of the revenue due to the falling of oil prices, non-oil product exports, and the depreciation of US currency. The Government took action by focusing more on macro-economic policy through maintaining the balance of payments, fiscal stability, and reducing the dependence on oil revenues. The continual decline of oil prices forced the Government to respond by devaluing its currency, applying tight

monetary policy, and continuing the balance of budget. The Government also anticipated the shock by trying to eradicate a high cost economy through the removal of trade restrictions, and the intensive application of deregulation and de-bureaucratization. The next period during the New Order has been the recovery, which lasted from 1988 to the present. The Government started to shift the trade orientation from an inward to outward looking orientation through economic reformation packages. As a result economic performance increased, which was indicated by the increase in GDP, non-oil export revenues, and the reduction of absolute poverty and inflation rate.

The Indonesia's economic management philosophy and objectives are laid out in a series of Five-Year Development Plans. The first series, the First Long-Term Development Plan (*PJP I*)³, was begun in fiscal year 1969/1970 and ended in March 1994.

The First Five-Year Development Plan (*Pelita I*)⁴ covered the period from fiscal year 1969/1970 to 1973/1974. Its main objectives were to rehabilitate economy, with emphasis on increasing agricultural production and on improving irrigation facilities and transportation. In the industrial sector, the focus was on industries which generated foreign exchange through exports or import substitution, domestic raw material processing industries and labour intensive industries.

³ *PJP* stands for Pembangunan Jangka Panjang.

⁴ *Pelita* stands for Pembangunan Lima Tahun.

The Second Five-Year Development Plan (*Pelita II*) lasted from fiscal year 1974/1975 to 1978/1979. The objectives of *Pelita II* were to increase the standard of living and to provide more employment opportunities. A high proportion of State development expenditure was given to social purposes, such as education, health and family planning. Promoting industrial and mining projects were also emphasized. In this period, there was a tendency to protect domestic industries by restricting certain imports and the tightening of rules on foreign investment.

The Third Five-Year Development Plan (*Pelita III*) covered the period from fiscal year 1979/1980 to 1983/1984. Its principle objective was known as the *Trilogi Pembangunan* or the Trilogy of Development. This 'Trilogy' was the equitable distribution of development gains, economic growth and the maintenance of political and economic stability.

Its emphasis was on integrated agricultural development, including further increases in rice production and diversification into other food crops⁵. In the industrial sector the Government supported industries, which created employment opportunities or which fulfilled basic domestic needs. Labour-intensive companies have been encouraged. Another objective was the protection of economically weak producers and the development of a broad industrial base.

⁵ The result was, *inter alia*, at the end of 1984 production of rice increase so high that made Indonesia became food self-sufficient for the first time.

The next development was the Fourth Five-Year Development Plan (*Pelita IV*). It covered a period from fiscal year 1984/1985 to 1988/1989. In this period the strategy of development was focused on the evolution and intensification of the same three principle objectives laid down in the *Pelita III*. *Pelita IV* kept the continued importance of the development of the agricultural sector and improving the quality and diversification of crop production. However, its objective emphasized industrial growth as a means to increase employment and diversify economic development. The objectives for the medium-term were employment creation, export promotion, import substitution and processing of domestic natural resources. In this period, the foundation was laid for the industrial sector to become equal in size to the agriculture sector as a major long-term objective.

There were two main targets of *Pelita V*. This plan, which lasted from fiscal year 1989/1990 to 1993/1994 focused on improving the standard of living and preparing the ground for future sustainable development. *Pelita V* concentrated on the structural diversification of the economy to eliminate or at least reduce the dependence on crude oil. It prioritized the development of export-oriented and labour intensive industries in agricultural and industrial sectors. *Pelita V* was the ending of the First Long-Term Development Plan (*PJP I*), which has been called as the *Pre Take-off Period*.

The Sixth Five-Year Development Plan (*Pelita VI*) initiated the Second Long-Term Development Plan (*PJP II*). *Pelita VI* covers the period from fiscal year 1994/1995 to 1998/1999. The 1993 State Policy Guidelines (GBHN 1993) mention that the objectives of this plan are the growth of self-reliance, through increased participation, efficiency, and productivity of the people in the context of increasing their standard of living, intelligence and overall well being. It is expected that by the end of *Pelita VI* the per capita income will surpass US\$ 1,000, the agricultural annual growth rate will be 3.4 percent, and industrial sector at 9.4 percent. Sectoral economic growth will depend on the industrialization process, which is supported by the agricultural sector. The economic structure will undergo a basic transformation. The role of industry and services will continue to increase, and the role of the agricultural sector will gradually decrease.

Average annual economic growth rate for *Pelita VI* is expected at around 6.2 percent. To achieve this target, the contribution of non-oil and gas sectors must increase. National product coming from non-oil and gas is predicted to grow at an average of 6.9 percent annually, non-oil and gas manufacturing is expected to grow at 10 percent per year, other sectors (transport services, telecommunications, trade and mining) at 6.0 percent per year. As a consequence, the share of industrial sector in GDP is expected to rise to 24.1 percent (1989/1990 constant price), whereas the agricultural sector's share is estimated to decline to around 17.6 percent.

1.2. RESEARCH QUESTIONS

Indonesia was the world's leading exporter of tropical logs in 1979, accounting for 41 percent of the world's market. Concerns about environmental degradation and the lack of domestic log processing capacity led to restrictions on log exports beginning in 1980, culminating in a complete ban on log exports in 1985. The intent was primarily to foster the basic plywood and sawmill industries, which could in turn export its output and expand employment and industry within the country. By 1988 the country supplied almost 30 percent of the world's exports of plywood⁶. The success of this policy led to other similar initiatives, including a ban on raw rattan exports in 1988 to foster the domestic rattan furniture industry and a substantial export tax on sawn timber in 1990 to promote the domestic wood furniture industry.

Plywood production has increased rapidly following the introduction of the log export ban in the mid-1980s, to become Indonesia's second largest export after textile products. The industry has clearly benefited from access to cheaper logs, at prices estimated to be approximately half those prevailing on world's market, as well as requirements that logging concessions establish local wood-processing mills (GATT, 1995).

⁶ The Ministry of Industry, Indonesia, 1990. **Monthly Report on Economy, Finance and Industrial Sectors**. This report was presented at monthly meeting of the cabinets.

Plywood and wood-products, and textiles have dominated non-oil manufactured exports since 1990, accounting for one-third of total non-oil and gas exports. As an illustration, plywood export amounted to US\$ 3.29 billions in 1991 (11 percent), US\$ 3.82 billions (11 percent) in 1992, US\$ 5.13 billions (14 percent) in 1993, and US\$ 4.83 billions in 1994, or 12 percent of total non-oil and gas exports value (The Ministry of Industry and Trade, 1997). However, there are questions worth being raised.

- What industrial policy should the government impose?
- Can plywood industry sustain its contribution to the economic development?
- How is the supply/demand of raw material/logs supply?

1.3. THESIS STATEMENT

The manufacturing sector has become Indonesia's most dynamic economic sector. The successful diversification of the economy over the past decade has largely been achieved through increased private investment in manufacturing facilities. Manufacturing's share of overall exports has risen rapidly, but Indonesia will have to switch to more value-added products in order to strengthen its trade position and global competitiveness. However, Indonesia will also have to continue fostering the development of labour-intensive industries to create more jobs and increase living standards.

The manufacturing sector in Indonesia has been growing since the 1970s as a result of the liberalization of industrial and trade policies. This has occurred because of the influences of the increased oil prices in 1973 and 1979 resulting in rapid economic growth, which in effect, benefited the manufacturing sector.

The rapid growth of the manufacturing sector can be seen from the increase in the value added. For example, based on 1973 constant market prices, between 1971 and 1980 the value added increased an average of 15 percent per year (Poot, Kuyvenhoven and Jansen. 1992). During the same period, the annual growth rate of national GDP was only 8 percent. In GDP terms, the manufacturing contribution to GDP increased from 8.8 percent in 1971 to 15.3 percent in 1980. However, the contribution of the manufacturing sector to GDP in current prices has increased less rapidly, from 8.4 percent to 11.6 percent. This occurred because of the terms of trade effects in favour of oil mining.

In the 1980s the manufacturing sector was expected to absorb more employment creation (*GBHN*, 1978)⁷. This was a consequence of past experience, which showed that the manufacturing sector has absorbed less employment and created jobs. Even though the employment by this sector increased, the increase was not high enough (Poot, H., et.al., 1992). During the period of 1971 to 1980, employees absorbed by this sector increased from 3.1 million in 1971 to 4.7 million, or 7.8 percent and 9.1

⁷ *GBHN* stands for Garis-garis Besar Haluan Negara, the Guidelines of State Policies, which is set up every five years.

percent of total employment. respectively. During the Sixth Five-Year Development Plan, the government projected the manufacturing sector to absorb 12.9 million workers or around 7 percent of the national projection.

The current government policy of the manufacturing sector is that it focuses only on ten commodities, all of which have competitive advantages and which are considered competitive in the global market. One of those commodities, in the second rank after textiles in terms of its export value, is plywood. The government maintains plywood commodity as one of the largest foreign exchange earners. According to FAO study (Lyons, 1995), world consumption of plywood in 2010 will be around 40 million cubic metres, with the world's production of 28 million cubic metres there will be deficit of 12 million cubic metres. This scarcity is an opportunity for the Indonesian plywood industry to acquire more foreign exchange. I will argue that the government decision to rely on the plywood industry as one of the largest foreign exchange earner is acceptable. at least until the year 2010.

1.4. METHODOLOGY

To analyze the scope of the study, secondary sources, such as books, journals, articles, magazines of both Indonesian government and international publications are used. The quantitative data will be gathered from the Centre of Bureau Statistics (*BPS*), Indonesian Plywood Company Association (*APKINDO*), Indonesian Forest

Community (*MPI*), the Ministry of Forestry, the Ministry of Industry and Trade. Internet, database and other sources will also be used.

1.5. THE STRUCTURE OF THE THESIS

The thesis is divided into five chapters and is organized as follows. Chapter one, the introduction, comprised of four subchapters: problem statement, research questions, thesis statement and methodology employed in writing this study.

Chapter two, a literature review, provides theoretical framework underlying the topic of the study. This chapter discusses two major industrialization strategies, import substitution industry (ISI) and export oriented industry (EOI) strategies. This chapter also traces the application of those two strategies in Indonesia, and which strategy has adopted by Indonesia. It also discusses the importance of capital flow in industrialization and the role of the state in the economy.

Chapter three examines the industrial sector in Indonesia. The first part will discuss an overview of Indonesia's manufacturing sector, followed by the discussion on the contribution and importance of the manufacturing sector to the economic development. This chapter also analyzes government's policy in the industrial sector, and how important the industrial sector is in Indonesia's labour market creation. In the last section, the chapter deals with the current monetary crisis.

Chapter four of the thesis examines the plywood industry in Indonesia. The first part introduces an overview of plywood industry in Indonesia. Followed by the discussion on its contribution as a foreign exchange earner. This chapter also analyzes the marketing system in terms of the international market, which is very crucial in the plywood distribution in Indonesia. This chapter tries to analyze the possibility of plywood industry to achieve sustainability as one of several competitive advantage products by discussing the raw material supply, the government policies and regulations, and provides some recommendations for an appropriate policy on this commodity. Chapter five is the conclusion of the thesis.

CHAPTER II

LITERATURE REVIEW

Industrialization plays an important role in every country in the process of economic development and is a fundamental policy objective in almost all developing countries. In such countries industrial development is considered necessary in order to achieve high rates of economic growth, to provide for the basic needs of the population, to create more employment opportunities, to lead to an increasingly diversified economy and to give rise to desirable social, psychological and institutional changes (Norman, 1984). However, there are several different views related to the industrial strategy.

There are basically two different approaches to an industrialization strategy: import-substitution and export-oriented. An import-substitution industrialization strategy is based on production for the domestic market. This approach suggests that a high rate in output growth can only be achieved by replacing imports of manufacturing goods. The second approach, export orientation, suggests that a high rate of output growth can be reached by selling goods and services in the international market. However, there is another approach, supported by the structuralists, which is based primarily on the involvement of external factor.

2.1. TERMS AND DEFINITIONS

2.1.1. Industrialization

The term industrialization does not have a clear or common reference. However, it encapsulates several features, including the development of factories, the operation of business entrepreneurs, the use of machines, lowering cost of production, the displacement of handcraftsmanship, the appearance of masses of wage earners, the formation of a class of industrial managers, the shift from rural to urban aggregation, and the play of technological innovation (Blummer, 1990).

Furthermore Chandra (1992) defined industrialization as:

An increase in the share of the gross domestic product (GDP) contributed by the manufacturing sector. It is a process that involves a change in the structure, or make up, of the economy. (Chandra, 1992: 4).

Industrialization is usually a combination of paths towards economic growth (Chandra, 1992: 20). However, there are many forms of economic growth that do not depend on industrialization, such as increased catches of fish in a fishing community, an expansion of the local handicraft industry, and the development of agriculture.

2.1.2. Import Substitution and Export Promotion Policies

There are several definitions related to export oriented industrialization (EOI) and import substitution industrialization (ISI). However, in this study EOI is defined to mean:

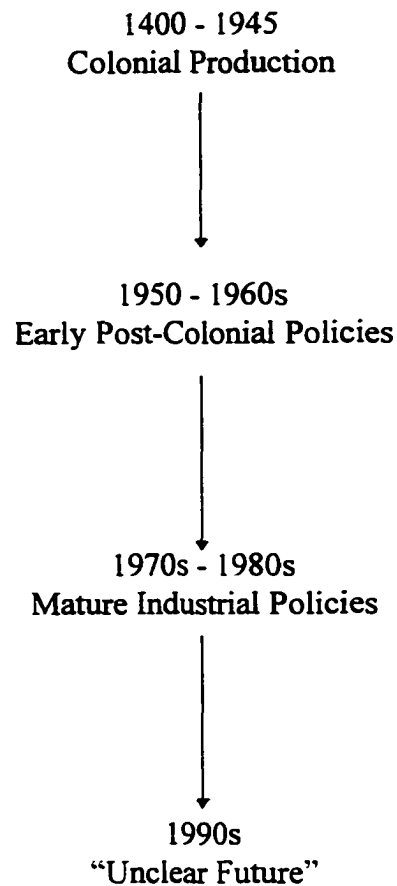
A set of trade and industrial policies, which do not discriminate between production for the domestic market and export, or between the purchases of domestic goods and foreign goods (Chowdhury, and Islam, 1992 : 16).

Whereas Meyer-Stamer defined ISI as:

A strategy which emphasizes the replacement of imports with domestically produced goods, rather than the production of goods for export to encourage the development of domestic product (Meyer-Stamer, 1995: i).

We envisage that industrial policies are not static, rather the industrial policies in developing countries experience several phases of evolution (Chandra, 1992). Their evolution can be summarized in the diagram below (Figure 1).

Figure 1. The Evolution of Third World Industrial Policies.



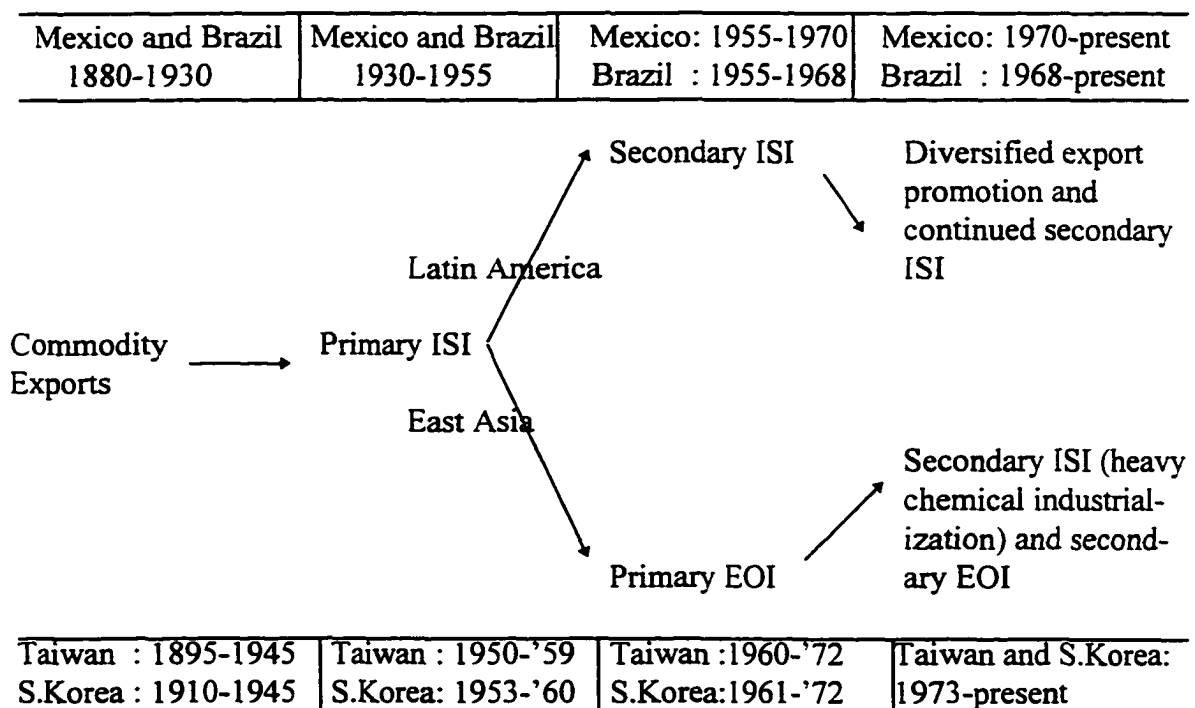
Source: Chandra, (1992): 95.

During the colonial production period the industrial policies emphasized agricultural development and minimum industrialization. In the early post-colonial period, the industrial policy focused on the implementation of ISI. In the third phase the policies applied were reformed ISI with export production and with the use of export processing zones and tax-free factories, followed by an active courting of multinational corporations. Chandra calls the next phase as the ‘unclear

future' period, where a distinct export orientation will be applied, followed by a reformed ISI, depending on the level of demand in developed countries.

EOI and ISI have been used to contrast East Asian NICs' export oriented development to Latin America's import substitution strategies. A historical perspective suggests that each of these developing regions has adopted both inward- and outward-oriented policies at various times as the model of industrialization of the two regions. Gereffi (1990) identified five main phases of industrial development as shown in the Figure 2 below.

Figure 2. Paths of Industrialization in Latin America and East Asia: Commonalties, Divergence, and Convergence



Source: Gereffi, (1990): 17.

Gereffi noted that in the commodity export phase, the output typically is unrefined or semi-processed raw materials (agricultural goods, minerals, and oil). Primary ISI entails the shift from imports to the local manufacturing of basic consumer goods and in almost all countries the key industries during this stage are textiles, clothing, footwear and food-processing goods. These commodities suit the conditions which have existed in the developing countries, namely the intensive use of unskilled labour, the efficient scale of output is relatively low, costs do not rise substantially at lower output levels, production does not involve in the use of sophisticated technology, and a network of suppliers of parts, components, accessories is not required for efficient operation (Balassa, 1980).

Secondary ISI includes using domestic production to substitute for imports of a variety of capital and technology-intensive manufactures, such as consumer durable, intermediate goods, and capital goods (Gereffi, 1990).

The two phases of EOI both involve manufacturing exports. The output in the primary EOI is prone to be labour-intensive products, while secondary EOI includes higher value-added items that are skill-intensive and require a more fully developed local industrial base.

2.2. INDUSTRIALIZATION STRATEGIES

2.2.1. Import Substitution (ISI) vs. Export Oriented Industrialization (EOI)

According to the Neo-classical view (Balassa, 1980), the differences in industrial performance among developing countries can be related to two different policy regimes with divergent trade orientations and distinct degree of government intervention. The export-oriented industry was adopted by the East Asia NICs (Taiwan, South Korea, Singapore and Hong Kong). Alternatively the other side, the import substitution industry (ISI) was embraced by the majority of developing countries, namely the Latin America NICs (Brazil, and Mexico) and India. It is noted that EOI was introduced by Neo-classical theorists. The following discussion will be related to the neo-classical views of industrialization policies.

Neo-classical theory provides the economic framework with the notion that free trade would gradually reduce the income gap between the rich and poor countries. The expression “trade as an engine of growth” is based on their theory of comparative advantage, which states that if countries produce what they can do best and leave to other nations what they can produce with less efficiency, then the real output, income and consumption will be higher than it could be in the absence of trade. The higher consumption makes the domestic market larger, increases specialization, makes economies of scale greater with increased capacity utilization.

The higher income establishes the foundation for expanded investment for domestic production, which lead to higher income. Trade also produces imports of capital goods and technology which might accelerate the economic progress of developing countries.

According to Little, Scitovsky and Scott (1970), import substitution policies reduce or eliminate the gains from trade by favouring production for domestic use over exports, and encouraging manufacturing at the expense of agriculture and other primary production. These authors argue that promotion is the only way to develop the industry, rather than to protect it. They recommend promotional policies including the development of capital markets, domestic and export subsidies, multiple exchange rates, and payroll subsidies.

According to the neo-classical view (Balassa, 1980), high protection policies discriminate against exports through explicit taxation, such as by applying export taxes, or implicit taxation of export activities as a result of the effects of protection on the exchange rate. If a country imposes a high rate of protection, the exchange rate necessary to ensure equilibrium in the balance of payments will be low and in turn, will result in the lowering of the amount of domestic currency exporters receive per unit of foreign exchange earned. He argued that at the first stage of import substitution a country should not apply a high protection on certain non-durable consumer commodities, such as clothing, textile, and wood products.

Neo-classical development economists believed that developing countries, particularly East and South-East Asian countries pursued an export-orientation industrialization, which resulted in the remarkable rates of capital accumulation in the 1960s and 1970s.

According to Gereffi (1990), the first phase of the export oriented promotion resulted in the rapid growth of the East Asian NICs which was based upon light- and labour-intensive goods, such as textiles, garments, and consumer electronics. In the following phase, some countries such as Taiwan, South Korea and Singapore achieved great success by placing the emphasis on heavier industries, such as steel, shipbuilding, vehicle manufacturing and computers.

However, Folke, Fold and Enevoldsen (1993) do not agree with Gereffi's arguments. These scholars mentioned that the East Asian NICs' achievement could only be reached when the world market was buoyant, and because developing countries had access to finance and markets in the developed countries. They believed that the East Asian NICs' achievement could not be followed by other developing countries in the period of 1980s and 1990s because in those periods there were recessions, growing protectionism and debt crisis (Folke, et.al., 1993 : 61-63).

There are differences between the East Asian and Latin American NICs economic growth. According to Naya, et. al. (1989), the primary reason of the Asian NICs growth was that Asia has had more market oriented and less-regulated policies than Latin America. There have been more incentives encouraging entrepreneurship and private initiative in Asia. There also has been greater confidence in the government and between government and the private sector.

Furthermore, the Asia NICs are well known for their policies emphasizing market and private sector development. At the same time, the policies of the Asian NICs are not *laissez faire* policies, and in fact their government do a great deal to determine the shape and direction of their economies' development. The intervention of the government is only to facilitate the market system. There are also cultural and political reasons. It is argued that the Asian NICs have been united by a quasi-Confucian ethic, which emphasis on the loyalty, respect for elders and strong work ethic. Asia has had more outward-looking oriented trade than Latin America. Despite extensive government intervention, trade regimes in the NICs have generally been left to market forces. In addition, during this period, Brazil and Mexico have been hit by the recession and fallen into 'debt trap' (Folke, et.al., 1993). Their heavy indebtedness can be seen as a price paid for their industrialization and overall development strategy.

A prominent neo-classical theorist, Krueger (1985) states that there are two factors that make the export-oriented industrialization more conducive to rapid growth than the import-substitution industrialization strategy. She calls the first factor economic factors, which include returns to scale, indivisibility, and the impact of competition. She believes that a more satisfactory economic performance may be produced under an export-oriented strategy than that under import-substitution. The other factor is that an export-oriented strategy appears to put certain kinds of constraints in the economic policy and its implementation. Those constraints limit the magnitude and duration of policy mistakes and tend to force policies to work through pricing rather than through quantitative interventions.

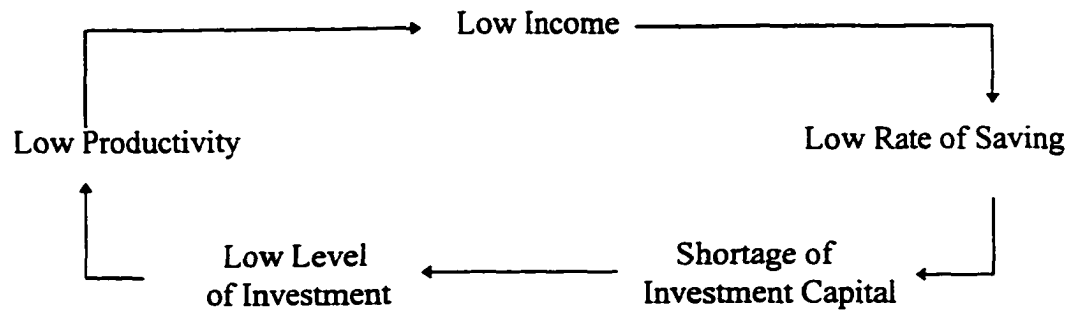
In the core and periphery relationship, according to neo-classical theory, the role of multinational corporations is crucial. It is argued that an export-oriented, outward-looking strategy would assist employment creation and alleviate income inequalities. Multinationals have several functions, such as the provision of market outlets, introducing technology, and labour training (Levitt, 1992 : 79). Moreover, Levitt mentioned that multinationals usually conduct proper research and development so that they are better equipped to evaluate opportunities and explore alternatives in order to choose more labour intensive techniques. Because of the nature of its international character, multinationals could lead to a rationalization of their activities as a whole, which in turn, correct the distortion in factor use in the periphery countries in which they operate (Levitt, 1992).

One criticism of multinationals is that they look at efficiency and not labour. So that industrial agriculture in developing areas gain high automation, which means increasing efficiency, and in turn, lowering the labour required.

The above arguments from neo-classical contradict that of dependency theorists (*dependentistas*), such as Frank (1967) who stated that international trade and investment led to unequal exchange between the developing countries and advanced-capitalist economies to the disadvantage of the former. Therefore, trade is neither an engine nor expeditor of growth. On that account, trade is associated with the expropriation of economic surplus from its satellites by the metropolis and appropriates it for its own economic development (Frank, 1967: 9). Frank explains that underdevelopment in the Third World, particularly in Latin America, as a consequence of the transfer of surplus from backward areas to the metropolis (the 'exploitation' of one nation by another). At the same time, income inequalities are prone to widen internationally as well as domestically.

Dependentistas also argued that developing countries should withdraw from the international division of labour. By doing so, they could possibly escape from the vicious circle of underdevelopment (Figure 3), which states that underdeveloped countries are poor because they do not develop, and they do not develop because they are poor.

Figure 3. The Vicious Circle of Underdevelopment



Source: Stockwell and Laidlaw (1984): 33.

It can be seen that a low income means that there is a small capacity to save and thus a low rate of saving. A low rate of saving in turn means that there is a shortage of investment capital. A shortage of investment capital leads to low rates of investment, and consequently to low rates of productivity. And low productivity serves to perpetuate the low-income situation. However, I argue that it does not necessary mean the low income will reflect on a low saving.

Furthermore, the *dependentistas* argued that if they reduced their primary exports they would get welfare gains by means of improved terms of trade of the periphery. They assumed that countries in the periphery have a monopolistic power in the markets for their primary export goods.

A contrary argument was presented by neo-classical theorist (Balassa, 1989) by stating that there were other substitutions and suppliers for those commodities in the developed countries. Thus, withdrawing from international market through export taxes or import protection (duty and levy) would lead to a decline in the export market shares. Besides, such a protection measure would create high-cost import substitution in the industrial sector, which in turn, those countries could not participate in the expansion of export goods (Balassa, 1989: 89-90).

2.2.2. The Choice of A Development Strategy

It seems that both schools of thought shared the same idea that import substitution was a necessary precondition for development of manufactured exports in present-day developing countries. However, in attempting to provide an answer to this question, a distinction needs to be made between first-stage and second-stage import substitution.

What neo-classical theorists noted was that countries applying outward-oriented development strategies performed better in term of exports, economic growth, and employment than countries with continued inward orientation, which encountered increasing economic difficulties. At the same time, policy reforms aimed at greater outward orientation brought considerable improvement to the economic performance of countries that had earlier applied inward-oriented policies (Balassa, 1980).

There were several differences among developing countries concerned with regard to the length of the phase and the level of protection applied. In present-day industrial countries and in the East Asian NICs that subsequently adopted an export-oriented strategy the first-stage import substitution was of relatively short duration. In other developing countries it was longer and these countries also generally had higher levels of protection.

As an illustration, not all non-durable consumer goods and their inputs went through an import-substitution phase before the East Asian NICs began to export them. Synthetic textiles in Korea, plastic shoes in Taiwan, and fashion clothing in Singapore all began to be produced largely for export markets. Plywood and wigs, which were Korea's leading exports in the late sixties and early seventies, did not go through an import-substitution phase either.

If the system of incentives does not discriminate against exports, it points to the need to leave the choice of exports to private initiative. In turn, entrepreneurs in these countries will export commodities that correspond to the country's comparative advantage.

In the period following the oil crisis in the early 1970s, the East Asian NICs increasingly upgraded their exports of non-durable consumer goods and began exporting machinery, electronics, and transport equipment. For several of these

products, including shipbuilding in Korea, photographic equipment in Singapore, and other electronic products in Taiwan, exporting was not preceded by import-substitution phase (Balassa, 1980). It follows that, rather than for entry into second-stage import substitution as a prelude to subsequent exports, it is preferable to undertake the manufacture of intermediate goods as well as the production of consumer durables for domestic and foreign markets simultaneously. This will permit the exploitation of the economies of scale and ensure efficient import substitution in some products, while others continue to be imported. At the same time, it will require the provision of equal incentives to exports and to import substitution instead of import protection that discriminate against exports.

From the other side, the structuralism scholars, Prebisch and Singer⁸ (1984) believed that the developing countries could not achieve their development through trade, which was based upon a comparative advantage in the production of primary agricultural and mineral products. The reason was that the value of such commodities decline in the post-depression period resulting in the deterioration of the terms of trade of the periphery. They both agreed that import-substitution, with infant industry arguments, as a suitable strategy, which should be applied by developing countries.

⁸ The works of those pioneers of development were re-summarized in Meier, K. and Seers, D. (eds.), 1984, **Pioneers of Development**, Oxford: Oxford University Press.

Prebisch stated that such a strategy would help developing countries reduce the balance of payment burdens. He suggested protecting infant industries moderately and selectively so that it could reduce the tendency toward a foreign constraint on development. This was a result from the low-income elasticity of demand for imports of primary product by the centre, compared to that at the periphery for manufactured goods from the centre. Based on these reasons and that suitable industrial infrastructure was lacking in the periphery, that economic conditions in the centre were unfavourable, Prebisch suggested that countries of the periphery should not export manufacture goods to the centre. In order to maintain their growth the periphery countries should trade among each other, among regions and sub-regions (Prebisch, 1984 : 175 - 179).

This argument was also supported by Shapiro and Taylor (1990), who stated that inward-oriented development relies upon market restrictions and state intervention, which supposedly create an environment more congenial to direct unproductive profit-seeking than a more open, export-promoting policy.

For example, the success of Turkey's rapid growth⁹ shows that Turkey's remarkable export growth of the 1980s rested upon a pre-existing industrial base created by ISI, policies leading to contraction of domestic demand for manufacturers, attempts at general price reform, subsidies of up to one-third of

⁹ Cited from Shapiro, H. and Taylor, L. 1990. *World Development* Vol. 18 No. 6, pp. 861-878.

export sales and related incentives, and rapid growth in demand for the products the country could produce by culturally compatible buyers in the region. If any one of these factors were missing, the rapid growth would probably not occur.

Another example was presented by Chenery, Robinson and Syrquin (1986). They showed that large countries (they considered one with more than 20 million people in population) usually applied ISI strategies for their initial path of industrialization. They stated that those countries have a higher manufacturing share of GDP than small countries do at the same per capita income level. Accordingly, they pursue ISI further into intermediate and capital goods and service producers. Large countries' policy in industry tends to exploit import-substitution-then-export in manufacturing sector (Shapiro and Taylor, 1990 : 869). The idea behind it is that large and protected markets permit economies of scale and scope.

2.3. TOWARDS A BETTER INDUSTRIALIZATION STRATEGY

Since there are always many unique features surrounding the experience of individual countries, generalization emerge only after considerable time and research. If a country has chosen EOI as its industrialization policies this country should follow several prerequisites in order to achieve its rapid economic growth.

Krueger (1985) suggests that in implementing EOI, the government policy cannot be half-hearted. It should encourage rewards and incentives for performance in the international market and in the longer run a realistic exchange rate is essential for the continued pursuit of an outward-oriented trade strategy. This requirement implies both that the level of the exchange rate must be appropriate and that the exporters must feel assured that the exchange rate will be adjusted in accordance with differentials in inflation rates between the exporting country and its major trading partners. It is worth noting that an export-oriented strategy is possible only if the quantitative restrictions on trade are removed. In general, an export-oriented strategy is not consistent with detailed government quantitative intervention in any aspect of trade. Access to the international market is also important, including access to raw materials, spare parts, technical services, marketing skills, freight, insurance, and transport. Another important sector is the availability of infrastructure, such as in communication and transport infrastructure. When the prerequisites are met, the evidence is that rapid growth, usually with a pronounced increase in economic efficiency, can be achieved (Krueger, 1985).

It seems evident that some accompanying policies, such as improvement of the functioning of credit markets, financial reforms, and rationalization of incentives enhance the benefits that accrue from export-oriented strategies. Other strategies, such as liberalization of the import regime and adoption of a realistic exchange rate are necessary for the success of the export promotion strategy.

However, based upon the experience of developing countries over the past two decades which have applied a highly restrictive inward-oriented trade regime, it will not be an easy task to undertake major liberalization.

There is no exact rule for a country to choose its industrialization policies. It will depend on its stage of economic development and the relationship between the corporate sector and the state. Indonesia's industrialization strategy and the policies, which have been chosen, are evolving and as we will see later in this thesis the events of 1997 and in particular 1998 will dictate significant shifts in policies, including a reassessment of the role of the state with a greater emphasis on liberalization policies and the strengthening of the financial system.

In 1967, the new order period undertook substantial liberalization of the trade and capital account. The complex system of trade restrictions was removed, but a tariff system was introduced (Pangestu, 1996). In the period of 1973-1978 protection policy was applied in domestic trade and industries directed at influencing the pattern of industrialization through protection. Trade liberalization began in 1978 when the government devalued its currency (*Rupiah=Rp.*), introduced a duty drawback system, reduced tariffs, and set-up de-regulation and de-bureaucratization. As has been set up in the 1993 Guidelines of State Policy, export oriented industries would be further promoted as a source of industrial growth and labour absorption. The policies to accelerate growth include the development of

labour-intensive industries, which would become more skill-intensive over time, product diversification and the development of export industrial zones.

In summary, the choice of industrialization policies of a country is not just a matter of choosing a strategy. It is not only related to economic considerations but has something to do with political and social conditions in those countries as well. The role of the government is very crucial. There is evidence that the success of East Asian and South East Asian countries depend on the intervention of the state. What seems clear is that the successful *Asian Tigers* (Taiwan, Korea, Singapore and Hong Kong) have had governments that were committed to economic growth and to growth through exporting. In all cases, not only did domestic producers receive adequate incentives for exporting, but they could be reasonably confident that the incentives could continue to be adequate.

It is argued that both views, neo-classical with its EOI or dependency with its ISI, has its-own specific weaknesses and strengths. It cannot be generalized whether one is superior over another.

Once more the recent financial crisis in Indonesia with the severe depreciation of the *rupiah*, stock market crash, financial sector failures and rapid inflation are changing the nature of the economic development paradigm.

2.4. THE STATE AND THE ECONOMY

There are two different opinions among theorists in viewing the economic development. The first approach, the neo-classical one, based on the market economy. Neo-classicals argue that markets perform effectively stimulating economic development when there is no state intervention. On the other hand, critics of the market economy, the *statist* proponents, claim that the state intervention is necessary to regulate market functions in order to stimulate economic development.

The market economy proponents believe that free market enterprises would allocate resources more efficiently and lead to a more equal development when it is free from state intervention. They also believe that free market will create a healthy competition, which in turn, will provide opportunities to buyers and sellers, and motivate innovation (Gilpin, 1987: 18).

On the contrary, the *statist* approach proponents argue that the state interference in the economy is required for creating a conducive environment for market relations to take place. The state acts as indispensable catalyst for improving economic growth. This means that the state shall become a facilitator for development, and not a master. It is worth noting that a balance between market forces and the state power has to be achieved. As mentioned by Evers (1989), if markets and trade grow

rapidly while political control left behind, it may create a danger. On the other hand, the same case will occur if the state over-regulating the market.

According to Deyo (1987), the East Asian NICs' success was achieved because their strategy to combine in harmony between state and market without affecting each other. Many theorists believe that the secret of the East Asian NICs success was that the effective interference of the states in the economic sector. Jenkins (1991), states that the state intervention has been substantial in the East Asian NICs and that this interference has played an important role in their success.

Besides the East Asian NICs, the Southeast Asian countries have also adopted the state-led approach. The duties of the government include establishing infrastructures, supervising economic activities, and more importantly to ensure the political stability. It is considered that the state-led approach is the most applicable for improving economic growth of developing countries (Klitgaard, 1991).

The state-led approach is a market friendly approach in which the state helps market mechanism to function effectively. The socialist command economies have failed because they did not use market mechanism and because of the over-intervention of the states, which lead to in-efficiency, corruption and stagnation, while innovation and incentives declined (Broad, Cavanagh, and Bello, 1990: 145). Opposite phenomenon occurred in the East Asian NICs, where the states expanded

the application of market mechanism and the state withdrew gradually from the economy as the market began to replace state functions more effectively.

For East Asian NICs and some Southeast Asian countries, the role of the state in economic is crucial. The state-led approach is more viable and applicable to these countries, particularly in the early phase of economic development.

The role of the government in economic development is also important in Indonesia. The mechanism of doing business in Indonesia must be concordance with the Indonesian Constitution (*UUD '45*) Article 33, which stipulates that:

1. The economy shall be organized as a common endeavour based upon the principles of the family system.
2. Sectors of production, which are important for the country and the life of the people shall be controlled by the state.
3. The land, water and natural resources contained therein shall be controlled by the state and exploited to the greatest benefit of the people.

(The Ministry of Information, 1993).

Based on this constitution, Indonesia does not purely follow the economic liberalization, instead it employs its own economic system which is called the *Pancasila Economy*¹⁰. It can be seen that the constitution accommodates the state to control the economic sector, by giving important roles to the state own enterprises.

¹⁰ *Pancasila* is the nation's Five Principles, which is found in the Indonesian every day of life. *Pancasila Economy* in this term means an economic system, which is based on *Pancasila*.

However, the businesses have to be arranged effectively in order to meet the global competition. Indeed, the existence of the competitive regulations can help avoiding the domination of private corporations in the market. Unfortunately, up to the present, Indonesia does not have any competition acts or laws.

In general, Indonesia's private business can be classified into three separate interests:

- A group of powerfully connected indigenously owned conglomerates, which have mostly made their way to success through the political patronage and government protection.
- A group consists of ethnic Sino-Indonesian who have amassed wealth through politically patronage and government largesse; and
- A large number of small and middle scale business, which have pressed for economic reform for years.

In some cases, certain important policies reflect the long-standing state concern that the private sector can not be trusted to ensure politically desirable outcomes, particularly concerning the processing of Indonesia's valuable natural resources and the sensitive area of indigenous business development (William, 1993: 152).

2.5. DIRECT FOREIGN INVESTMENT

In the international economic and industrialization, international movement of capital is a very important feature. Economies usually do not consume all the output they have produced, but leave some other parts in the form of investment in machines, buildings, and other productive capital. The more investment an economy undertakes now, the more it will be able to produce and consume in the future. In order to invest more, an economy has to release resources by consuming less.

Neo-classical economists have traditionally explained differences in comparative costs in terms of factor proportions. Different goods require different proportions of the various factors of production (land, labour and capital) in their production. In countries well-endowed with land, land is relatively cheap. Such countries will enjoy a comparative advantage in the production of land-intensive goods. The same case for other countries which are rich in labour or capital. This theory is referred to as the Heckscher-Ohlin theory (Grimwade, 1989).

While trade among nations has always been important, the last twenty years have seen an enormous expansion in the volume of goods and services exchanged between nations. Another important phenomenon was the rapid growth of direct

foreign investment. The majority of which has been directed to developing countries.

There are three approaches in viewing direct foreign investment from the firm's perspective (Kojima, 1978). Firstly, the business administration approach, which is developed to provide guidelines for the management to overcome problems arise as a consequence of shifting from domestic to international trade. Secondly, the industrial organization perspective, which is based on the oligopolistic characteristics of enterprises involved in the direct foreign investment. Thirdly, the product cycle approach¹¹, which is based on the combination of a three-stage theory of innovation, growth and maturing of a new product with the research and development factor theory.

Krugman (1994), defines direct foreign investment as:

International capital flows in which a firm in one country creates or expands a subsidiary in another.

He, moreover, states that the distinctive feature of direct foreign investment is that it involves not only a transfer of resources but also the acquisition of control. It means that the subsidiary does not simply have a financial obligation to the parent economy, it is part of the same organizational structure.

¹¹ For further discussion, see Vernon, R., 1966. **International Investment and International Trade in Product Cycle**, *Quarterly Journal of Economics*, Vol. 80, May, pp.: 190 – 207.

Whereas the IMF defines direct foreign investment as¹²:

Investment that is made to acquire a lasting interest in an enterprise operating in an economy other than that of investor; the investor's purpose being to have an effective voice in the management of the enterprise (Julius, 1989).

Petrochilos (1989) classified direct foreign investment into two major groups; based on the foreign investor and on the host country. Direct foreign investment in the foreign investor can be in the form of horizontal investment, with the purpose is to exploit more advantages in monopolistic or oligopolistic. He, moreover suggests a vertical investment in order to avoid risk, minimize entry barriers and eliminate oligopolistic uncertainty. This approach is based on the availability of raw material and the proximity to the consumer. Another form is based on the ownership, which is called conglomerate diversification through acquisition or merger.

Whereas based on the host country, Petrochilos classified direct foreign investment into import–substituting direct foreign investment, export-increasing direct foreign investment and government-initiated investment.

The main vehicle for transferring capital from one country to another is the multinational, and transnational enterprises (MNEs and TNEs)¹³. Multinational

¹² As quoted by Julius, D., 1994. **Direct Investment Among Developed Countries: Lessons for the Developing World**, IDS Bulletin, Vol. 22 No. 2, April, England: The University of Sussex.

¹³ In this thesis, the term MNEs also refers to TNEs, since both are similar. There is a technical distinction

enterprises have been critical to the extraordinary growth of the international trade and capital flows during the past two decades. While most of the largest MNEs were in existence prior to 1960, since then the others have grown rapidly, both in size and in the international scope of their operations (Dickie and Layman, 1988). With their expansion, MNEs transferred not only capital, but also new technologies of production, different tastes and styles of living, managerial services and diverse business practices, and transfer pricing mechanism (Levitt, 1992).

The modern theory of direct foreign investment suggests that the MNEs develop in response to imperfections in the goods or factor market. Then the country's comparative advantage, which leads to trade is replaced by a firm comparative advantage internal to an MNE or TNE, which leads to DFI (Hymer, 1976). When there is an advantage specific to a firm, such as knowledge or technology, it can be transported between the home and the host nation within the internal market of the MNEs. These enterprises are a substitute for free trade (Rugman, 1979). If there is an imperfection in the goods market, such as a tariff, then free trade is replaced by the MNEs. A tariff imposed by a country to support its domestic industry will attract the subsidiaries of MNEs, since they can avoid the customs duty by replacing exports with host country production.

between these terms. MNEs refer to corporations which operate across international boundary, whereas TNEs refer to the composition of the staff of the company.

It cannot be denied that the role of direct foreign investment is crucial for developing countries. However, in recent decades, as the strength of the multinationals increased, government of developing countries sought counter-measures to increase their bargaining position with the multinationals and to reduce the level of foreign influence over their economies. While pushing these efforts at the national levels, they also tried to improve their leverage through joint international action, such as in Organization of Petroleum Exporting Countries (OPEC). A number of ways have been used in pursuit this objective. In many instances, state-owned enterprises have been accorded sole access to resources, with the authority to contract with foreign firms as needed to develop the resources (Dickie and Layman, 1988).

CHAPTER III

INDUSTRIAL SECTOR IN INDONESIA

3.1. AN OVERVIEW

Indonesia's economic performance over the past 25 years has until recently placed it in the ranks of one of the most successful developing countries. Economic growth has been strong, resulting in a significant reduction in poverty. Indonesia has also implemented structural reforms that have encouraged transformation from a natural resource-based economy to a diversified manufacturing economy. Before proceeding further, it is necessary to understand the historical background of the economy.

Prior to 1942, the Dutch were the primary capital investors in the Indonesian industrial sector. However, its exports were distracted by the Second World War, followed by the struggle for independence. After independence in 1945, several Dutch-owned enterprises were nationalized, such as in the mining, manufacturing, and agriculture sectors.

Following a failed *coup d'etat* by the Communist Party in 1965, the general economic conditions deteriorated, especially during the period of 1960 – 1966 when GDP grew at an average of only two percent per year. Investment in both

public and private sectors declined and economic infrastructure deteriorated. The situation became worse when, in this period, the government expanded its expenditures. As there was no commensurate increases in revenue, the result was growing budget deficits. The rate of inflation jumped to 635 percent within a year (Woo, Glassburner, and Nasution, 1994).

This period was also indicated by the backwardness of several economic indicators, such as a high inflation rate (as mentioned above), the drop of nominal value of exports by 24 percent since 1959, the fall of foreign exchange reserves from \$267 million (which equaled 6.7 months of imports) to only \$17 million, or 0.29 months of imports, and the low of real GDP growth in 1959 - 1965, which was only 1.8 percent per year (Woo, Glassburner, and Nasution, 1994). The following quotation captures the flavour of the seemingly hopeless situation in 1965:

Any person who entertains the idea that Indonesian society is experiencing a favourable economic situation is guilty of lack of intensive study...If we fulfill all our (foreign debt) obligations, we have no foreign exchange left to spend for our routine needs...In 1965 prices in general rose by more than 500 percent...In the 1950s the state budget sustained deficits of 10 to 30 percent receipts and in the 1960s it soared to more than 100 percent. In 1965 it even reached 300 percent (Hamengkubuwono IX)¹⁴.

After the “new order” took over the administration, the government adopted an economic stabilization policy. The policies in the first few years of the new order

¹⁴ Quoted from Hill, H., (1992: 55). Sultan Hamengkubuwono is one of few key figures in the New Order. In the past, prior to 1945, he was a King of Yogyakarta region. Following the independence, Yogyakarta became one of Indonesia's provinces, and he headed as its Governor. Later, in the period of 1978 - 1983 he was Indonesia's Vice President.

administration were a reduction in the inflation rate, the rehabilitation of the economic infrastructure, increased export production, and the provision of an adequate supply of food and clothing. Government expenditures were limited to a level, which could be financed by government revenue and international financial assistance. The administration removed restrictive controls over trade and foreign exchange and introduced a new financial exchange system which is based on a floating exchange rate. The government enacted new laws, such as foreign and domestic investment laws to provide incentives for new investments.

In these policies, the government also eliminated the fiscal deficit through cutting expenditures and passing the balanced-budget law, devaluing its exchange rate to a realistic level, and unifying the exchange rate system (Pangestu, 1996). Moreover, it also asked for financial assistance from developed countries. As a response, the International Monetary Fund (IMF) and Western countries coordinated by the Dutch, assisted Indonesia by establishing the Inter-Governmental Group on Indonesia (IGGI) to ease the dislocations caused by the structural adjustments.

In trade and industrial sectors, the state introduced an open door policy by eliminating import licensing system, reducing import protection, and abolishing domestic price controls. In 1966, Presidential decrees were promulgated to reinstate bank reserve requirements, raise interest rates, stop automatic central bank credits

to state enterprises, end subsidies for key consumer goods (Woo, Glassburner, and Nasution, 1994).

Industrialization has been an integral part of Indonesia's economic recovery and growth. In this period, the manufacturing sector consisted mainly of simple consumer goods and resource-processing activities. In the first decade after 1966, manufacturing products expanded and concentrated in a wide range of consumer and intermediate goods (first stage of ISI). Indonesia's industrialization, since 1966, was fuelled by the rapid import and dissemination of foreign technologies and products. The adoption of more liberal economic policies facilitated these imports, but they were hastened by the promulgation of the Foreign Investment Law of 1967¹⁵ (Hill, 1988).

These policies successfully overcame the economic problems and this success gave the government a chance to focus on economic activities by setting up a series of Five-Year Development Plans starting in 1969/1970, in which the economic management philosophy and objectives were set out in detail. The successive five-year plans have become an important feature of the New Order. These plans illustrated the thinking of the government and focused more on economics than the previous plans (Hill, 1988).

¹⁵ It was the *Undang Undang* (Foreign Investment Act) No. 1, 1967.

Those efforts also showed a positive result. The inflation rate decreased dramatically from 635 percent in 1965 to 6 percent in 1970, and budget deficits of GDP decreased from 5.7 percent in the period of 1963 - 1966 to 3.4 percent in 1967 - 1970 period. Export earnings increased by 10 percent per year during the stability period, and trade tax revenues climbed up from 0.4 billion rupiahs in 1965 to 6 billion rupiahs in 1966 and 13 billion rupiahs in 1967 (Woo, Glassburner, and Nasution, 1994). This success continued until 1984 when in the period 1967 - 1984 the Indonesian economy grew at a remarkable rate; with GDP increasing at an annual average rate of 8 percent (Hill, 1988)¹⁶. According to a survey conducted by the Economic and Social Commission for Asia and the Pacific (ESCAP) in 1997, average annual growth rate of real GDP in 1981 – 1990 was 5.7 percent and increased to 7.8 percent in 1991 – 1995.

3.2. THE INCREASE ROLE OF THE INDUSTRIAL SECTOR

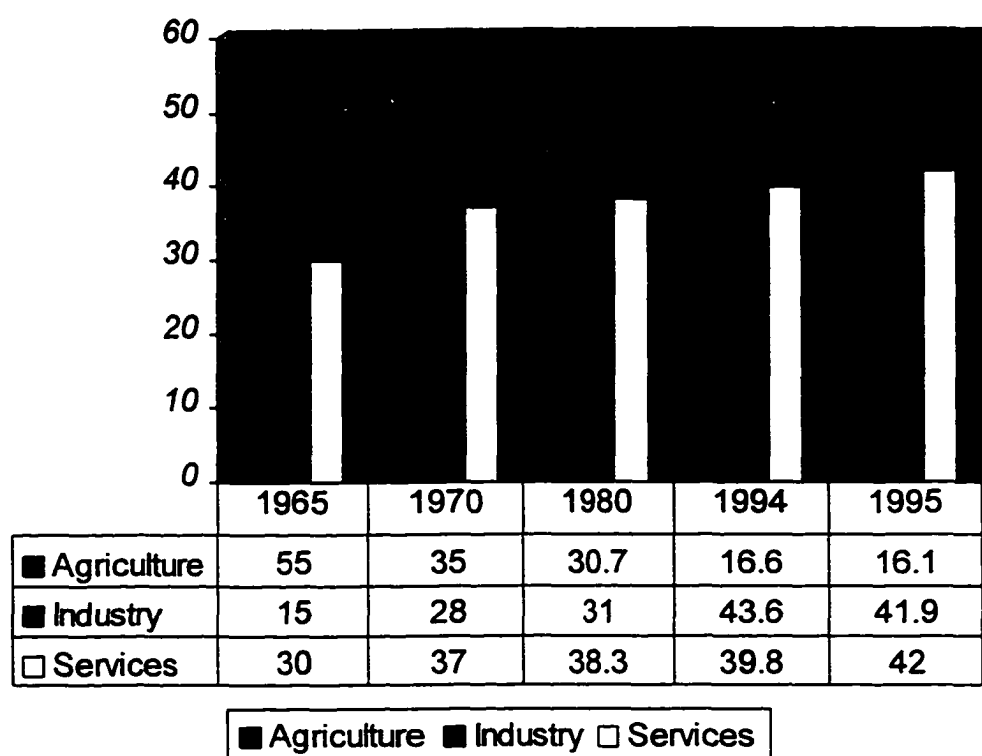
The economy of Indonesia is based on small-holder companies, agriculture, manufacturing, the exploitation of petroleum, natural gas and other mineral resources, and wholesale and retail trade. Agriculture's share in GDP has been decreasing. In 1995 the agricultural sector (including fishing) accounted for approximately 16 percent of Gross Domestic Product (GDP) down from 55 percent

¹⁶ A different figure was presented by Business Monitor International (BMI), which estimated that the growth of GDP averaged 6.6 percent annually in 1965-1973, and increased to 7.2 percent in 1973-1980.

in 1965 (Central Bureau of Statistics of Indonesia, various years). The industrial sector has continued to be one of the most rapidly growing major economic sectors. Its rapid growth has occurred in intermediate goods and contributed around 42 percent of GDP in 1995. Some of these industries have recorded extremely high growth rates, in many cases because of government policies. For example, the plywood industry expanded quickly until recently because of the government policy of imposing export substitution through the ban on log exports. Fertilizer production, dominated by state enterprises, also rose in the mid-1970s as the government recycled oil revenues into a capacity expansion.

As mentioned earlier, in 1965 the agricultural sector dominated the share of national exports. It accounted for 55 percent, while in the same period, that of the industrial sector was only 15 percent. However, the agricultural sector's contribution gradually decreased to 35 percent in 1970, a little over 30 percent in 1980, and around 16 percent in 1994 and 1995. On the contrary, the industrial sector's share has been increasing over time. It accounted for 28 percent in 1970, increased to 31 percent in 1980, jumped to around 43 percent in 1994, but dropped a little bit to around 42 percent in 1995 (Central Bureau of Statistics, 1997, and ESCAP Survey, 1997). Indonesia's sectoral share of GDP in 1970, 1980, 1994 and 1995 is shown in Figure 4 below. The principal manufactured goods produced and exported are textiles, plywood, processed foods, motor vehicles and electronic equipment, cement, fertilizers, and metals.

Figure 4. Sectoral Share of GDP (%) in 1965 - 1995.



Sources: Central Bureau of Statistics; Pangestu, 1996, processed;
 ESCAP Survey, 1997.

The increased importance of the industrial sector has resulted in manufactured goods becoming major export items. Historically, the oil and gas sector had been the greatest foreign exchange earner. This lasted until 1990 but its share has tended to decrease. In 1986 it contributed 56 percent towards total exports; decreased to 47 percent in 1987; decreased again to 40 percent in 1988; slightly dropped to 39 percent in 1989, and dropped again in 1991 to 37 percent. On the other side, the industrial sector tended to increase, replacing oil and gas as the main export earner. The industrial sector contributed 21 percent of total exports in 1986, increased to 39 percent in 1990, and in 1992 manufacturing export value, excluding agriculture and

mining exports, overtook that of oil and gas for the first time. Its export value was US\$ 19.61 billion and accounted for 57.7 percent of Indonesia's total exports, whereas the export revenue from oil and gas was only US\$ 10.7 billion or 31.4 percent of total exports. In 1996 industrial export value increased to US\$32.12 billion and accounted for 64.5 percent, whereas the export value of oil and gas was only US\$11.72 billion or 23.1 percent of total exports. Details of the export values of other sectors are shown in Table 1 below.

Table 1. Exports (US\$ billions) and Growth rates - Oil and Non-Oil Commodities, 1992 – 1996.

	1992	1993	Gr'th (%)	1994	Gr'th (%)	1995	Gr'th (%)	1996	Gr'th (%)
Oil and Gas	10.67	9.74	(8.7)	9.69	(0.5)	10.46	8.0	11.72	12.0
Crude Oil	5.39	4.78	(11.5)	5.07	6.1	5.14	1.5	5.71	11.0
Ref. Oil	1.22	0.91	(25.1)	0.93	2.0	1.29	39.0	1.51	16.9
LNG	4.05	4.05	0.0	3.68	(9.0)	4.02	9.0	4.49	11.7
Non Oil and Gas	23.29	27.07	16.2	30.36	12.1	34.95	15.1	38.09	9.0
Agriculture	2.22	2.62	19.5	2.81	6.6	2.87	2.5	2.91	1.0
Mining	1.47	1.48	1.3	1.84	23.5	2.74	48.9	3.05	11.7
Industry	19.61	22.94	17.0	25.70	12.0	29.33	14.1	32.12	9.5
Other	-	-	-	-	-	-	-	-	-
Export Total	33.97	36.82	8.4	40.05	8.8	45.42	13.4	49.81	9.7

Source: The Ministry of Industry and Trade, 1997.

The success of the industrial sector has continued as indicated by the increased contribution of manufacture exports. The rapid growth of the industrial sector and the slower growth of the agricultural sector have led to an increase contribution of manufacturing in non-oil exports. For the first time, in 1991, the share of

manufacturing to GDP surpassed that of agriculture. The manufacturing share was 22 percent whereas that of agriculture was 19.9 percent (Pangestu. 1996). As an illustration, achievements of economic performance during 1991 - 1995 can be seen in Table 2 follows.

Table 2. Indonesia's Key Economic Statistics 1991-1995

	1991	1992	1993	1994	1995
Real GDP % of change	7.0	6.5	6.5	7.3	6.8
Agriculture %change	0.2	3.8	3.5	-4.2	3.3
Industry %change	9.8	8.6	11.9	11.0	11.5
Construction %change	4.2	11.9	17.9	14.0	18.1
Price inflation (%)	9.4	7.6	9.2	8.6	9.7
Exports (US\$ million)	29,635.0	33,796.0	36,820.0	40,060.0	44,000.0
Imports (US\$ million)	24,834.0	26,774.0	28,330.0	31,880.0	35,000.0
Trade balance (US\$ million)	4,801.0	7,022.0	8,490.0	8,180.0	9,400.0

Source: The Ministry of Industry and Trade, 1997; and
Central Bureau of Statistics of Indonesia, 1997.

3.3. INDUSTRIAL POLICY IN REPELITA VI

Since the last three decades, starting in the late 1950s, Indonesia's economy has undergone several policy changes. Shortly after its independence to the year 1965, Indonesia experienced a 'guided economy', in which government had full control over private domestic, and foreign investment. This was followed by the period of 'rehabilitation' and 'stabilization'. The oil boom period, 1974 - 1981, influenced the change of Indonesia's economic policies.

The industrialization policy shifted from inward-oriented to outward-oriented, following the shocks in 1980s. Entering the 1990s, Indonesia has focused more on the outward oriented industrialization policy and is still applying protection to several domestic industries, such as in automotive, and wood and rattan products.

In many developing countries, including Indonesia, one of several main aims of industrialization is substituting import goods with domestic production. Meanwhile a rapidly expanding manufacturing sector often calls for increasing imports of manufactured intermediates and capital goods. In turn, the promotion of exports can be expected to contribute to the development of the industrial sector (Kuyvanhoven, et.al., 1992). Table 3 presents the summary of the changes in Indonesia's economy and industrial policy.

Table 3. Changes in Policy Direction in Industrial Sector, 1956 - 1998

Period	Environment Changes	Industrial and Trade	Government Regulation
1956-1965 Guided Economy	Political instability	Strongly inward looking oriented	Nationalization, state dominated economy, strict control over private, domestic and foreign investment
1967-1973 New Order (Rehabilitation & Stabilization)	Open capital account after having instability economy with hyperinflation	Moderately out-ward looking oriented (beginning of import substitution)	Liberalization of domestic and foreign investment; nationalization of some State Own Enterprises (SOEs)
1974-1981 Oil boom	Sharp increase in oil prices (1973 and 1979); non oil commodity boom	Growing inward orientation (ISI)	Increasing share of public investment and SOEs; growing restrictions on foreign and domestic investment
1982-1985 First external shock	Decline in oil prices and primary commodities	Strongly inward oriented; proliferation of non-tariff barriers	Continued reliance on SOEs and regulation of market economy
1986-1988 Second external shock	Sharp decline in oil prices and continued decline in primary product prices; Yen appreciation, internal debt	Shift to outward oriented economy	Deregulation of customs and imports; relaxation of foreign and domestic investment regulations; reduce reliance on SOEs and public investment
1988-1993 Non-oil led recovery	Stable oil prices; further decline in primary product prices	Further shift to outward oriented economy	Deregulation extended to investment, finance, maritime and other areas; initial steps towards SOEs reforms
1994 - present Third external shock (Monetary crisis)*	The effects of <i>Baht</i> depreciation on the economy of regional countries; <i>Rupiah</i> depreciation, high inflation and interest rates	Maintaining outward orientation but interrupted by the crisis; some industries have been collapsed; increase restriction on raw material exports.	Deregulation extended to many sectors; asking IMF for financial assistance; project rescheduling; liquidation of some SOEs

Source: Pangestu, (1993): 254 and additional information from the recent events.

* This section is courtesy of Prasilowati, S.L.

Indonesia's current economic strategy was laid out in the Sixth Five-Year Plan (*Repelita VI*), which came into effect on April 1, 1994. The *Repelita VI* represents the first stage of the 25-year Second Long-Term Development Planning (*PJP II*)¹⁷.

In the industrial sector, the government established a policy framework with the fundamental aim to establish a modern industrialized economy by stimulating the growth of competitive small- and medium-scale industries. This in turn, served as the industrial backbone of the economy, and linkages between large, medium, and small-scale industries will be developed through mutually profitable business partnership. This included the development of regulatory support and business partnership institutions. For example, the development of craft and home industries will be encouraged through the establishment of various industrial centres.

The objectives of industrial development are to strengthen the national economy by creating forward and backward linkages between sectors, improving the resilience of the national economy, expanding employment and business opportunities, and promoting the growth of all sectors of the economy. Industrial development in *Repelita VI* will be encouraged toward self-reliance and improved competitiveness, both in domestic and foreign markets, while maintaining the sustainable environment.

¹⁷ *PJP*, an Indonesian term for *Pembangunan Jangka Panjang*.

This means that the industrial sector will be the main vehicle for stimulating economic development. To become the main vehicle of economic development, the industrial sector should be boosted in order to increase growth rate, technological capabilities, and utilization of economic resources and efficiency of industry. In turn, this will lead to the strengthening of the industrial structure. The government has also made several efforts, such as improving industrial competitiveness and encouraging the ability to produce high quality products, which have the capability to penetrate international markets, to promote the growth of small- and medium-scale industries, and to broaden the regional distribution of industry, particularly in the eastern part of Indonesia (Department of Information of Indonesia, 1994). At present, the industrial establishment is not evenly distributed. The main concentration has been in the western part of Indonesia, namely in Java, Sumatera, Kalimantan and Sulawesi islands. By dispersing the industrial centres to remote provinces, the centres of economic growth and potential can be spread evenly. Thus in turn, reducing the inequity among provinces.

The government has great expectations for the industrial sector. This can be seen in the government's estimation on the role of industry in the economic development. As we have seen earlier, the government is gradually reducing the contribution of oil and gas to the economy. The industrial sector, which includes oil and non-oil and gas manufacturing, is expected to grow at an average of 10.2 percent annually. However, non-oil and gas manufacturing is estimated to grow at 11.3 percent per

year. The contribution from manufacturing as a whole to GDP will increase from 20.8 percent at the end of *Repelita V* to 25.9 percent at the end of *Repelita VI*. The contribution of non-oil manufacturing will increase from 17.6 percent to 21.3 percent (The Ministry of Industry and Trade, Data Processing and Analyzing Centre, 1997). Along with the increase in industrial production, exports of manufacturing products, non-oil and gas, and total exports are expected to be US\$ 42.5 billion, US\$ 50.0 billion, and US\$ 60.0 billion, respectively at the end of *Repelita VI*.

3.4. TRADE IN MANUFACTURING

The manufacturing sector experienced rapid growth throughout the period of 1965 – 1990 with an average annual growth rate of 12 percent and with the share of manufacturing of GDP more than doubling from 8.5 percent in 1965 to 22 percent in 1991 (Pangestu, 1993).

There were several factors involved in manufacturing's rapid growth. One has been the role of the government (Woo, et. al., 1990 and Pangestu, 1993). In the stabilization phase during the 'New Order' period, deregulation measures stimulated private investment and manufacturing growth. The growth of the industrial sector in 1973 – 1983 can be said to derive from the implementation of import substitution policies combined with regulations on investment and

increasing state ownership. Government interventions were in the form of incentives to infant industries, increasing value added (such as by imposing a log exports ban to encourage the plywood industry), increasing linkages (such as by regulating domestic or local content in automotive industry), and deepening the industrial structure (Pangestu, 1993).

3.4.1. Export of Manufactures

In this thesis manufacturing is classified as commodities which are included in the International Standard for Industrial Codes (ISIC) between, numbers 31 and 39. They are food, beverages and tobacco (31), textiles (32), wood products (33), paper and printing (34), chemicals (petroleum products) (35), non-metallic mineral products (36), basic metals (37), metal products and machines (38), and other manufactures (39) (Kuyvanhoven, et. al., 1992).

The development of manufactured exports went through different phases. During the first-half decade of the 1970s, the manufactured exports declined. There were several causes for this including the increase of oil exports, the decrease of the output of the manufacturing sector, and the decrease of exports of basic agro-processing industries.

The diminished importance of manufactured exports during the first half of the 1970s was related to the development of import substitution industrialization

strategies (Kuyvanhoven, et.al., 1992). In this sense, production for an increasingly large domestic market was easy and profitable. Besides, it was also geared to the fact that Indonesia's competitiveness in the international market gradually declined.

The export of manufactured goods improved during the late 1970s. This included the share of manufactures in total exports and the share of manufactured exports in the output of the manufacturing sector. Even though during this period import-substitution industrialization development strategy applied, the promotion of exports was also given higher priority.

3.4.2. The Period of 1970 - 1985

Prior to 1986, as the take-off in export of manufacturing goods occurred, Indonesia's export goods were mainly resource based (agricultural, minerals and other raw materials). For example, in 1970 the resource based goods contributed 60 percent of out put and 90 percent of exports (Pangestu, 1993). During the period of 1970 – 1985, crumb rubber was the most important export commodity among basic agro-processing industries, which accounted for 76 percent of total agricultural exports. Another important commodity was saw milling and its export share increased from 5 percent in 1975 to 15 percent in 1980.

In the manufactured commodities, non-ferrous metals were the most important export commodity. Their share of manufactured exports was 39 percent in 1980.

Plywood exports also expanded considerably between 1975 –1980. With its export share increasing to 19 percent of manufactured exports. Textiles, including garments and clothing, accounted for 9 percent of manufactured exports. There were also new comers to the exporting scene including electronics and electrical appliances which contributed 6 percent of manufactured exports. Table 4 shows the export performance of selected manufactures the period 1980 – 1985. It can be seen that exports of most products increased, even though there was some fluctuations. However, we can note in particular a dramatic increase was experienced by plywood and wood products, textiles, pulp and paper, and machines and appliances.

Table 4. Exports of Selected Industrial Products, 1981 - 1986 (US\$ millions)

	1981	1982	1983	1984	1985	1986
Plywood	161.4	269.9	509.4	667.9	824.7	1,002.4
Sawn-wood	220.1	233.8	257.1	282.2	307.2	360.1
Other wood prods.	35.8	40.9	34.1	43.7	52.9	55.4
Basic metal goods	604.3	508.2	576.5	599.9	603.2	444.8
Palm oil	106.9	96.2	111.5	63.3	166.2	112.9
Processed rubber	811.8	570.7	804.6	909.5	683.3	682.9
Leather goods	28.7	29.8	28.7	42.1	44.1	49.1
Fertilizer	4.3	10.1	46.8	37.3	80.0	127.3
Animal feed	88.4	74.2	86.4	66.4	67.8	73.5
Processed food	64.3	54.7	70.1	61.2	56.7	81.5
Paper products	0.7	2.7	5.9	20.6	20.9	31.7
Chemicals products	30.4	14.8	19.2	47.2	56.7	51.9
Textiles	125.8	151.3	267.8	483.9	559.3	797.5
Cement	19.2	8.4	7.2	12.5	21.5	39.8
Electrical app.	86.1	129.2	144.7	168.9	144.0	97.7
Other industrial goods	278.7	271.4	249.8	475.9	557.4	527.4
Total	2,666.6	2,466.1	3,219.7	3,982.5	4,245.9	4,508.4

Source: Central Bureau of Statistics/BPS, 1997.

3.4.3. Broad Spectrum and Competitive Advantage

In the last decade, the government has assisted in the establishment of a *broad-spectrum* of industries oriented towards the international market. In this policy, the government, through the Ministry of Industry has encouraged the export of any kind of commodities, which possessed any value. The purpose was twofold: to earn more foreign exchange, and to find other markets as well, since the domestic market was almost saturated. The new or non-traditional markets included countries in Eastern Europe, Middle East, North and South Africa, and Latin America.

In anticipating the increase demand from the new markets, the government supports the improvement of natural resource intensive industries with rising technological levels, labour intensive industries and technology intensive industries. The Government encourages domestic companies to increase their international market by removing or reducing fees on exports and import taxes, such as on wood and rattan products. The government has also taken other efforts, such as to develop industries, which relied mostly on the market mechanism with the private sectors in the lead. Moreover, government supports industries, which emphasize growth and income distribution by giving priority to them to grow quickly and increase the participation of the broader community.

The role of multinational corporations has also been taken into consideration, in terms of the technologies they bring into Indonesia. Transfer of technology can be

done in the form of training (formal, on the job, learning by doing and special training courses). According to Hill (1988), the productivity of Indonesian labour and management has been improved by their association with foreign companies.

As if as a response to the government's expectations, more 'new comers' to the export markets have emerged, including most of the handicraft, and small-scale products (jewelry and coffins). As a result, the revenues from exports increased considerably. For example, export values of manufactures in 1980 which were at US\$ 958 million, increased to over US\$ 3.01 billion in 1985, climbed up in 1990 to US\$ 9.95 billion, and 1996 increased dramatically to US\$ 32.12 billion. However, the 1996 growth, 9.51 percent, was lower than that in 1995, in which manufacturing exports grew at 14.1 percent. The development of the major export commodities in 1986 to 1991 is shown in Table 5 below, and for 1992 to 1996 is in Table 6.

Table 5. Industrial Export Performance, during 1986 – 1991 (US\$ billions)

		1986	1987	1988	1989	1990	1991
1	Crude materials	11.66	12.32	12.53	13.79	15.73	16.33
2	Primary/ agriculture	3.39	3.76	4.85	5.11	4.65	5.43
3	Industrial Products	3.14	4.82	6.69	8.36	9.95	12.81
	Textile	0.83	1.06	1.48	2.01	2.89	4.02
	Plywood	1.14	1.92	2.30	2.54	3.06	3.29
	Veg. Oil and fat	0.12	0.23	0.46	0.41	0.33	0.47
	Base metals	0.35	0.41	0.54	0.68	0.46	0.38
	Pulp and paper	0.03	0.09	0.09	0.08	0.08	0.26
	Iron and steel	0.07	0.19	0.27	0.41	0.24	0.29
	Glassware	0.01	0.03	0.09	0.08	0.08	0.09
	Other industrial	0.59	0.89	1.46	2.15	2.81	4.01
4	Non-oil and gas	6.53	8.58	11.54	13.47	14.60	18.24
	TOTAL	14.81	17.14	19.22	22.16	25.68	29.14

Source: Central Bureau of Statistics/BPS, various years, compiled by the Ministry of Industry and Trade, 1997.

Entering the 1990s, in order to increase national foreign exchange revenues, the government established a 'competitive advantage' policy to support the 'broad spectrum' policy. The Ministry of Industry and Trade set up a policy to choose non-oil commodities which would be capable of competing in the global market without neglecting the existing export commodities. There were several criteria for selecting those commodities. They had to possess comparative advantages, a high local content, high export values and export growth rates. (The Ministry of Industry and Trade, 1997).

Based on those criteria, ten commodities were selected and they were: textiles, wood-based products, electronics, leather products and shoes, palm oil products, rubber products, steel, machinery and automotive, pulp and paper, jewelry, and basic chemical products. In encouraging the 'competitive' commodities and those that can penetrate new markets the government has set forth several measures, such as by giving 'special treatment' (known as *super highway*) in the form of tax-holidays, custom clearance, tax restitution, export credits, a fast drawback system from *BAPEKSTA*¹⁸, and awarding them with *Primaniyarta Award*¹⁹ (The Ministry of Industry and Trade)

¹⁸ *Badan Pelayanan Ekspor dan Pengolahan Data* (Data Processing and Export Services Board) is a government agency under The Ministry of Finance, which has an authoritative in dealing with such a matter.

¹⁹ It is a President's Award given yearly by the President of Indonesia to exporters and/or exporting producers for their achievement in exports.

As shown in Table 6, exports of competitive commodities have been increasing substantially, leading to oil and gas, and primary commodities. Exports of electronic products, leather, vegetable oil and fats, rubber, iron/steel and automotive, and chemical products have been increasing. However, the two top foreign exchange earners, textiles and wood products have experienced some volatility. Exports of textiles increased until 1993, then slowed in 1994, but improved again in the following years. A similar case was experienced by wood products.

Table 6. Industrial Commodities Export Performance, during 1992 – 1996
(US\$ billions)

NO		1992	1993	1994	1995	1996
1	Oil and Gas	10.50	9.74	9.69	10.32	9.90
2	Primary/Agric. products	3.43	3.79	4.67	6.31	10.18
3	Industrial Products	19.86	23.29	25.70	29.33	32.12
	Textiles	5.95	6.05	5.64	6.05	6.42
	Plywood/wood products *)	4.40	5.84	5.63	5.50	5.74
	Electronics	1.03	1.51	2.33	2.94	3.81
	Leather products/shoes	1.55	1.90	2.15	2.34	2.45
	Veg. oil and fat	0.82	0.92	1.49	1.50	1.70
	Rubber products	1.13	1.07	1.39	2.19	2.23
	Iron, steel, automotive	0.27	0.31	0.31	0.87	1.61
	Pulp and paper	0.39	0.54	0.73	1.45	1.39
	Gold, silvers, jewelry	0.25	0.42	0.87	0.38	0.62
	Chemical products	0.29	0.34	0.42	0.76	0.89
	Other industrial prods.	3.78	4.39	4.74	5.35	5.26
	TOTAL	33.79	36.82	40.06	45.96	52.20

Source: The Ministry of Industry and Trade, 1997;
Central Bureau of Statistics/BPS, various years.

*) Includes saw milling, furniture and other wood products.

Textiles, and plywood and wood products have been taking an important role in industrial export performance. Textiles' shares in 1992 and 1996 were over 29 percent and 19.9 percent of industrial exports, respectively. In terms of total national exports, it accounted for 17.6 percent of total national exports in 1992 and 12.3 percent in 1996. Plywood and wood products followed as the second largest exports earner. It contributed 22 percent in 1992 and 17.87 percent of industrial export products in 1992 and 1996, respectively, whereas its contribution to total national exports was over 13 percent and 10 percent in 1992 and 1996, respectively.

Other commodities, although showing increases in both absolute volume and shares of export overtime, the latter was still low compared to those two commodities. Three products are worth noting in this respect. Electronics products contributed 5 percent in 1992 and this increased to 11.86 percent in 1996 of industrial exports. Leather and leather products contributed 7.8 percent in 1992 and 7.6 percent in 1996, rubber products contributed 5.7 percent in 1992, increased to 6.9 percent in 1996.

In general, the exports of textiles have experienced growth at an average 2.07 percent per year during 1992 - 1996 period; plywood and wood products at 7.8 percent, electronics at 34.76 percent, leather and leather products at 12.19 percent, vegetable oil and fats at 41.7 percent, gold, silver and jewelry at over 44 percent and chemical products at 29.26 percent.

The evidence is clear that the export of manufactures has been increasing and have left oil and gas, and primary and agricultural products exports far behind as shown in Figures 5, 6 and 7. Turning to the imports of these commodities, as we would expect, they are low compared to Indonesia's exports, Table 7 provides the data on the import performance of selected industrial products.

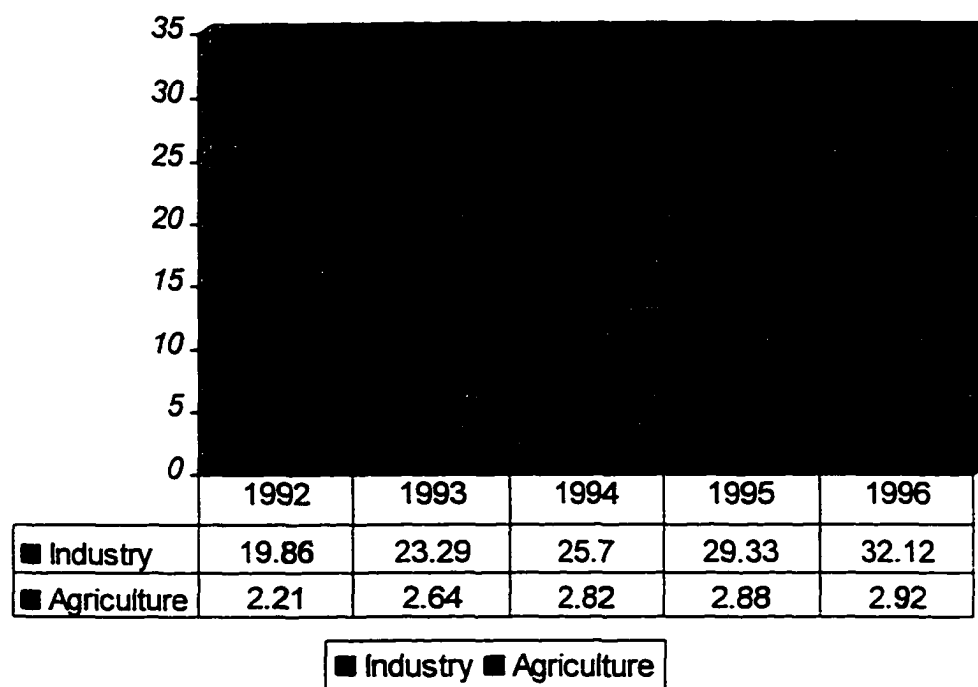
Table 7. Selected Industrial Commodities Imports Performance, during 1992 – 1996 (US\$ millions)

	1992	1993	1994	1995	1996
Textiles	1,334.90	1,374.59	1,424.67	1,655.62	1,576.98
Plywood/wood products *)	41.33	45.32	63.95	73.59	76.48
Electronics	2,138.31	2,457.31	2,234.26	3,085.84	3,646.34
Leather products/shoes	379.16	434.39	497.63	487.98	2730.24
Veg. oil and fat	148.96	104.62	109.92	92.43	86.01
Rubber products	99.87	91.96	119.78	165.23	202.88
Pulp and paper	700.42	759.00	918.26	1274.14	1019.12
Gold, silvers, jewelry	4.84	3.55	8.41	19.03	22.31
Chemical products	2,912.91	3,091.80	3,760.17	4,974.10	4,197.84
Other products	20,903.8	19,533.23	22,153.85	27,449.41	38,612.64
TOTAL	27,283.00	28,333.00	31,880.00	40,640.00	45,900.00

Source: Central Bureau of Statistics/BPS, various years.
compiled by the Ministry of Industry and Trade, 1997.

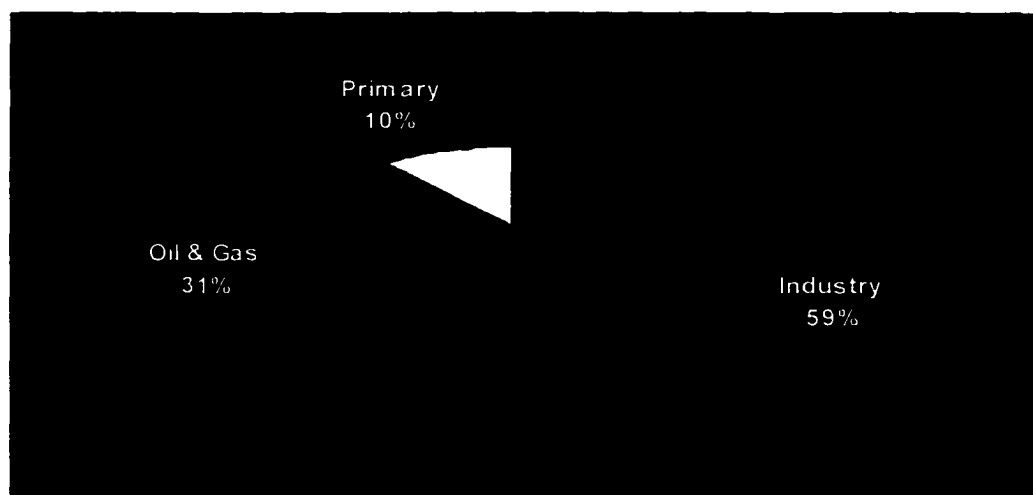
*) Includes saw milling, furniture and other wood products.

Figure 5. Industry and Agriculture Exports Performance, 1992 – 1996
(US\$ billions)



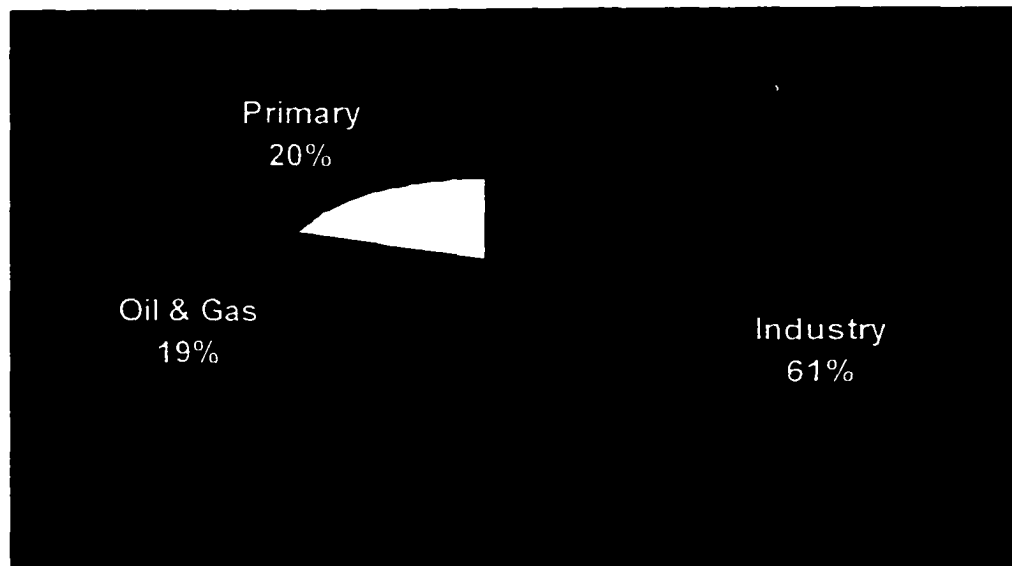
Source: Central Bureau of Statistics/BPS, 1977.

Figure 6. Industrial, Oil and Gas, and Primary Products Export, 1992
(US\$ billions)



Source: Central Bureau of Statistics/BPS, 1997.

**Figure 7. Industry, Oil and Gas, and Primary Products Export, 1996
(US\$ billions)**



Source: Central Bureau of Statistics/BPS, 1997.

3.4.4. Trade Orientation

The purpose for including the data in Table 7 is that these data can be used to determine whether a sector is predominantly import or export oriented. A net adjusted index (R), can be used for this purpose and it is defined as the share of a sector's exports to total exports compared with the sector's share of imports in total imports (Kuyvanhoven, et.al., 1992). The equation is:

$$R = \frac{X_i}{X} - \frac{M_i}{M} \quad (1)$$

Where:

R : the value of an index
M : total imports
X : total exports
i : indicates a particular sector

The index is also a measure of revealed comparative advantage. The value of index 'R' can range from +1 to -1 so, it means that if a sector has a positive R, it has a comparative advantage and vice versa. Moreover, Kuyvanhoven stated that a sector is defined to have a 'substantial' comparative advantage if the size of R is equal to or greater than 0.01, while a sector has a substantial comparative disadvantage if its R is equal to or smaller than - 0.01.

Based on the export and import data in the industrial sector during the period of 1992 - 1996, it can be seen that several commodities have a substantial comparative advantage. Sectors that reached the status of substantial comparative advantage during the period of 1992 to 1996 include textiles, plywood and wood products, vegetable oil and fats, and rubber products (see Table 8). Meanwhile the net trade index for gold, silver and jewelry fluctuated. Until 1995, leather and leather products were a net exporter with an R of over 0.01. However, its trade index in 1996 declined due to its high imports of tanned leather.

Table 8. Net Trade Index for Selected Industrial Commodities, 1992 – 1996^{*)}

	1992	1993	1994	1995	1996
Textiles	0.12715	0.13053	0.09610	0.09089	0.08863
Plywood/wood products	0.12870	0.15700	0.13853	0.11785	0.10829
Electronics	-0.04954	-0.04571	-0.01192	-0.01196	-0.00645
Leather products/shoes	0.03197	0.03627	0.03806	0.03890	-0.01254
Veg. oil and fat	0.18807	0.02129	0.03374	0.03036	0.03069
Rubber products	0.29781	0.02581	0.03094	0.04358	0.03830
Pulp and paper	-0.01413	-0.01212	-0.01058	-0.00019	-0.00385
Gold, silvers, jewelry	0.00722	0.01128	0.02145	0.00779	0.01139
Chemical products	-0.09818	-0.00998	-0.01074	-0.10585	-0.07440

^{*)} Calculated by using data from Tables 6 and 7.

3.5. EMPLOYMENT IN MANUFACTURING

The data for manufacturing employment can be derived from censuses in 1982 *Susenas*, and in 1986, 1987, 1988 *Sakernas*²⁰. Until the end of the 1980s, the features of manufacturing employment in the factory workforce was relatively small, in spite of the rapid growth in manufacturing since the late 1960s. According to Kuyvanhoven, et.al. (1992), in 1971 the number of people working in the manufacturing sector was 3.1 million or 7.8 percent of total employed. It increased to 4.7 million in 1980 or around 9 percent of total employment, or at the annual growth rate of 4.6 percent. This growth in employment took place primarily in urban areas. In 1971 – 1980, the average employment growth in manufacturing in urban areas was 8.5 percent. It was relatively high compared to that in rural areas,

²⁰ Indonesian's terms for censuses; *Susenas* (*Sensus Ekonomi Sosial Nasional* or National Social and Economic Census), and *Sakernas* (*Survei Angkatan Kerja Nasional* or National Labour Force Survey).

which was only 4.2 percent (Kuyvanhoven, et.al., 1992). Meanwhile Hill (1990) recorded that in 1985, among large and medium firms the labour force amounted to 1.9 million. This was only 3 percent of total employment in 1985, which showed the limited employment absorptive capacity of the factory sector.

Another feature is that some of the highly capital-intensive, state-owned heavy processing industries (oil and basic metals), employ very little labour. Nevertheless, four of the major industries, in terms of output, also dominated employment. Textiles, tobacco, wood products and food products accounted for over one-half of total employment in manufacturing sector (Hill, 1990). However, it is obvious that employment growth in the factory sector accelerated after 1970. In 1963 - 1975 periods, its annual growth was 4.2 percent, increasing to 5.6 percent in the 1975 - 1986.

It is worth noting that since the last decade, wage employment has shifted mainly from agriculture to the manufacturing sector (Table 9). In 1982, the manufacturing sector accounted for 13.5 percent of total wage employment and by 1988 had risen to 17.6 percent. The share of agriculture has decreased from 36.8 percent to 22.4 percent during the 1982 – 1988 period with the service sector absorbing most of that increase rather than the manufacturing sector. The service sector's share increased from 26.7 percent in 1982 to 44.5 percent by 1988. One of the reasons was that the growth of employment in manufacturing was mainly concentrated in

urban labour areas, whereas that in service sector in both urban and rural market areas (Pangestu, and Oey-Gardiner, 1993).

Table 9. Distribution of Wage Employment by Industry in 1982 - 1988 (percent)

	1982	1986	1987	1988
Agriculture	36.8	20.1	21.3	22.4
Manufacturing	13.5	17.7	17.0	17.6
Trade	5.2	4.5	5.1	5.0
Service	26.7	41.5	44.9	44.5
Others	17.8	16.1	11.6	10.6
Total	100.0	100.0	100.0	100.0

Source: *Susenas*, 1982, *Sakernas*: 1986, 1987, 1988.

Another interesting phenomenon is in the structure of employment. The employment structure has changed from agriculture to manufacturing and services. This indicates that the structure of education and training for the workers also needs to be changed. In turn, the growth in employment in manufacturing and services in urban areas has increased the demand for training by enterprises with a consequential increase in labour productivity, which is very crucial for industrial development in Indonesia.

In terms of wages, the average monthly earnings declined relative to that of agriculture (Table 10). In the trade sector, the average monthly wages were relatively stable in comparison to wages in agriculture.

Table 10. Average Monthly Wages by Economic Sector as A Ratio of Agricultural Wages in 1982 - 1988.

	1982	1986	1987	1988
Agriculture	100	100	100	100
Manufacturing	206	199	196	186
Trade	214	214	225	215
Service	295	263	259	241
Others	229	267	252	240

Source: *Susen*, 1982, *Sakernas*: 1986, 1987, 1988.

The growth of employment in the large and medium industries from 1989 to 1995 is shown in Table 11.

Table 11. Employment in Large and Medium Industries, 1989 - 1995
(thousands of workers)

ISIC	1989	1990	1991	1992	1993	1994	1995
31	588.7	615.4	643.1	668.5	718.1	692.4	884.5
32	559.3	732.0	907.2	1,055.8	1,151.9	1,301.1	1,312.8
33	344.1	406.2	445.3	476.1	504.7	393.5	538.9
34	74.9	88.9	104.3	119.6	123.2	112.8	149.0
35	315.1	381.8	376.0	425.2	437.7	441.4	472.3
36	108.9	114.1	129.8	136.5	151.5	129.8	179.8
37	21.2	32.7	37.5	39.7	43.3	31.6	97.8
38	224.6	261.1	305.2	330.2	367.1	346.8	449.6
39	22.2	30.6	45.8	61.3	77.1	55.6	77.9
TOTAL	2,259.2	1,662.8	1,993.9	3,312.9	3,574.8	3,504.9	4,162.9

Source: Central Bureau of Statistics, compiled by the Ministry of Industry and Trade, 1997.

It can be seen from Table 11 above that labour intensive industries have been dominating the absorption of employment in the manufacturing sector. The textiles industry (32) has been in the lead in the employment absorption. In 1990 it contributed 44.02 percent of total employment in large and medium industries,

increasing to over 45 percent in 1991, decreasing to 32.22 percent in 1993, and dropping again to 31.53 percent in 1995. However, its share is still the highest among other sectors. Second in the lead is the tobacco industry (31), particularly the cigarette industry, which contributed 37.01 percent in 1990, decreasing to over 32 percent and 20.03 percent in 1991 and 1993, respectively, but increasing again to 21.25 percent in 1995. There are two kinds of cigarettes in Indonesia. The first is made by machines (*SKM*), and the second is manually hand-made (*SKT*)²¹. In order to absorb more employment, the government has imposed a regulation to cigarettes companies. The regulation says that there is a ratio 3 to 2 for producing cigarettes. It means that a cigarette company can only be established if it produces cigarettes in the ratio of 3 *SKMs* and 2 *SKTs*.

Another labour intensive industry is plywood and wood industry (33). In 1990, it shared 24.43 percent of total employment in large and medium industries. As is the case of the two leaders mentioned before, its contribution also decreased to 22.33 percent in 1991, decreased again in 1993 to 14.12 percent, and down to 12.94 percent in 1995. One of the reasons is that most plywood and wood industry (furniture and plywood industries, for instance) have modernized. This will be discussed later in Chapter 4.

²¹ *SKM* stands for Sigaret Kretek Mesin, means cigarettes, which are made using machines. While *SKT* is short from Sigaret Kretek Tangan, which are made manually using hand.

The contribution of other sub-sectors in employment absorption, such as chemical products (35) and metal products (38), has been high. In 1995, chemical products contributed 11.34 percent of total employment in large and medium industries. Meanwhile that of the metal product industry accounted for 10.8 percent.

The average annual growth of employment in the industrial sector during the periods of 1989 to 1995 is over 14 percent, which is higher than that in the previous periods. Those figures do not include employment in small-scale industries. With the total of more than 2 million units, it employed almost 7.5 million workers in 1993. In 1994, its employment increased to 7.67 million an increase of 2.6 percent.

During *Repelita VI*, the government expected to increase the labour force by over than 9 million to more than 90 million in total workforce absorbed by the industrial sector at the end of *Repelita VI*. The total breakdown of targeted labour force in each sector is shown in Table 12 below.

Table 12. Labour Force Absorption During *REPELITA VI*
(thousands of workers)

	<i>REPELITA VI</i>	
	Expected Addition During	At the End of
Industry	3,020.0	12,960.0
Agriculture	2,835.0	38,373.0
Trade	2,200.0	13,917.0
Mining	147.0	989.0
Tourism, Postal and Telecommunication	944.6	not available
National	9,146.6	90,726.0

Source: *Repelita VI*, compiled by the Ministry of Industry and Trade.

The success of industrial development can be measured by the creation of employment in manufacturing sector. This is true, as has been stipulated in the Guidelines of the State Policy 1993 that one of main objectives in the industrial development is to absorb more employment in the manufacturing sector by establishing more labour intensive industries.

During *Repelita VI*, the industrial sector is expected to absorb more than 3 million employees to become over 12 million at the end of *Repelita VI*. While the figure for the trade sector is around 2.2 million in the same period²².

In sum, the state has taken efforts to increase the role of the industrial sector as the main vehicle to economic development. To attract more foreign investment the government has set up several regulation packages. Through Government Regulation (*PP*) No. 20, 1994 and *PP* No. 54, in 1996 the government has given more opportunities to foreign investment, followed by *May Package 1995*, and *June Package 1996*, the government is gradually reducing tariffs on manufactured products.

²² Taken from the Ministry of Industry and Trade, since this figure is part of industrial targets during *Pelita VI*.

3.6. CURRENT ECONOMIC SITUATION

Indonesia's economy has changed dramatically. In the middle of 1997, Indonesia faced an economic crisis, which is badly impact on almost every sector. The crisis, partly being caused by the depreciation of Thailand *baht* to the US dollar, spread to other Southeast Asian and almost all East Asian countries giving a domino effect. However, the impact on Indonesian economy looks worse. There are debates concerning the cause of the financial crisis. Hedge fund speculators are blamed as the cause of the drastic decline of domestic currencies to American dollar, others blamed the weaknesses of economic fundamental. This section will not deal with the causes of the crisis; instead it deals with the current economic situation in Indonesia, including its impact on the manufacturing sector. The discussion will be based on the scholars' opinion in viewing such a matter.

Only in six months *rupiah* value, the country's currency, weakened and dropped to over 500 percent, from Rp. 2,450/US dollar in July 1997 to Rp. 15,000/US dollar in the end of 1997²³. Many efforts have been taken to stabilize this currency, including the intervention of the central bank, government announcement, and finally ask the IMF for financial assistance. Since the commitment of the IMF to give a loan of US\$ 43 billion, the financial assistance from other neighbouring countries, and other deregulation measures in exports and imports facilities; in the middle of

²³ However, the value of *Rupiah* strengthened at the end of March 1988, which US\$ 1 = Rp. 9,800.

March, 1998 the *rupiah* strengthened to approximately Rp. 9,000 – Rp. 10,000/US dollar. It is worth noting that in March 1 – 11, 1998, Indonesia conducted the People's Representative Assembly Conference to choose the president. This in part also made the *rupiah* worse and difficult to strengthen.

No doubt most economic actors, including the manufacturing sector, collapsed, since their debts were mostly in the US currency. Currently, Indonesia's debt in total is US\$ 136.088 billion, in which US\$ 68.315 billion²⁴ is the private sector's debt. Good news has arrived from Japan, when it decided to write-off 10 - 15 percent of private sector debts, which is approximately US\$ 1.5 billion.

Partly in accordance with the 50 points of IMF requirements, Indonesia has to reform its economic sector. Immediately after the new cabinets have been formed, many deregulation measures have been established, including the elimination of most government subsidies to state owned enterprises, and cartel practices. Since the crisis also affects most Indonesia's market countries, its exports are also influenced. In order to get more foreign exchange in the 'sluggish' market, in the manufacturing sector, the Ministry of Industry and Trade has deregulated export and import procedures and facilities, and tariffs, and also boosted exports by identifying new markets. These de-regulations will continue until the Indonesia's

²⁴ The Ministry of Finance, 1998; quoted from *Kompas*, March 31, 1998.

economy recovers, but not all products are given this facilities. It is mostly like 'tap-water' management, open or close.

In the next chapter, the thesis will consider the plywood industry, as one of prominent industries in Indonesia, including its current contribution to the country's foreign exchange earnings, its marketing system, its raw material supply, and the country's effort in maintaining this industry as one of the largest revenue earners.

CHAPTER IV

PLYWOOD INDUSTRY IN INDONESIA

4.1. AN OVERVIEW

At present Indonesia has a forest area of approximately 140.4 million hectares or approximately 75 percent of its land area. This makes Indonesia one of the richest forest reserves in the world and also one of the world's principal producers of tropical hardwood.

The Indonesian government recognizes the great potential of its forestry and wood processing industrial sector for the social and economic development of the nation, particularly when this industry is considered to be a renewable resource. The government recognized that logging and log exports offered limited economic benefits, and if it continued, could threaten the sustainability of forests of the country. The government, therefore, promoted the wood processing industry, mainly through investment incentives, and the enacting of export duties for rough sawntimber. The wood processing industries which subsequently developed consist of plywood, blockboard/particleboard, sawmill, woodworking and furniture industries.

The plywood industry has grown rapidly in comparison to other wood industries. Its development began in the 1980s and at present there are 120 plywood mills in operation with an annual total capacity of 11.13 million m³.

The development of this industrial sector has had several positive effects on the Indonesian economy, such as the increase of foreign investment and technological expertise; an increase of foreign exchange revenues; and the increase of the average per capita income. In addition, the expansion of this industry has stimulated the development of sparsely populated remote areas which are forested, thereby constituting the essential means of economic progress in these areas.

It is worth noting that the plywood industry requires other materials, among them are glue and hardener. Supporting industries have developed to manufacture these inputs necessary for making the plywood. Furthermore, the plywood industry has generated the establishment of block-board manufacturing, which uses by-products and waste from the plywood production. Finally, the plywood industry has also developed particleboard manufacturing, which uses wood from cutting, land clearing, and old rubber trees.

4.2. PLYWOOD INDUSTRY IN 1975 - 1990

4.2.1. The World Market

In the period of 1975 – 1990, world production of plywood increased from 39 million m³ to approximately 56 million m³, an increase of 40 percent (Lyons, 1995). Production is derived mainly from Asia, followed by North American, European, and South American and African countries. Even though North American production increased over time, in 1990 its production had been overtaken by production of Asian countries.

Table 13 shows that Asia has nearly doubled its plywood production from approximately 12.6 million m³ in 1975 to around 23.4 million m³ in 1990. According to the FAO study (1995), North American production declined, from 21.8 million m³ in 1985 to 21.4 m³ in 1990, due to the depression of housing starts and the general construction activity.

It can be seen that Asia always had a surplus for export. For instance, in 1975 and 1990 it consumed 9.2 and 20 million m³, respectively, representing a surplus of over 3.4 million m³ in 1975 and 3.2 million m³ in 1990.

During the same period, plywood production from European countries was stagnant. In 1975 and 1980 European countries produced approximately the same amount, 5.02 million m³, declining to 4.71 million m³ in 1985, but recovering in

1990 to 5.14 million m³. Europe had to import plywood in order to meet its demands. Its consumption in 1975 was 6.2 million m³, whereas in 1990 it was around 8.2 million m³. Production performance for South America showed similar pattern as that of African countries with a general increase over time. Plywood production in South America increased from 1.1 million m³ in 1975 to 2.0 million m³ in 1990. The figure for Africa was 0.6 million m³ in 1975 and increased to 1.3 million m³ in 1990. Their production met their-own demand and with a surplus.

Table 13. Plywood Production and Consumption of Major Producing Countries.
1975 - 1990 (millions m³)

Region	1975	1980	1985	1990
North America				
Production	17.18	18.01	21.80	21.46
Consumption	18.83	18.35	22.92	21.02
+ or (-)	(1.65)	(0.34)	(1.12)	0.44
Asia				
Production	12.66	16.81	18.64	23.43
Consumption	9.30	13.75	13.29	20.04
+ or (-)	3.36	3.06	5.35	3.39
Europe				
Production	5.02	5.02	4.72	5.15
Consumption	6.26	6.97	7.05	8.22
+ or (-)	(1.24)	(1.95)	(2.33)	(3.07)
USSR				
Production	2.67	2.50	2.63	-
Consumption	2.44	2.36	2.34	-
+ or (-)	0.23	0.14	0.29	-
Former USSR				
Production	-	-	-	2.14
Consumption	-	-	-	1.83
+ or (-)	-	-	-	0.31
South America				
Production	1.12	1.50	1.50	2.03
Consumption	1.06	1.50	1.45	1.83
+ or (-)	0.06	0	0.05	0.20
Africa				
Production	0.62	1.00	1.17	1.32
Consumption	0.62	1.01	1.34	1.39
+ or (-)	0	(0.01)	(0.17)	(0.07)
Oceania				
Production	0.20	0.20	0.20	0.29
Consumption	0.28	0.25	0.29	0.40
+ or (-)	(0.08)	(0.05)	(0.09)	(0.11)
World Total				
Production	39.54	45.11	50.69	55.83
Consumption	38.86	44.05	49.17	54.46
+ or (-)	0.86	1.06	1.52	1.37

Source: Central Bureau of Statistics, 1997; The Ministry of Industry and Trade, 1997;
and FAO, 1995.

Since this period, the role of Asia in plywood exports has been increasing and dominating the world market. In 1990 its exports were more than 12 million m³, this accounted for two-thirds of the world total. North America is still strong in meeting their-own demands of plywood, whereas European countries have become dependent on imported plywood. Table 14 shows the exports and imports of world plywood in 1975 - 1990.

Table 14. Plywood Exports and Imports by Major Importers and Exporters, 1975-1990 (millions m³)

	Region	1975	1980	1985	1990
Exports	North America	1.13	1.23	1.10	3.04
	Asia	4.48	4.80	7.26	12.25
	Europe	1.22	1.85	1.44	2.20
	USSR	0.31	0.32	0.41	-
	Former USSR	-	-	-	0.42
	South America	0.10	0.162	0.14	0.09
	Africa	0.21	0.30	0.31	0.25
	Oceania	0.03	0.05	0.03	0.02
	World Total	7.49	8.91	11.23	18.66
Imports	North America	2.78	1.64	2.21	2.59
	Asia	1.11	1.74	1.91	8.85
	Europe	2.47	3.73	3.78	5.26
	USSR	0.08	0.19	0.13	-
	Former USSR	-	-	-	0.11
	South America	0.04	0.16	0.09	0.04
	Africa	0.21	0.31	0.48	0.32
	Oceania	0.11	0.1	0.12	0.13
	World Total	7.48	8.91	11.23	18.66

Source: Central Bureau of Statistics, 1997; The Ministry of Industry and Trade, 1997; and FAO, 1995.

It can be seen that in 1977, the Republic of Korea was a leading plywood exporter in Asia with 27 percent of the world exports (Table 15), which was followed by

Taiwan as the second leader with 15 percent and the People's Republic of China with around 6 percent. Whereas Japan, at this time could meet its own demand of plywood, and Indonesia's role was negligible. The other leading exporters were Singapore and industrialized countries, particularly the North American countries (the USA and Canada), and the European countries. A big change occurred in 1985 when Indonesia emerged by exporting more than 4 million m³ or one-third of the world exports, left behind were the Republic of Korea (5 percent), Taiwan (7 percent), Japan, and the People's Republic of China who were now becoming importers of plywood. Malaysia's export tended to increase approximating Korea and Taiwan positions with 5 percent of the world market (Sidabutar, 1988). Table 15 shows the plywood export shares of major producing countries in 1977 and 1984 in the world market.

Table 15. Plywood Export Shares of Major Producing Countries (percent)

Producing Countries	World Market		Market of Destination	1977	1984
	1977	1984			
Developed Countries	37	32	Developing Countries	92	89
			Others	8	11
Rep. of Korea	27	5	North America	67	1
			EEC	15	1
			South America	na.	50
			Middle East	na.	16
			Others	18	32
Taiwan	15	7	North America	73	52
			EEC	7	7
			Hong Kong	4	5
			Others	16	36
Singapore	7	7	EEC	40	25
			Hong Kong	6	10
			Others	54	65
Indonesia	*	36	North America	na.	27
			EEC	91	7
			Hong Kong	na.	21
			Singapore	na.	15
			Others	9	29
Malaysia	5	5	EEC	26	20
			Singapore	29	52
			North America	5	na.
			Hong Kong	4	10
			Others	36	18
Philippines	5	3	EEC	-	37
			North America	-	34
			Hong Kong	-	24
			Others	-	5
Others	9	5			
The World	100	100			

Source: Sidabutar, 1988.

* Negligible

4.2.2. Plywood Market in Asia

During the period of 1975 - 1985, Japan was a prominent producer with its peak production in 1980 amounting to 8.3 million m³. However, its production gradually decreased to 6.71 million m³ in 1990. Indonesia's production has experienced a remarkable increase from essentially 'nothing' in 1975 to 4.71 million m³ in 1985 and had almost doubled by 1990 to 9.31 million m³, leaving far behind other major previous producers. It can be seen that Malaysia's production has been increasing over time, and later its production surpassed that of China and Japan. Table 16 below shows the decrease of plywood production of Asia's major producers and the increase of Indonesia and Malaysia production in 1975 - 1990. Indonesia's production progress along with that of Malaysia will be discussed in another section.

Table 16. Asia Plywood Production, 1975 - 1990 (millions m³)

Country	1975	1980	1985	1990
Japan	6.47	8.30	7.33	6.71
China, P.R.	1.00	1.64	1.40	1.72
Korea, Rep.	1.44	1.58	1.23	1.12
Taiwan	1.50	1.30	0.85	1.25
Indonesia	0.11	1.01	4.71	9.31
Malaysia	0.73	1.08	1.35	1.54
Philippines	0.52	0.68	0.43	0.45
Asia Total	12.66	16.81	18.64	23.43

Source: Central Bureau of Statistics, 1997; The Ministry of Industry and Trade, 1997; and FAO, 1995.

Japan has changed from a major producer and exporter to a net importer of plywood. Japan's imports increased from only 0.32 million m³ in 1975 to over 3.54 million m³ in 1990. China and Korea experienced similar patterns to that experienced by Japan. They have become net plywood importers since 1990 with 1.21 million m³ and 1.07 million m³, respectively. Table 17 shows the change in the plywood trade pattern of some previous major producers.

The major cause of the changes in the plywood trade pattern was the logs export restriction policy imposed by Indonesia, which started at the end of the 1970s. The complete export ban was enacted in 1985. This policy affected countries that were dependent on the Indonesian log supply, particularly Japan and the Republic of Korea.

In 1977, Japan as the largest plywood exporter, imported 9 million m³ of logs from Indonesia, which accounted for around 45 percent of its total log imports. In 1984, it only imported 1 million m³ or 7 percent of its total log imports. The impact was created by the shift in increasing import of logs from other sources, such as Malaysia, Oceania, and Africa. Even though Japan has increased its log imports from other sources, the total additional supply was not sufficient to meet the input for its plywood factories. Many have suffered and closed their businesses (Sidabutar, 1988).

Korea has also experienced similar problems. Its plywood capacity was mostly dependent on Indonesia's hardwood. In 1977, 72 percent of its logs were imported from Indonesia. In 1985 the Korean plywood industry capacity dropped to only 51 percent from 90 percent in 1977 (Sidabutar, 1988).

The log export ban of Indonesia was not the only cause of the decline of Japan and Korean plywood exports. Tough competition in the international markets was another factor. Since the log export ban has been enacted, Indonesia has begun to develop its domestic plywood industry. As a result, Indonesia has become a tough competitor for Japan, Korea and other plywood exporters.

Malaysia took advantage of the effect of Indonesia's log export ban. In 1984, Malaysia became the number one hardwood exporter replacing Indonesia. Its share of the world market increased from 36 percent in 1977 to 63 percent in 1984. However, Malaysia blamed Indonesia for flooding the market by selling plywood at low prices. In 1984, plywood exports from Malaysia to developed markets decreased from 145,000 m³ to 95,000 m³ (Sidabutar, 1988).

Table 17. Asia Plywood Exports and Imports by Major Exporters and Importers, 1975 - 1990 (millions m³)

	Country	1975	1980	1985	1990
Exports	Japan	0.23	0.13	0.14	0.06
	China, R.P.	0.77	0.88	0.56	0.26
	Korea, Rep.	1.26	0.95	0.13	0.06
	Taiwan	1.10	0.87	0.56	0.36
	Indonesia	0.01	0.25	4.06	8.49
	Malaysia	0.41	0.60	0.97	1.35
	Philippines	0.26	0.53	0.31	0.23
	Asia Total	4.48	4.80	7.26	12.25
Imports	Japan	0.32	0.22	0.65	3.54
	China, R.P.	0.01	0.01	0.48	1.21
	Korea, Rep.	-	-	0.2	1.07
	Taiwan	0.02	0.04	0.20	0.54
	Indonesia	0.04	0.01	0.01	-
	Malaysia	0.01	0.02	0.04	0.01
	Philippines	-	-	-	-
	Asia Total	1.11	1.74	1.91	8.85

Source: Central Bureau of Statistics, 1991; The Ministry of Industry and Trade, 1997; and FAO, 1995.

4.3. PLYWOOD CONTRIBUTION TO INDONESIA'S ECONOMIC DEVELOPMENT

4.3.1. The Industry

Indonesian's forests have supplied raw materials to sawmills and plywood factories in Japan, the Republic of Korea and Taiwan. Until the early 1980s, Indonesia's forest product exports consisted mainly of raw logs. The peak of log exports was in 1980 with 14.5 million m³ equivalent US\$ 1.5 billion. However, this year also marked a gradual decline in log export because of the government restrictions.

The Indonesian plywood industry began with two mills with small capacity in 1973. The year 1975 indicated the first plywood exports, mainly to European countries, even though at the same time Indonesia was still exporting logs and importing plywood to meet domestic demand. In 1980, the plywood industry was still domestic, and plywood exports were only 20 percent of production (Lyons, 1995). Following the log export ban, in 1985 the number of plywood mills had increased to 101 from 29 in 1975. During the same period, production rose from 1.0 million m³ to 4.4 million m³, which in turn, exports had risen from 0.01 million m³ in 1975 to 4.06 million m³ in 1985. Since then, the number of plywood mills have increased throughout the country, particularly in the provinces which have large areas of forest, such as in Kalimantan and Sumatra. Java is also the choice of such establishments, because it is the centre of the teak forest in Indonesia. This area also provides facilities to industries and trade. In 1996, there were 120 plywood mills throughout the country. Among them are 61 mills located in Kalimantan, 34 in Sumatra, 12 in Maluku, 7 in Java, and the remaining in Irian Jaya and Sulawesi (APKINDO, 1992; and the Ministry of Industry and Trade, 1997). Plywood production capacity by province in details showed in Table 18 below.

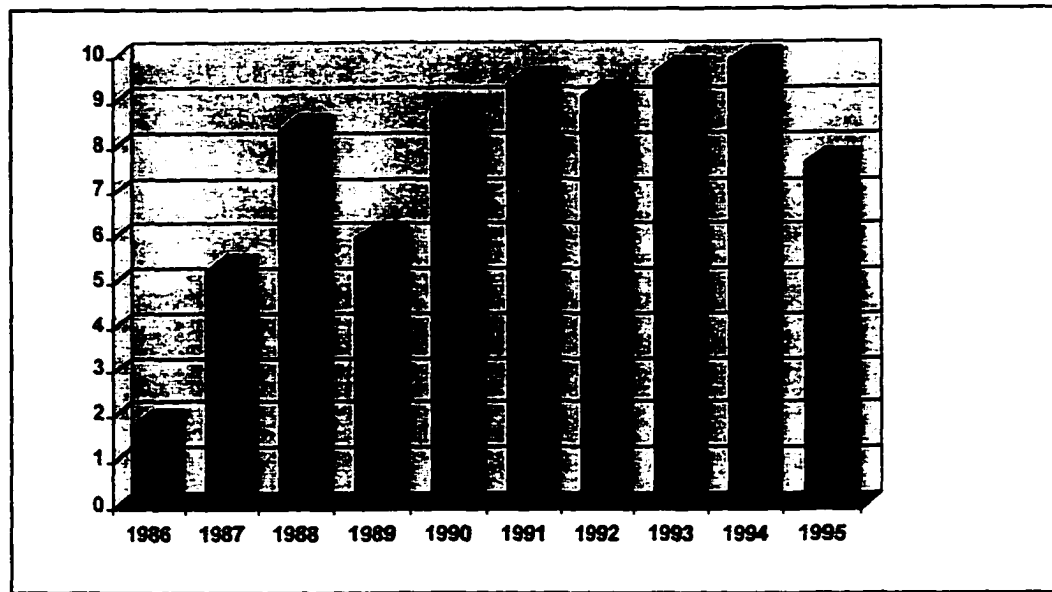
Table 18. Plywood Production Capacity by Province, 1996.

Province	No. of Mills	Capacity (1000 m ³)
Aceh	2	224
North Sumatra	5	334
West Sumatra	2	247
Riau	12	1,144
Jambi	8	583
South Sumatra	4	325
Lampung	1	100
Sumatra	34	2,957
West Java	2	366
Jakarta	1	10
Central Java	1	60
East Java	3	400
Java	7	863
West Kalimantan	14	1,325
South Kalimantan	13	1,230
Central Kalimantan	7	644
East Kalimantan	27	2,543
Kalimantan	61	5,742
Sulawesi	2	118
Maluku	12	972
Irian Jaya	4	461
Total Indonesia	120	11,113

Source: *APKINDO*, 1992; and The Ministry of Industry and Trade, 1997.

Plywood production experienced a great leap after its first establishment in 1973. In 1973 the production amounted to 19 thousand m³ (from only two plywood mills), rose to 1.01 million m³ in 1980 (29 mills), jumped to 2.06 million m³ (from 101 mills) in 1985, increased to 9.42 million m³ (from 120 mills) in 1990. In 1995 its production decreased to 7.67 million m³, partly because of the decrease in plywood demand in East Asia, particularly Japan and China. Figure 8 below shows plywood production performance in Indonesia during the period of 1986 - 1995.

Figure 8. Indonesia's Plywood Production, 1986 - 1995 (millions m³)



Source: APKINDO, 1996; and The Ministry of Industry and Trade, 1996.

4.3.2. Plywood Exports Performance

Plywood is still one of few manufactured products which contributes a high portion of foreign exchange to the Indonesian economy. During the period of 1990 to 1995, its share of total wood products exports has been the highest. In 1990 its share was 81 percent, 76 percent, 74 percent, 72 percent, 66 percent and 64 percent, in 1991, 1992, 1993, 1994 and 1995, respectively. Even though its share is tending to decrease, it is still the second largest export earner after textiles. For a comparison, wood and wood product exports, other than plywood are presented in Table 19 below. It can be seen that product differentiation becomes an essential key in supporting exports. It is not surprising if furniture plays an important role in encouraging exports, because of its artistic design .

Table 19. Exports Performance of Wood and Wood Products, 1992 – 1996
(US\$ millions)

Commodity	1992	1993	1994	1995	1996	Ave. Growth %
Sawntimber	101.80	129.30	169.92	168.15	144.33	10.15
Furniture	674.61	860.35	956.87	943.99	1,070.61	17.50
Woodchips	26.36	25.84	24.24	25.60	19.58	(6.57)
Prefab. buildings	219.69	386.86	534.02	643.90	663.59	34.09
Part. board	15.77	37.76	48.05	56.89	42.00	36.03
Chopsticks	21.44	24.38	22.48	14.02	12.35	(11.75)
Household products	8.13	9.31	14.46	17.97	18.38	20.24
Frames	14.08	43.80	26.75	29.22	36.47	62.84
Boxes, casks, etc.	17.80	21.69	19.47	21.23	28.20	16.78
Wood-flour	2.33	2.56	3.05	3.00	4.30	11.59
Hard and soft- board	0.77	0.22	1.33	1.49	5.60	124.86
Others	21.53	28.95	59.60	75.88	54.86	34.99
Pulp & paper	393.25	535.75	732.54	1,451.73	1,387.35	41.68
TOTAL	1,147.88	1,600.60	1,912.27	2,036.34	2,140.57	17.63

Source: The Ministry of Industry and Trade, 1997.

Since 1980, plywood exports have been increasing. In 1990 its export value was US\$ 2.75 billion, and it increased to US\$ 2.90 billion in 1991. It reached the peak in 1993 when its export value amounted to US\$ 4.24 billion. The performance of plywood exports is shown in the table below.

Table 20. Indonesia's Plywood Exports, 1990 - 1996

Year	Volume (m ³)	US\$ millions	Value Growth %
1990	7,603,960	2,754.95	-
1991	7,994,304	2,904.32	5.42
1992	8,431,473	3,252.85	12.00
1993	8,680,263	4,243.91	30.47
1994	8,011,096	3,720.25	(12.34)
1995	5,608,221	3,465.97	(6.83)
1996	7,814,039	3,598.99	3.84

Source: The Ministry of Industry and Trade, 1997.

The average price was US\$ 362.33 per m³, US\$ 363.27, US\$ 385.80, US\$ 560.00, US\$ 464.36 and US\$ 460.58, in 1990, 1991, 1992, 1993, 1994 and 1995, respectively. It can be seen that since 1993, the decline of the exports value was partly because of the decrease in plywood prices. The cause of the price decline, which was partly due to the marketing system currently applied, will be discussed in the next section.

Another cause of the decline in plywood exports to Japan is that Japan has imposed a tariff discrimination against Indonesian plywood. Since 1993, the Japanese government has imposed a higher tariff to Indonesian plywood, 15 percent compared to that of Malaysian plywood, which is only 10 percent. As a consequence, with higher Indonesian plywood prices, the Japanese consumers have shifted from Indonesian products to that of Malaysian.

The decrease of plywood exports to China and Korea is due partly to the penetration of Malaysian plywood, which offers lower price than that of Indonesia (The Ministry of Industry and Trade, 1997). The decline of plywood exports from Indonesia will be discussed later in the plywood marketing section.

Table 21. Trend of Plywood Exports from Indonesia, 1993 - 1996

Country of Destination	% of Total Plywood Exports			
	1993	1994	1995	1996
Japan	40.0	35.7	35.1	41.3
Korea, Rep.	12.8	9.5	9.3	8.0
China, P.R.	11.2	7.9	9.9	6.7
Taiwan	6.7	11.4	7.4	6.4
Hong Kong	4.5	7.4	7.0	5.7
USA	8.6	8.2	10.1	11.2
Others	16.2	19.9	21.3	20.7
TOTAL	100	100	100	100

Source: The Ministry of Industry and Trade, 1997.

4.3.3. Indonesia's Plywood Market and Its Competitors

In the ASEAN region, the main competitor of Indonesian plywood is that of Malaysia. Plywood production of the Philippines and Viet Nam are still low in comparison to that of Indonesia and Malaysia. According to the Business Monitor International (BMI), (1996), the forestry sector in Philippines has continued to suffer from both a decline in domestic demand and reduced domestic output and investment. As a result, less land area has been devoted to tree planting in recent years, and forestry sector will continue to decline.

Table 22 below describes the competition phenomenon between Indonesian and Malaysian plywood. In 1994, exports from Indonesia to Japan decreased by 6.3 percent, from 3.44 million m³ (in 1993) to 3.22 million m³, but there was a slight increase of 1.1 percent in 1996 from its exports in 1995. This means that Indonesia's share in Japan's market has also decreased, from 84.94 percent in 1993 to 62.8 percent in 1996. On the other hand, during the same period, Malaysia's exports tended to increase steadily over 55 percent per year. In 1994 its exports to Japan increased by 34.4 percent, jumped up by 90.7 percent in 1995, and increased by 41.6 percent in 1996. Its share has increased threefold, from only 9.33 percent in 1993 to 28.2 percent in 1996.

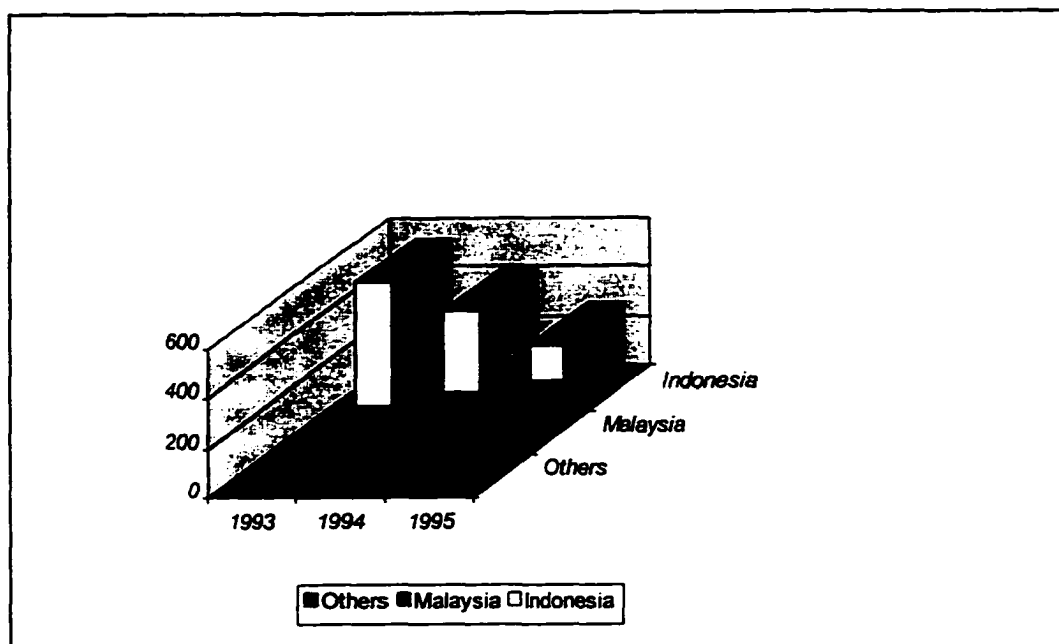
Table 22. Plywood Imported by Japan, 1993 - 1996 (thousands m³)

Country of Origin	1993	1994	1995	1996
Indonesia	3,442	3,228	3,017	3,051
Malaysia	378	508	969	1,373
Canada	167	183	251	333
USA	44	47	52	59
New Zealand	21	31	37	41
TOTAL	4,052	3,997	4,326	4,857

Source: Directorate for Wood and Rattan Industries, the MIT, 1996.

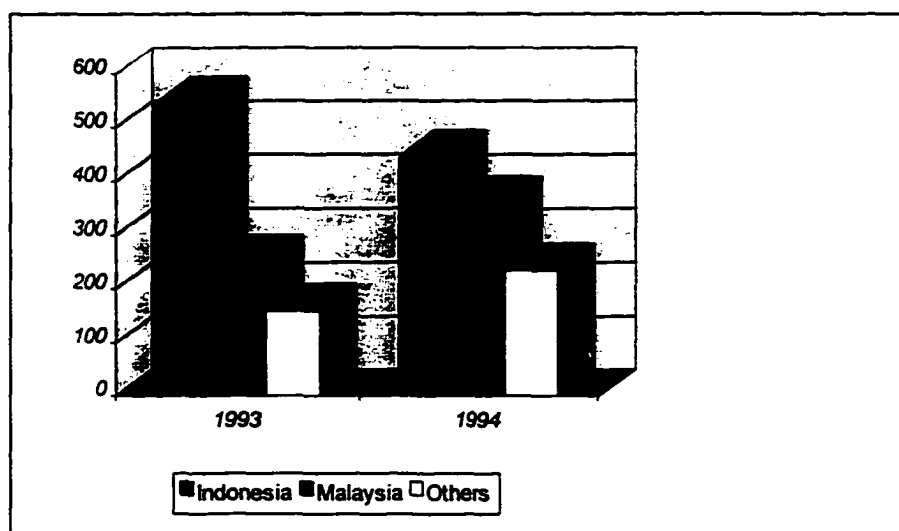
Plywood exports from Malaysia to Korea and China also showed an increase, whereas Indonesia experienced the reverse, as mentioned above and is shown in Figures 9 and 10 below.

Figure 9. Indonesia and Malaysia's Plywood Exports to Korea in 1993-1995
(US\$ millions)



Source: The Ministry of Industry and Trade, 1996.

Figure 10. Indonesia and Malaysia's Plywood Exports to China in 1993-1995
(US\$ millions)



Source: The Ministry of Industry and Trade, 1996.

The cause of the decline in plywood exports has been questioned by bureaucrats and businessmen. Many of them blame the marketing policy, which is applied by *APKINDO*, the Indonesian Association of Plywood and Panel Manufacturers. Currently, Indonesian plywood manufacturers are not 'free' to sell their products directly to buyers overseas. They have to have approval from *Apkindo* for their international transactions and their products are also shipped to distributors appointed by the association. The next section discusses the marketing system in the plywood industry.

4.4. THE PLYWOOD MARKETING SYSTEMS

4.4.1. The Establishment of Joint Marketing Boards

Prior to 1982, plywood producers could freely export their products to the international market. However, during this period the plywood competition in the international market was very tough resulting in the unhealthy competition amongst producing countries and amongst domestic producers. Many plywood producers flooded the market with low prices and low quality (APKINDO, 1996). The price of plywood at the end of 1981 was less than US\$ 200 per m³ (the Ministry of Industry and Trade, 1996).

In anticipation of this situation, in 1982 the Ministry of Trade and Cooperatives²⁵ enacted decrees to regulate plywood exports. The Ministerial Decision (SK) No. 152/Kp/V/82 regarding the Plywood Exports Arrangement, formulated a regulation that the export of plywood could only be done by the plywood manufacturers. During this year, the government approved the formation of four export groups for Europe, the Middle East, Far East, and the US markets. However, these groups failed to accomplish their functions. The main reason for this failure was that it did not have the power to neutralize the unhealthy competition among its members. In 1984, the Ministry of Trade re-organized the export group concept by setting up seven Joint Marketing Boards (JMBs or *BPB*) through the issuing of a decree, SK No. 1198/Kp/X/84 concerning the Establishment of the *Badan Pemasaran Bersama (BPB)* or Joint Marketing Boards (JMBs). The seven JMBs have 108 members, which are approved by the government. The members are divided as follows: *BPB* Sumatra Pioneer Wood with 16 members; *BPB* Sakti with 15 members; *BPB* Plywood Indonesia, 19; *BPB* Far Eastern Panel, 20; *BPB* Hutan Kurnia Jaya, 23; *BPB* HKU Indah Utama, 8, and *BPB* Kayu Lapis with 7 members.

The JMB system is based on the fact that an exporter has to obtain the approval from its JMB before signing the sales contracts with its (importers) buyers. Each JMB is managed by an executive director who has the power to regulate the activities of the members.

²⁵ In 1983, the Ministry of Trade and Cooperatives was renamed the Ministry of Trade. Later, in 1995 this ministry was amalgamated with the Ministry of Industry to become the Ministry of Industry and Trade.

The summary of SK. No. 1198/Kp/X/84 consists as follows:

- The members of JMB who own Export Number Certificate (*APE*)²⁶ can do the initial negotiation with the buyers, without signing any binding contracts, long-term arrangements on prices and quantities;
- Selling contracts can be negotiated and signed by those members, if they have an approval and endorsement from their JMBs regarding the volume, price and terms of payment;
- The letter of credit (LC), which is initially addressed to the JMB, is transferred to those members mentioned;

To stabilize the price differences for different export regions, the government established quota systems for regular importing countries. In this system, the government determines the maximum volume of plywood a manufacturer can export during a year, which is based on the past performance of the exporters and their capability to penetrate new markets. The obligation of the exporters is to fulfill the quotas granted to them. Only under very special circumstances are they allowed to transfer their quotas to other exporters, and they are required to report on the fulfillment of the quota to the government. If the exporters cannot fulfill the quotas, they have to return the unsold part to the government 'through' *Apkindo*.

²⁶In order to export its product a plywood company needed an *APE* (*Angka Pengenal Ekspor*), which was issued by the Ministry of Trade.

Finally, *Apkindo* evaluates the implementation of exports every three months and reports the findings to the government (the Director General of Foreign Trade).

Such a mechanism has created two positive effects. The first is that since each member only gets a limited quota, this member will try to raise the selling price higher than the price which has been set up by JMB and *Apkindo*. Secondly, each member can directly contact the buyers in the international markets. Thus, it encourages creativity and innovation in improving the quality of the products or developing products diversification.

Since the producers can directly negotiate with the buyers, they have a 'personal' interest in maintaining the sustainability of the supply and the quality of the products to meet market demand. The 'personal' relationship normally in the form of the buyers' technical assistance in producing plywood specification to meet the market demands, and even in improving the quality of the products.

4.4.2. The Role of APKINDO

The Indonesian plywood industry is under the control of its association, *Asosiasi Panel Kayu Indonesia (APKINDO)* or the Indonesian Wood Panel Association. *Apkindo* is the most powerful of all forestry and wood product associations, which make up the *Masyarakat Perhutanan Indonesia (MPI)* or the Indonesian Forest Community (IFC) (Lyons, 1995). Other associations include, Furniture and

Handicraft Producers Association (*Asmindo*), Pulp and Paper Producers Association, Forestry Consultants, Forest Concession Holders, and Wood Preservation Association.

The work of *Apkindo* can be divided into two parts, internal and external functions. *Apkindo* not only controls and regulates the plywood industry, but also plays an important role in the marketing and promoting of plywood products. Based on the members' agreement, it operates four main marketing agencies oriented to the major markets. NIPPINDO is its agent for the Japanese market, CELANDINE for the Chinese and Taiwanese markets, PANELINDO for the Hong Kong market, and INDOKOR for the market in Korea. Another agent for the Middle East market, FENDI INDAH, has been inactive. These agencies, work as markets intelligence, by supplying information on plywood situation in the relating countries and markets to *Apkindo*'s head office. This information is necessary for *Apkindo* to check the quotas each quarter, and to evaluate the contracts with the JMBs. Based on these data, *Apkindo* approves the contracts and the performance of each mill and each market (Lyons, 1995).

In this system, the members should sell their products to the buyers through the appointed agency. Then, the appointed agency makes the selling contract between producers and buyers, which requires the endorsement of JMB (*BPB*). Finally, the agency opens the letter of credits through JMB to the members mentioned.

4.4.3. The Marketing Strategies Debates

The importance of plywood in contributing to Indonesian export earnings cannot be denied. Thus, when its export values declined, it raised controversial debates from within the plywood industry to the parliamentary level.

As mentioned previously, at the peak of its exports in 1993, the Indonesian plywood industry contributed approximately US\$ 4.24 billion to the country's total foreign exchange earnings although the volume declined by 24 percent. This impressive performance was attributed to the result of *Apkindo*'s strategy, which was the restriction of the supply of exports in order to increase prices. As a result, the average price of Indonesian plywood was high, US\$ 560 per m³. However, the value of Indonesian plywood exports declined by 12.34 percent to US\$ 3.72 billion in 1994.

The government, economists and businessmen view this scenario with concern as the world demand for plywood was increasing and three ministers have stated their concerns. The Minister of Industry views the marketing strategies applied by *Apkindo* as the cause of the decline and therefore, insists it to be modified. Whereas, the Minister of Forestry stated that the causes were the lack of standing stocks, and the increase competition from other countries, especially Malaysia (Business Review Indonesia, 1996). The Minister of Trade has a similar view to

that of the Ministry of Industry. He suggested to *Apkindo* to dismantle its modes of operation (in marketing) to cope with the drastic decline in plywood exports.

The logic was that if *Apkindo* was actually capable of influencing the international plywood market, as *Apkindo* claimed, it should be reflected in the prices. However, the fact remains that prices are continually declining, as mentioned in the previous section.

Apkindo's raison d'être dates back to the 1980s. During this period the plywood competition in global market was very tough, particularly in the European market. There were three big plywood exporters dominating this market, Korea, Malaysia and Singapore, known as *Komasi Trio*. The rationale then, was the need for a plywood association to assist Indonesian suppliers to compete with the tough adversaries. One of the association founders described the tough competition by saying:

We confronted with giant trading companies. We needed a powerful body to counter them (Utomo, 1996)²⁷.

But many economists²⁸ suggest that such a mechanism is not relevant anymore as currently the globalization era has become a worldwide phenomenon. On the other side, the *Apkindo* Executive Director, Wignjoprajitno, rejected the proposal to dismantle the trading system (Asian Timber, 1996). He claimed that the

²⁷ Quoted from Asian Timber, 1996, in the interview with SWA magazine, April 1996.

²⁸ Among them is Baramuli, A.A., who was also a member of parliament.

dismantling of the marketing system does not guarantee that plywood exports will be boosted, instead, it may result in unnecessary competition amongst Indonesian producers in export destinations. He, moreover, stated that the plywood export quotas are not set by *Apkindo*, rather the decision lies in the hand of Trade Ministry, although he did not deny that the department seeks 'advice' from the plywood association.

Based on the SK. No. 1198/Kp/X/84, the export of Indonesian plywood is controlled by *Apkindo*, which in turn, is regulated by the Ministry of Trade. As was stated by the Minister of Forestry (1995)²⁹, the advantages of such a mechanism include, first, assisting Indonesian plywood producers and exporters, as members of *Apkindo*, to increase competitiveness in the world market. Therefore, the price, quality, and export volume of Indonesian plywood can be controlled. The second is that it can avoid claims from the buyer, which could negatively affect the country's plywood industry. In addition, it can assure the sustainability of the forest resources and assist the government in increasing its share in the international market (The Ministry of Forestry, 1995). However, the Ministry of Forestry explained that there are disadvantages in implementing such regulations (quotas). Each member cannot export more than the quota set by *Apkindo*. Therefore, members who have high production capabilities cannot optimize their full potential, even though they have an abundance of raw materials.

²⁹ As quoted from Seabright, D., 1995. *Meeting With the Minister*, Asian Timber, April.

The Minister of Industry views the plywood exports decline as a failure of *Apkindo* in applying its strategy. He attributes to *Apkindo*'s decision to reduce the export quota during 1993 as an attempt to increase the price of plywood in the world market. The move backfired, when many importing countries shifted to alternative exporters, such as Malaysia and Brazil, which could supply acceptable material.

Apart from the debates, the marketing strategies which are applied by *Apkindo* have created negative impacts. The quotas, which are set by the Ministry of Trade, in fact are not useful anymore, since *Apkindo* will only use the quotas which are based on the information from the appointed agency. The disadvantage of *Apkindo*'s strategy is that the producers cannot directly contact their buyers. As a consequence, it will limit the creativity and innovation of the producers in improving their products, such as the quality and specification which are needed by the markets. In turn, it may lessen their competitiveness. Furthermore, since the buyers do not have any 'personal' relationship with the producers they will not care about producers' product improvement. Instead, if they are not satisfied with the products, they will easily choose new suppliers or they will shift their need to the substitute products. Indonesia's experience in 1993 gave a clear example. When Indonesia reduced the quotas to the international markets, many East Asia buyers shifted to Malaysia, while Japan and Korea were searching for new product for

substitutions, such as Oriented Strand Board (OSB), Laminated Veneered Lumber (LVL), and Medium Density Fibreboard (MDF).

4.5. The Plywood Future Trends

Food and Agriculture Organization (FAO) publication entitled "Forestry Statistics, Today for Tomorrow, 2010" noted that the consumption of Asian plywood would increase by about 7 million m³ annually until the year of 2010. In these projections, the present two major importers will still be the main Asian plywood markets in 2010, followed by the Republic of Korea and Taiwan. Japanese consumption will nearly double, from around 10 million m³ in 1990 to 20 million m³ in 2010. Chinese consumption will soar over threefold, from 2.6 million m³ in 1990 to 9 million m³ in 2010. The two main importers plus the Republic of Korea and Taiwan will make up their consumption amount to 36 million m³, or 90 percent of total Asian consumption. Table 23 below presents the realized and projected plywood consumption in Asia.

Table 23. Asian Plywood Consumption in 1980, 1990 and Projected for 2010
(thousand m³)

Country	1980	1990	2010 (Forecast)
Japan	8,394	10,192	20,000
China, P.R.	775	2,663	9,000
Korea, Rep.	629	2,131	4,000
Taiwan	475	1,433	3,000
Indonesia	768	817	2,000
Malaysia	499	193	1,000
Thailand	107	146	500
Philippines	153	221	500

Source: Food and Agriculture Organization, 1995.

It is estimated that plywood production in Asia in 2010 will not exceed 28 million m³. Thus, there will be a deficit of plywood supply of around 12 million m³. The Southeast Asia plywood production will not be able to meet this deficit, due to the scarcity of suitable raw materials (FAO, 1995). However, this situation will open more opportunity for plywood industry in Indonesia to increase their production. Within the private sector there is a need to improve efficiency by improving technology, whereas the government is needed to ensure the sustainability of raw material supply and create a conducive environment to this industry. The source of material supply and efforts that have been taken by the government will be discussed in the following section.

4.6. ACHIEVING A SUSTAINABLE PLYWOOD INDUSTRY

4.6.1. The Source of Material

Up to the present, Kalimantan and Sumatra are the predominant log suppliers. However, log quality shows significant variations from region to region. These two islands are the source of *Meranti* species³⁰, which is a predominant species used in the plywood manufacture in Indonesia. Since the *Meranti* species are trees of the prized *Dipterocarpaceae* family, Indonesia may have the world's most valuable tropical rain forest (Repetto, 1988).

³⁰ Includes in this species are a wide range of *Shorea* group of species.

Another species which is also often used is Javanese teak for the production of face veneer for decorative plywood. Kalimantan forests have a very high quality *Meranti*, whereas that from Sumatra are generally of lower quality, as having smaller in diameters and a higher incidence of heart-rot.

Irian Jaya, another log supplier has a low level of plywood activity due to the absence of the *Meranti* species in its forest composition. The reason is that Irian Jaya, which is located in the eastern part of Indonesia, has a distinctly Australasian flora and fauna, as distinct characteristics of those in the western part of Indonesia. However, as several large sawmills and plywood manufacturers are located in Irian Jaya, they are having to find alternative species. Thus, other tree species will become commercially viable and the plywood industry will expand in this region. The expansion of the plywood industry in this region will increase the existing plywood capacity, which in turn, may also increase the export performance.

Based on the *Tata Guna Hutan Kesepakatan (TGHK)* or Forest Land Uses by Consensus, forest area in Indonesia is 140.4 million hectares, which account for nearly 60 percent of all tropical forests in Asia, or 10 percent of the remaining tropical forest in the world (The Ministry of Forestry, 1997). At present, the Ministry of Forestry has designated 113 million hectares as permanent forest, or around 75 percent of Indonesia's total land area. Over 30.7 million hectares out of

those areas are designated as protected forests, which are closed to the public and for commercial use. Other forests usage includes:

- Convertible forest with an area of 18.8 million hectares;
- Limited production forest: 31.3 million hectares;
- Production forest: 33.0 million hectares; and
- Conservation forest: 26.6 million hectares

To maintain the forest sustainability and material supply for wood-based industries and domestic consumption, the forestry sector has targeted to provide log 188.4 million m³ of timber during the *Repelita VI* or at an average of 37.68 million m³ annually. The breakdown of realized and targeted logs supply are shown in Table 24 below.

Table 24. Logs Supply 1994 - 1996 and Its Projection for 1997 - 1998 (millions m³).

	1994	1995	1996	1997	1998	Average	Total
Timber estate	1.44	1.49	1.55	3.72	5.37	2.71	13.57
Production forest	22.70	22.55	22.46	22.46	22.46	22.53	112.63
Convertible forest	3.80	4.17	3.82	3.61	3.20	3.72	18.60
People's forest*	8.23	8.46	8.70	8.94	9.20	8.72	43.53
Total	36.17	36.67	36.53	38.73	40.23	37.67	188.33

Source: The Ministry of Forestry, 1997.

* Includes rubber tree forests.

In order to achieve the targeted exports of industrial sector that have been set up, the forestry sector ensures the supply of logs by providing the raw materials needed. The log supply for the industrial sector is presented in Table 25. It can be seen that the government still places great expectations on the plywood industry as a foreign exchange earner, since the government provides logs to satisfy this industry.

Table 25. Logs Supply 1994 - 1996 and Its Projection 1997 - 1998 for Industrial Sector (millions m³)

Products	Logs Input				
	1994	1995	1996	1997	1998
Plywood	18.120	18.182	18.182	18.182	18.182
Wood furniture	2.355	2.571	2.829	3.105	3.429
Others	2.778	3.000	3.222	3.333	3.333
Total	23.253	23.753	24.233	24.620	24.944

Source: The Indonesian Forest Community (MPI), 1997.

4.6.2. Product Diversification

To open new markets and increase revenue from plywood products, the plywood industry needed to diversify their product line. This can be achieved through two ways - horizontal and vertical product diversification. Horizontal diversification is a process of employing various techniques in the primary processing stage to produce special products of a higher value. Advances in combination layering have produced high-strength composition suitable for a number of applications. These include container flooring, doorskins, marine plywood, and shuttering. The most

significant of these special products is laminated veneered lumber (LVL). Also known as in-directional plywood LVL displays superior characteristics to sawn timber beams in almost every application. Superior resistance to structural weakening caused by fire has led to LVL replacing steel in some construction applications, such as warehousing.

Vertical diversification, or secondary processing, is the further processing of ordinary plywood through lamination of a synthetic material (paper, direct printing and embossing) or veneer of another fancy wood species. Through advances in computer-controlled lathing and new sliced block techniques, some commercial tropical hardwoods can be sliced to as thin as 0.25 mm. For example, one teak tree can provide the fancy veneer facing for over two thousand square feet of plywood (Hasan, 1991). Other advances include using offset printing technology to create paper overlays of any conceivable pattern, or directly embossing grain patterns on the wood surface. Overlay technology is also used to add a finish of temperate hardwoods, such as oak, which is imported from the US for furniture or interior panelling.

4.6.3. Restructuring the Machines

If the raw material supply has been ensured, the plywood manufacturers have to operate as efficiently as they can. In order to improve the efficiency of the plywood industry, the companies have to restructure their machines and equipment. Most of

plywood companies are still using old machines, mainly the 'rotary lathes'. These old machines have little recovery - less than 50 percent. It requires the input of logs with a large diameter, over 50 cm, and leaves a left-over core, 25 – 30 cm in diameter.

The increase the yield of small-diameter logs depends on how much this lathe can make peeled cores. In Japan, present rotary lathes in practical use are capable of peeling logs down to 50 mm, with a veneer thickness of approximately 0.05 mm (Shimura, 1991). One of the primary constraints in the restructuring is its high capital investment. However, the costs of the investment can be reduced if the plywood companies are confident that the government will ensure sufficient supply of logs, and regulations and procedures in importing capital goods, the machines, benefit the companies.

In summary, the possibility of sustainable of plywood is encouraging. However, there are factors that need to be met. First, the judicious and innovative utilization of plywood in many aspects of re-manufacturing and construction; second, the advances in technology, which may increase wood recovery; and the employment of substitutes for plywood, such as secondary products, and other panel products (Bernas, 1991).

4.6.4. The Forest Management System

In managing the production forest property and to ensure the sustainability of log production, the Indonesian government has set up two basic silviculture systems. These systems are as additional measures to the strict requirement for forest concession application. The first system is the implementation of *Tebang Pilih Tanam Indonesia (TPTI)* or the Indonesian Selective Cutting and Replanting System, to replace the old the *Tebang Pilih Indonesia (TPI)* or the Indonesian Cutting System. The second is the establishment of *Hutan Tanaman Industri (HTI)* or Industrial Timber Estates.

In order to obtain a concession or *Hak Pengusahaan Hutan (HPH)*, one has to pass several steps. The applicant has to conduct a micro survey. This is aimed at evaluating the forest area requested, which includes forest potential and topography. The survey is conducted on a sampling basis, which covers at least two percent of the area requested to determine the boundaries of the land. Then, the applicant submits an application to the Governor through the regional forestry office, concerning the proposed area based on the micro survey. A team, consisting of those from the Regional Office of Public Works, the Regional Office of Transmigration, the Regional Plantations Office, the Regional Forestry Office, and local government, then evaluates the application. The Ministry of Interior coordinates the works of the team. If the team approves, the application goes to the Ministry of Forestry, which the latter issues the concessionaire holder certificate.

The concessionaire holder is bound to obey all the government and the Ministry of Forestry regulations. Then, the concessionaire holder has to determine the boundaries of the area, and design a *Rencana Karya Lima Tahunan (RKL)* or a Five-Year Work Plan and *Rencana Karya Tahunan (RKT)* or an Annual Work Plan. The designs of these plans are based on the log cutting cycle, which is 35 years. Up to 1996, there are 692 forest concessionaire (*HPH*) holders, 437 of which are still in operation with forest concession areas of over 55 million hectares. The Ministry of Forestry has evoked the licenses of 70 concessionaire holders who were found guilty of violating the regulations.

The first approach in the forest management is the Indonesian Selective Cutting and Replanting System (*TPTI*). The notion of *TPTI* is that forest in their natural states are not in the ideal environment to grow and harvest commercial quality timber (Hasan, 1991). The competition from other species, diseases and other factors prevent the tree from growing optimally. In this sense, technology is needed to interfere by selectively cutting mature trees and consequently encouraging growth of neighbouring trees and the new generation. In order to manage the reserves, the timber companies compile the existing stock in logged areas and set up the harvest schedule. The existing trees are periodically freed of encumbering lianas, which could also pull down neighbouring non-commercial trees when the target tree is

harvested. In order to increase the existing yield of a given reserve, the companies also do the enrichment planting of commercial species.

Another method which is applied in Indonesia is *Hutan Tanaman Industri (HTI)* or Industrial Timber Estates. That is, replanting of logged areas with commercial tree crops. The planting period of these crops is relatively short, normally after seven to ten years the trees are ready to harvest.

The timber estates are usually in the form of, such as, an intensive cultivation in the style of rubber or palm plantations. In general, in timber estates, a section of less productive forest is clear-cut and planted with fast growing hardwoods, namely *Albizia falcataria*, *Gmelina spp.*, and *Eucalyptus*. Even though a timber estate is not a true tropical rain forest, it gives positive impacts. For instance, a one-hectare timber estate will conserve at least fifteen hectares of virgin forest (Hasan, 1991). And a well-managed timber estate can theoretically yield 50 times the amount of commercial timber of a similar area of primary growth forest. However, there is a weakness in relation to the species which are planted. The imported species often cannot integrate themselves into a complex independent network of a tropical rain forest, where the nutrients contained in a fallen leaf are being re-absorbed into the ecosystem five hours after dropping from the tree.

Nevertheless, the fast-growing species used in timber estates can make a positive contribution by sheltering the more vulnerable and slower-growing indigenous species. Many of these species can flourish on a plot of bare and sun-baked earth. This fast-growing species will produce a closed canopy a few metres high after they grow about five years. This is the time that *Meranti* and other true tropical rain forest species can be planted among the other species. After another five year, the first growth can be harvested, leaving the now-established indigenous trees as the beginnings of a true rain forest. This system is developed in combination with transmigration, from the overpopulated island, Java, to the lesser-populated islands, and relocating the shifting cultivators to become permanent farmers.

The government, through Presidential decrees, has imposed tax on forest based companies to pay for what they harvest from the forest. The purposes are in order to ensure the forest sustainability as one of the country's natural resources, the environment, and to ensure the provision of raw materials supply for forest based industries.

Through the Presidential Decree (*Keppres*) No. 29, 1990 regarding the *Dana Reboisasi (DR)* or Replanted Fee, forest based companies have to pay fees for every log they harvest. The other decree is the *Keppres* No. 30, 1990 regarding the *Iuran Hasil Hutan (IHH)* or Forest-based Products Fee. According to the Ministry of Forestry Decree No. 613/KPTS-IV/1992, which is based on the Presidential Decree

No. 29, 1990, Jo. the Presidential Decree No. 28, 1991, the *DR* is US\$ 10 per m³ for all kind of wood-log, or per metric ton for *Sandalwood* and *Ebony*. Whereas the *DR* for chip-wood is US\$ 1.5 per m³. The fee in *IHH* is different from that in *DR*. *IHH* is determined according to the type of the trees and the areas where the trees are logged. Another difference is that normally *IHH* is evaluated every six months and based on the fluctuation of wood-based product prices.

In summary, it seems that several factors have contributed to the decline of plywood exports. The causes include the fall in prices in the world market, combined with the poor marketing strategy, and a lack of raw material standing stock, and an increase competition from other countries. Thus, in order to improve plywood export performance, these factors have to be resolved.

Apart from the constraints that hinder the development of plywood industry, there are still opportunities to improve its export performance. The next chapter, the concluding remarks, discusses the opportunity of this industry to face the next millennium and some recommendations to sustain it as the second largest foreign exchange earner. This chapter will also deal with the efforts which should be taken in removing hindrances faced by the plywood industry in the current financial crisis.

CHAPTER V

CONCLUSION

This chapter summarizes the thesis and indicates some recommendations for the industrialization policy in Indonesia to achieve sustainability of the plywood industry. The structure of this chapter is divided as follows. In the first section, the industrialization policies which Indonesia has adopted are summarized and this is followed by a discussion of the sustainability of the plywood industry. The last section will note the possible impacts of the monetary crisis on the development of the plywood industry up to the present.

5.1. ISI AND EOI

Since the Export Oriented Industrialization (EOI) strategy involves incentives rather than controls, and because measures can be applied generally across the board, this policy appears more appropriate than Import Substitution Industrialization (ISI). Moreover, it is also supported by the experiences of the NICs. Their rapid economic growth and sustainability of industrialization only occurred under EOI strategy. Also, it is easier to detect the effectiveness of EOI policies since export performance can be observed immediately and as a result the policy mistakes can be corrected quickly (Naya, 1989). Furthermore, EOI gives industries the opportunity to expand their markets and achieve greater economies of scale.

However, based on the experience of many developing countries, the ISI is required and generally applied in the first stage of industrialization followed by the next stage of ISI in combination with EOI strategy. In most developing countries, these two strategies are combined, even though the primary focus is on EOI. Thus, each strategy has its-own strengths and weaknesses.

The same case is also applied in Indonesia, which in the 1970s, implemented an import-oriented substitution policy. The government gave substantial incentives to the producers to produce goods which were previously imported. Similar incentives were also given to foreign companies, which supported this policy. Indonesia faced difficulties in applying the second stage of ISI, since this policy involved intermediate goods. For Indonesia, the shift from consumer goods to intermediate goods was a difficult task, as a characteristic of the production of intermediate goods is that it is capital intensive. This is contradictory to Indonesia's industrialization policy, which emphasizes labour intensive industrialization. This is one reason why Indonesia has changed its trade system by applying an export-oriented strategy in combination with the existing ISI strategy. This combination of policies has had a positive impact on Indonesia's export performance.

In this system, the imports of intermediate and capital goods are tolerated as long as it is in balance with its exports. However, in Indonesia this system shows an im-

balance. This can be seen in the import performance of raw materials. In 1996, from US\$ 35.5 billion of Indonesian import value, imports of raw materials accounted for 70.9 percent. This indicates that the combination of EOI strategy and ISI is not ideally balanced. The effect will be dependent on import products, which will reduce the nation's foreign exchange savings. Thus, it will be more beneficial for the government to redefine this combination strategy by controlling imports.

The broad spectrum and competitive product policies that the government has adopted should be continued to boost the nation's export performance. The broad-spectrum policy however, should gradually be reduced and replaced by strengthening the nation's competitive products. The reason is that most of the raw materials for export products are derived from imports. What is required from the government is an improvement in the system in determining competitive products. Since this system would require a good database for each product, further study is required.

5.2. SUSTAINING THE PLYWOOD INDUSTRY

An ideal plywood industry in the next century, can be described as having several characteristics. Tropical rainforests will be protected and utilized carefully without disturbing the natural balance. Reforestation will be taken for granted and technology suitable for the plywood industry will be enhanced for processing

smaller diameter timber with high quality. The raw materials will be utilized to the full extent, including the use of the branches and the tops. For example, the waste generated in the plywood industry will be used in the integrated units for particleboard or in chemical wood processing.

With deeper and further research and study, this ideal plywood industry can be achieved. However, in general there are factors that need to be considered. The first is in choosing the new species to be planted, including a careful selection to meet the requirements of the plywood industry, and the species, which can be effectively used. Another factor is to find an efficient harvesting method, which can reduce the waste. Also new effective and efficient machines, from logging to the drying, have to be developed, which are not only suitable for the new species and particularly for small-diameter timber, but can process branches and tops.

This ideal plywood industry should be the objective of the Indonesian plywood industry. Bearing in mind that the plywood export markets are very buoyant, which is shown by the increase in demand in East Asian and a high local content, the government must expect that the plywood industry will still play an important role in producing foreign exchange and in employment generation. In addition, it also generates a positive multiplier effect by creating other downstream industries. It is not impossible to maintain plywood product as the second largest foreign exchange earner. However, it will be a big task not only for the plywood companies, but for

the government and forest community as well, in the current non-conducive economic environment faced by Indonesia. For Indonesia, there are several factors which should be taken into consideration in improving the plywood industry as a foreign exchange generator, among other are the log supply, marketing system, product diversification, and machine and equipment restructuring.

The primary objective of forestry development during *Repelita VI* is to preserve the 92.4 million hectares of protected natural forests. Through forest preservation and conservation, the optimum and long-lasting production can be achieved. Efforts will be made to improve the welfare of the poor people living in and around forests.

The log production targets during *Repelita VI* is 188.3 million m³. Production at this level ensures the continuity and provision of basic materials for the industry and for local consumption in sufficient quantities. In order to achieve these targets, the forestry development is aimed at stabilizing protected forest areas, improving the quality and productivity of forests, improving the management of forests and forest development programs, improving the processing of forest products, and diversifying the production of forest-based products.

At present, wood-based industries require logs of 31.5 million m³ annually. This demand will be met by domestic forest production starting from 1996, which is estimated that the forest will produce 31.6 million m³. If there is a lack of material

supply, it will not be overcome by cutting more logs, instead the government will open the domestic market for log imports. For the long-run solution, the government has anticipated this situation by accelerating the development of industrial timber estates, obligating forest concessionaire holders to replant with new species, recommending the relocation and the restructuring of the firms, and diversifying their products by producing not only ordinary plywood but also MDF, LVL and other panels.

Another short-term solution is to increase the log supply from *Inhutani*, a state-owned forest company, and from *Izin Pemanfaatan Kayu (IPK)* or Clear Cutting Concessionaires. It is estimated from the year 2000 the domestic logs will no longer be inexpensive resources, even though its price may be less than the international prices (The Ministry of Forestry, 1998). Starting in 2000, forest concessionaire holders will have to make detailed plans concerning their forest concession to meet government regulations, manage and arrange forest boundaries, map their forest, implement forest conservation, and pay more attention to social aspects.

It is worth noting that the availability of teakwood is also important. Indonesian teak is one of few luxurious woods, which is also used in plywood manufacturing, particularly decorative plywood. Indonesia now has a teak forest area of over 1.1 million hectares, which produces 661,000 m³ teakwood-based products per year (The Ministry of Forestry, 1998).

Since this industry has several strengths and opportunities, Indonesian plywood exports can be improved. Firstly, Indonesia still has a reputation for producing high quality plywood. In producing plywood, as stated by the Minister of Forestry (1995), Indonesia has developed its own national standard, which is adopted from many importing countries and markets. In addition, Indonesian plywood companies have also adopted major international standards in order to make the product acceptable on a broader global marketing scale. Furthermore, in order to conserve the use of forest resources, Indonesia has implemented a production system to efficiently use the raw material. Although the majority of the raw material for plywood manufacturing derives from the natural forests, the industry has been preparing to utilize timber from industrial forest estates (*HTI*).

It is argued that Malaysia cannot supercede Indonesian plywood exports to Japan since Indonesia's plywood can satisfy the Japanese plywood consumption based on the requirement of Japan Agricultural Standards (JAS). Moreover, Kalimantan *Meranti* cannot be replaced by other species to satisfy high quality plywood.

Secondly, in order to increase plywood output, plywood companies have to restructure their machines and equipment, from logging to the drying, particularly the rotary lathe. In anticipation of the increased production of lesser-known species with small diameter, the current rotary lathes must be modernized. At present, this

modernization appears to be a financial issue rather than technical. Currently, Japan has been using modern lathes, which can peel logs down to 50 mm, with a veneer thickness precision of plus/minus 0.05 mm. This lathe is suitable for Indonesian plywood companies, since Indonesia's log supply will mostly rely on the small diameter species from the industrial timber estates.

The third factor is that, at present, the plywood production is mainly centralized in Sumatera, Kalimantan, and Java. Indonesia still has an opportunity to increase plywood production by improving plywood mills in other provinces, such as in Irian Jaya. As the largest island in Indonesia with forest area of over 28.7 million hectares, the forest-based industry has great potential. However, the infrastructure of this island has not yet developed, thus the development of the plywood industry is rather slow. As previously indicated, out of the 120 plywood mills in Indonesia, only four mills are located on this island. The government has made an effort to encourage private sectors to invest in Irian Jaya. It can be seen in the *Daftar Skala Prioritas (DSP)* or the Priority Investment List issued by the *Badan Koordinasi Penanaman Modal (BKPM)* or the Investment Coordinating Board, which states that wood-based industries investment are closed for any investment in Indonesia, except in the province of Irian Jaya.

However, there are several hindrances in promoting plywood exports, such as the marketing strategy and log smuggling. As mentioned previously, the plywood

marketing strategy depends on its association, *Apkindo*, to prevent the members from marketing their products directly to the consumers. Thus, in order to improve plywood exports, such a system has to be changed to allow the members to market their products freely. With healthy competition the companies will produce their products effectively. The existence of quotas should also be removed, since it hinders the companies which can produce and sell more than others. The opening of the marketing system does not mean that the plywood industry can produce and sell any quality - quality must be maintained. Otherwise, the industry will relive the past in which prior to 1982 the domestic plywood companies competed each other by flooding the market with low standard plywood and consequently low prices.

Another hindrance is smuggling, which reduces domestic log supply. Thus, another priority to increase log supply is to prevent and prosecute timber smuggling. Even though there is no concrete data on log smuggling, it has been suspected that thousands cubic meters of logs from Kalimantan have been smuggled to Indonesia's neighbouring countries. The reason for this is that higher prices are paid for raw materials outside Indonesia as opposed to what is being paid within the domestic market. Moreover, in term of distance, shipping logs from Kalimantan to the neighbouring countries is not very much different from shipping to Sumatra or Java. Let alone the costs in shipping can be offset by the higher price. To overcome the smuggling, Indonesia cannot work alone, but it should work together and coordinate with the neighbouring countries.

Each log has to be accompanied by *Surat Angkutan Kayu Bulat (SAKB)* or Logs Transporting Papers. This license is only issued to forest concessionaire holders. However, this is not enough, since many of the smugglers can show an *aspal SAKB* or fake *SAKBs* whenever they happen to be caught by the authorities. *Aspal* refers to an Indonesian term for an original document but the document is issued or changed to non-authoritative persons/agencies.

Another problem, which also arises, is the increased activity of timber ‘black markets’ and brokers. Since many of the plywood companies do not have forest concessionaires, they have to buy logs from forest concessionaire holders through brokers. Because the log supply is limited, the plywood companies have less bargaining power in buying the logs.

Another problem is the effective transfer of new technology from Japan and other industrial regions to Indonesia. Plywood manufacturers will face a transition period because of the shifting to the new small log diameter peeling and processing technology.

The state should create a conducive climate for the industrial sector. This can be in the form of giving incentives to companies which are restructuring its technology and training to develop its products. Moreover, it is expected that the forest-based products will not be dependent on the natural forests, but on the industrial forest

estates (*HTI*). And finally, urging the plywood companies to diversify their raw material input by using the lesser known species, and logging waste from the clear cutting of the people's forests and timber plantation estates.

5.3. THE PLYWOOD INDUSTRY IN THE FINANCIAL CRISIS

As noted in the previous chapter, there is a monetary crisis in Indonesia. This has affected Indonesia in its economic development and will be briefly discussed in this section. However, the solutions to overcome this crisis will be based more on the author's opinion and research from scholars' views, other commentators, since events are still unfolding.

The effects of financial crisis are worse for Indonesia as the industrial sector lacks management capability, productivity, efficiency and is highly dependent on import content. These factors occur partly because of high interest rates, and high tariffs on raw material import (Mulyani, 1998). To overcome this problem, it is suggested that the industrial structure should be based on the country's natural resources and labour intensive industries.

The continual decline of the Indonesian currency is closely related to the high private sector foreign debt, which amounts to over US\$ 63 billion. The payment of such a huge debt will increase the demand for US currency. Business actors who

have anticipated the problem earlier, bought a huge amount of US dollars and have invested it in foreign banks. Another factor is the panic, not only of the business community, but the general population as well. They do not believe in the government assurances. Instead they follow unreliable news spreading in the market by buying more US dollars.

This situation has also affected the plywood industry. The log price decreased from US\$ 120 per m³ to US\$ 92 per m³. When the log price decreases, it increases supply, and the plywood industry will pay less for the logs. However, the plywood industry cannot increase its production since the export markets are also stagnant. Because of the financial crisis, many plywood importers, Japan, China and Korea, have reduced their demand for plywood.

The decrease in plywood demand has resulted in an accumulation of the raw material standing stock in the plywood industry. Up to the present, over 6.7 million m³ logs are in stock, since the plywood industry is incapable of absorbing them. If the logs are not immediately processed, they will easily deteriorate and may cause a loss of over US\$ 3.6 billion (The Ministry of Forestry, 1998). To overcome this situation, the government in the short-run, will re-open log export in order to clear-up the raw material standing stock. This policy will be strictly applied in accordance with the national commitment and with the international agreement to conserve the forest, which means that the government has to ensure that there will

be no cutting exceeding the forest cutting capacity. It is argued that the opening of the log export ban can “give life” to the foreign plywood companies, which have died because of lack of raw material supply. This, in turn will threaten the Indonesian plywood companies as they will become competitors.

At the time of writing this thesis, the policy to relax the logs export ban has not been implemented. However, 111 plywood companies and forest concessionaire holders as members of *MPI* are committed to maintaining domestic log supply for the plywood industry. They will not export their logs.

Aware of losing their consumers, Indonesia still maintain its exports of plywood to maintain its market share in those markets. Indonesia has also tried to penetrate new markets in the Pacific and Eastern Europe.

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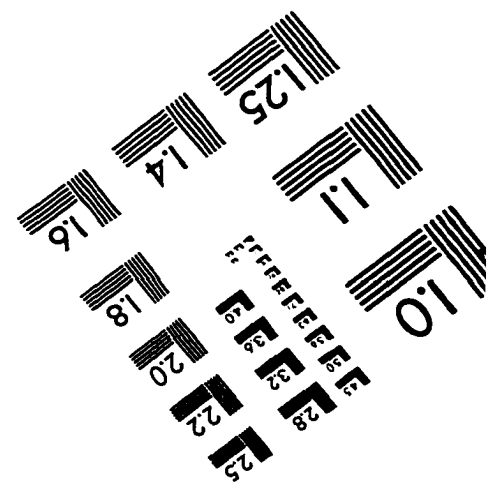
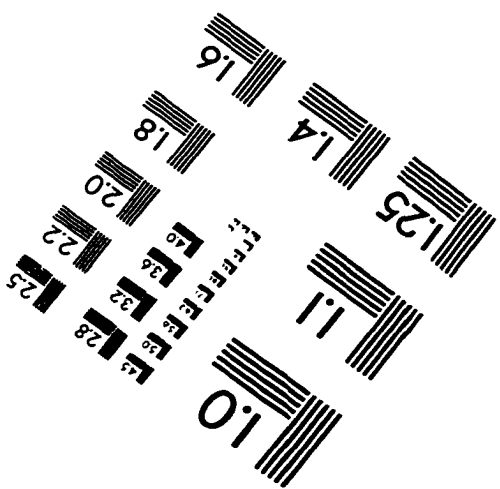
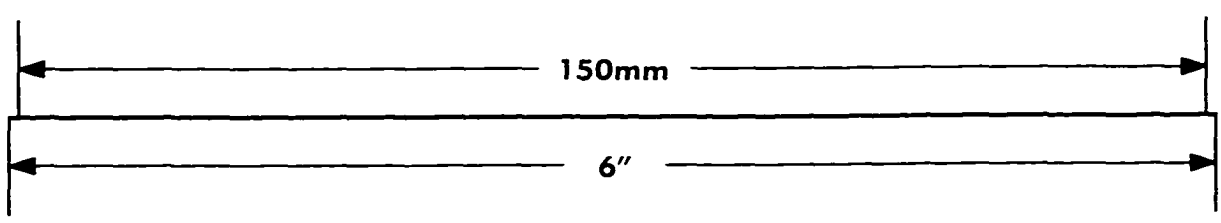
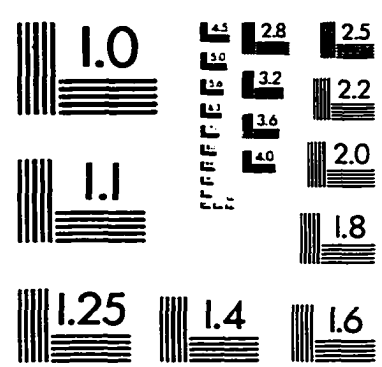
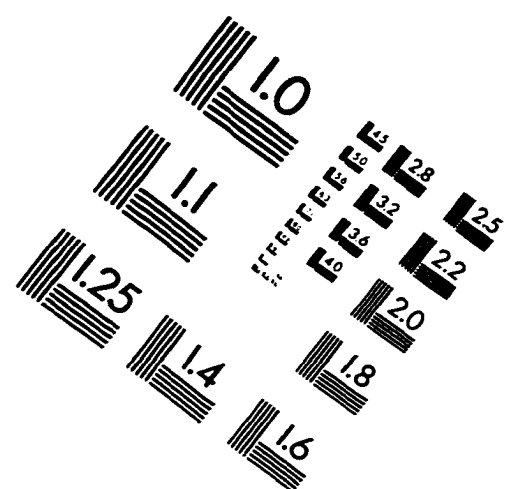
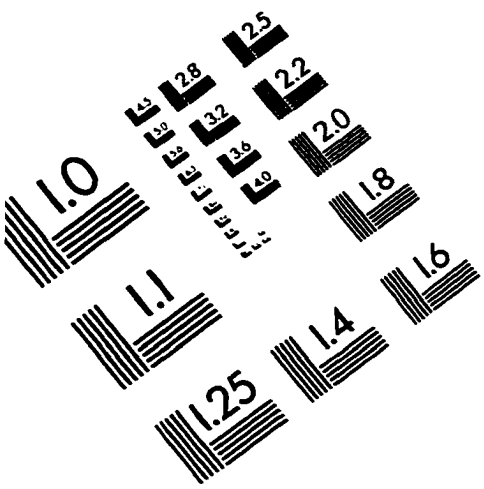
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IMAGE EVALUATION TEST TARGET (QA-3)



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