1992 TDRI Year-End Conference on

Thailand's Economic Structure: Towards Balanced Development?

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THAILAND'S ECONOMIC STRUCTURE: TOWARDS BALANCED DEVELOPMENT?

Background Report

The Structure of the Textile Industry and Government Policy in Thailand

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The Structure of the Textile Industry and Government Policy in Thailand[1]

The textile industry in a broad sense includes five industries; man-made fibre, dying and finishing, spinning, weaving and garment manufacture. The textiles[2] and garment industry has become particularly important to the Thai economy since the mid-1980s. The industry has grown so rapidly that it has become the largest foreign exchange earner, contributes the highest share of manufacturing Gross Domestic Product (GDP) and has the highest employment total in the manufacturing sector. Closer examination of the structure of this industry, however, reveals an imbalance between the number of firms in the different sectors. The garment industry has a large number of firms, while the number is small in weaving and spinning and fairly small in man-made fibre production. This paper examines the extent to which government policy affects the structure of the textile industry. It consists of four parts: the first gives the background of the industry's development in Thailand. The second gives a detailed examination of the industry and its production, The third examines government policy affecting the industry. The final part offers a summary and conclusions.

1. HISTORICAL BACKGROUND TO THAILAND'S GARMENT AND TEXTILE INDUSTRY

Although Thailand has a long history of textile production, the modern garment and textile industry was established relatively late compared with other East and Southeast Asian

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1 I am grateful to Prof. Ammar Siamwalla and Dr. Mingsarn Kaosa-ard for their comments and suggestions on my earlier draft.

2 Textile refers to weaving and spinning industry.

countries (Koomsup, 1973). Low import tariffs following the imposition of the Browning treaty in 1830 forced Thailand to open its market to the colonial powers and thereby inhibited the industry's early development.

The country's first textile machines included 3,232 spindles and 72 looms, all imported from Germany by the Ministry of Defence in 1936 for military purposes (Koomsup, 1973). It was not until 1946 that modern privately-owned textile mills began to operate, with a total capacity of 3,600 spindles. The first privately-owned modern textile mills were, in fact, established by a local entrepreneur in response to textile shortages during the Second World War.

After 1946, the industry expanded rapidly, particularly in mechanized spinning, with the number of spindles increasing to 43,000 in 1952. Production collapsed, however, in the late 1950s due to competition from low cost imported cotton textiles from Pakistan. The price of imported cotton yarn was 25-30 percent below that of domestically-produced yarn. Santikarn (1977) suggests that Pakistan's export subsidies were one reason for these low import prices. As a result, several Thai spinning mills went bankrupt and had to be closed down. The Thai government reacted by giving protection to the industry for the first time, imposing the Import Restriction Act on cotton yarn imports in 1955. The Act was amended to include cotton fabrics in 1957.

Import tariffs and the introduction of the Investment Promotion Act in 1960 encouraged investment. The textile mills closed during the 1950s, including the textile mills owned by the military, were taken over and expanded by local entrepreneurs, and by Chinese entrepreneurs from Shanghai and Hong Kong. Three pioneer firms were established, mainly in cotton textiles: the Thai Blanket Industry (1959); Thai Durable Textiles (1961); and Luckytex (1961). These firms have become major concerns within the industry. A few years later, joint ventures with Japanese firms became important in man-made fibres. The leading firms were Thai-Yazaki-Mahakun (1963), Tokai Dying (1963), Thai Toray Textile Mills (1964) and Thai Teijin Textile (1965).

2. FOREIGN INVESTMENT IN THE TEXTILE INDUSTRY

Japanese joint venture companies, led by Toray and Teijin have played an important role in the industry since the 1960s, contributing capital, technology and management. Katano (1981) noted that Japanese textile investment in Thailand was part of a strategy that

also included Indonesia, Malaysia and the Philippines. An important objective was to secure a share in the increasingly protected market of these countries. It was, however, also relevant that Japan's garment and textile industry was subject to Voluntary Export Restriction (VER) on cotton textiles from the United States under the Long Term Agreement (LTA)[3] on textiles. Investing abroad was part of the Japanese companies' strategy of circumventing the LTA restrictions. By the mid 1960s Japanese government policy was, moreover, encouraging adjustment in the textile industry.

Some of the large integrated man-made fibre, spinning, weaving and finishing firms in the industry were joint ventures with Japanese firms. The average Japanese shareholding in such joint ventures was only 36 percent in 1978, with the Japanese firms controlling management as Thai shareholders were fragmented (Tambunlertchai and Yamazawa, 1981). Partly because of this, but also because Japanese suppliers were competitive, most of the textile machines and technology used in Thailand came from Japan.

From the mid 1970s joint ventures, with capital from Taiwan and Hong Kong—also seeking escape from the industrial countries' import controls that had now become the Multi-Fibre Arrangement (MFA)—became more common in Thailand. In the 1980s, more investment came from these two countries because of their rising labour costs and the appreciation of their currencies.

3. STRUCTURE OF THE THAI TEXTILE INDUSTRY

Most Thai textile firms are located in or around Bangkok. There are many firms in garment and weaving, the labour intensive end of the industry, and fewer firms in spinning and man-made fibres, which are more capital intensive. Both ends of the spectrum are engaged in exporting. There are at least 2,000 garment firms, ranging from those with less than 10 sewing machines to those with more than 1,000. Even this is almost certainly an underestimate as small firms with less than 30 sewing machines are not required to be registered. Around half of the capacity in the garment industry is owned by large concerns. The garment industry is characterized by low capital and simple technology. In some areas there are no appreciable entry costs as the minimum efficient scale of production is low.

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[3] LTA is an earlier version of the widely known textile and clothing export quota the Multi-fibre Arrangement (MFA). For further details see Suphachalasai (1989).

Leading technology in garment production has become more capital intensive as micro-electronic related innovations have developed. Computerized machines help the processes of designing, grading and cutting, while automatic machines, robots and computerized sewing machines can assemble parts of the garment. Such innovations can save 4-10 percent of material costs and 21-70 percent of labour costs. They can, however, save only 4-10 percent of labour costs in assembly where labour costs have the highest share (Hoffman, 1985).

The adoption of new technologies is still limited by high investment costs and changes in fashion. The heterogeneous nature of garment products also makes it difficult to reach the minimum economies of scale in production. Capital intensive garment production has steadily become more competitive in industrial countries as labour costs increase. Protectionism makes the imported prices higher than they should be. However, Hoffman (1985) suggests that advanced technology in garment production will not be a threat to developing countries' competitiveness at least until the next century.

Small garment firms are heavily engaged in sub-contracting. These firms undertake the more highly skilled components of orders and the sub-contractors, mostly household firms, undertake the less skilled work. In producing shirts, for example, the small firms buy fabric and do the patterning and cutting. The sub-contractors usually do the simple sewing on the bodies of shirts. Finishing, involving more difficult jobs such as putting on the collar, putting the sleeves in, labeling and other fine work, is again done by small firms. Larger firms, in contrast, process all the stages in the same factory.

Weaving has fewer firms than the garment component of the industry as it requires more capital and higher technology. In 1991 there were 642 weaving firms. The number of knitting firms was around 560 (Table 1). In Thailand some 250 small firms with old semi-automatic and automatic looms produce for the highly protected domestic market and for the 'border' markets of Burma, Laos, Kampuchea, Malaysia and Vietnam. Large weaving firms with modern machines, ranging from modern automatic to air-jet looms, produce both for export and for the domestic market. There is a broad spectrum of weaving technology in Thailand, but it is concentrated in the labour intensive end of available technologies.

At the more capital intensive end of the industry in Thailand, spinning had 115 firms with 3 million spindles altogether in 1991 or about 30,000 spindles per (Table 2). This was the minimum economic size for spinning cited by Ajanant and Speafico (1984).

Table 1: Number of Firms in the Textile Industry

	Man-made Fibres	Spinning	Weaving	Garments
1987	7	65	694	1,168
1988	7	76	778	1,350
1989	8	80	915	1,574
1990	9	96	1,038	1,796
1991	11	115	1,202	2,029

Source: Textile Intelligence Unit, Ministry of Industry.

Table 2: Number of Textile Machines

('000)

	Number of		
	Spindles	Looms	Knitting Machines
1975	1,094	53	17
1976	1,112	56[a]	22
1977	1,129	57	23
1978	1,168	59	24
1979	1,300	63	26
1980	1,320	67	30
1981	1,547	70	31
1982	1,642	72	33
1983	1,791	77	35
1984	1,872	78	39
1985	1,963	79	41
1986	1,954	80	44
1987	2,068	94	50
1988	2,581	103	69
1989	2,740	107	80
1990	2,889	116	91

a = On Dec. 25,1976 28,456 spindles were destroyed when the Thai Weaving Industrial Factory was accidentally damaged by an Egyptian airplane.

Source: Thai Textile Manufacturing Association and Textile Intelligence Unit, Ministry of Industry.

Both small and large spinning and weaving concerns are internationally competitive, although daily labour productivity of large concerns in Thailand is lower than in countries such as Germany, France and Italy. For example, in 1984 the output of spinning count No. 24 in Thailand was around 12 kg per worker per hour whereas in Germany it was 15 kg per worker per hour. Labour costs in Thailand, however, were substantially lower. In 1984 they were just 1/8 of the labor costs in Europe, thus making Thai production competitive (Ajanant and Speafico, 1984).

Thailand is also competitive in weaving because of the wide range of alternative technologies available. As Table 3 shows, though the older technologies with shuttle looms work at lower speeds (picks per minute), they require lower capital investment and higher labour inputs compared to shuttleless looms. Thus, although weaving machinery in use in Thailand typically has a lower number of picks per man hour than in industrial countries, Thai firms are nevertheless competitive because of their labour cost advantage.

Similar differentials apply to competition between small and large concerns within Thailand. Output per worker is higher in the large concerns, but the small concerns are both competitive and expanding, partly because their wage rates are lower.

Table 3: Alternative Weaving Technologies

	Shuttle looms		Shuttleless loom	
	1962	1975	Draper (rapier)	Sulzer (missle)
Speed	212	170-210	200-285	200-300
Cloth Width	47.5"	40"-68"	26.6"-66.5"	85"-153"
Price of machines (US$1,000)	2	8.5	16	35
Workload				
-looms/weaver	100	120	none	none
-looms/fixer	100	100	none	none

Source: Olsen (1978).

4. TEXTILE AND GARMENT PRODUCTION

Textile and garment production has grown steadily with the expansion of both domestic and export demand. Garment production increased from around 490 million pieces in 1975 to almost two billion pieces in 1991 (Table 4). Textile production also grew steadily, while fabric production increased from around 1.1 billion square yards in 1975 to 3.1 billion square yards in 1991. Yarn production grew more rapidly, from 13,500 tons to 608,000 tons during the same period. There was also a sharp increase in man-made fibre production, rising from a negligible level in the early 1970s to 313,000 tons in 1991.

Thai textiles output is expected to continue to grow rapidly over the next few years. Capacity, including the number of spindles, looms and synthetic fibres, is also likely to expand, given rapid investment growth.

While Thailand exports textiles, it also imports raw materials, including cotton and intermediate inputs such as man-made fibre, yarn and fabric. Import values have grown steadily since the 1960s and they have increased markedly since the mid 1980s as a result of the rapid expansion of exports. Domestic producers are notably short of indigenous raw material, especially cotton. Thailand's climate allows only production of low grades of cotton (grade B and C).

Table 4: Thailand's Clothing and Textile Production, 1975-1990

Year	Clothing (million pieces)	Fabrics (million square yards)	Yarns (1,000 tons)	Man-made Fibre (1,000 tons)
1975	488	1,128	135	39
1980	722	1,821	227	113
1985	946	2,494	292	127
1986	1,035	2,633	362	131
1987	1,135	2,912	387	141
1988	1,227	3,074	399	152
1989	1,389	3,469	435	204
1990	1,653	3,987	502	244

Source: Thai Textile Manufacturing Associations and the Textile Intelligence Unit, Ministry of Industry.

Table 5: Import of Textiles, 1985-1990

	Cotton (1,000 tons)	Man-made Fiber (1,000 tons)	Yarns (1,000 tons)	Fabrics (1,000 sq.yds.)
1985	132.5	22.6	7.7	139,289
1986	193.4	26.0	19.7	214,440
1987	249.7	36.5	46.6	289,200
1988	212.6	31.2	49.5	334,300
1989	259.5	45.3	63.0	418,200
1990	283.7	35.7	83.5	478,600

Source: Customs Department

Some of the yarn and fabrics required for exports cannot be produced domestically. Relatively low quality is only part of the reason. Fashion changes in garments require a variety of inputs which no one country can produce.

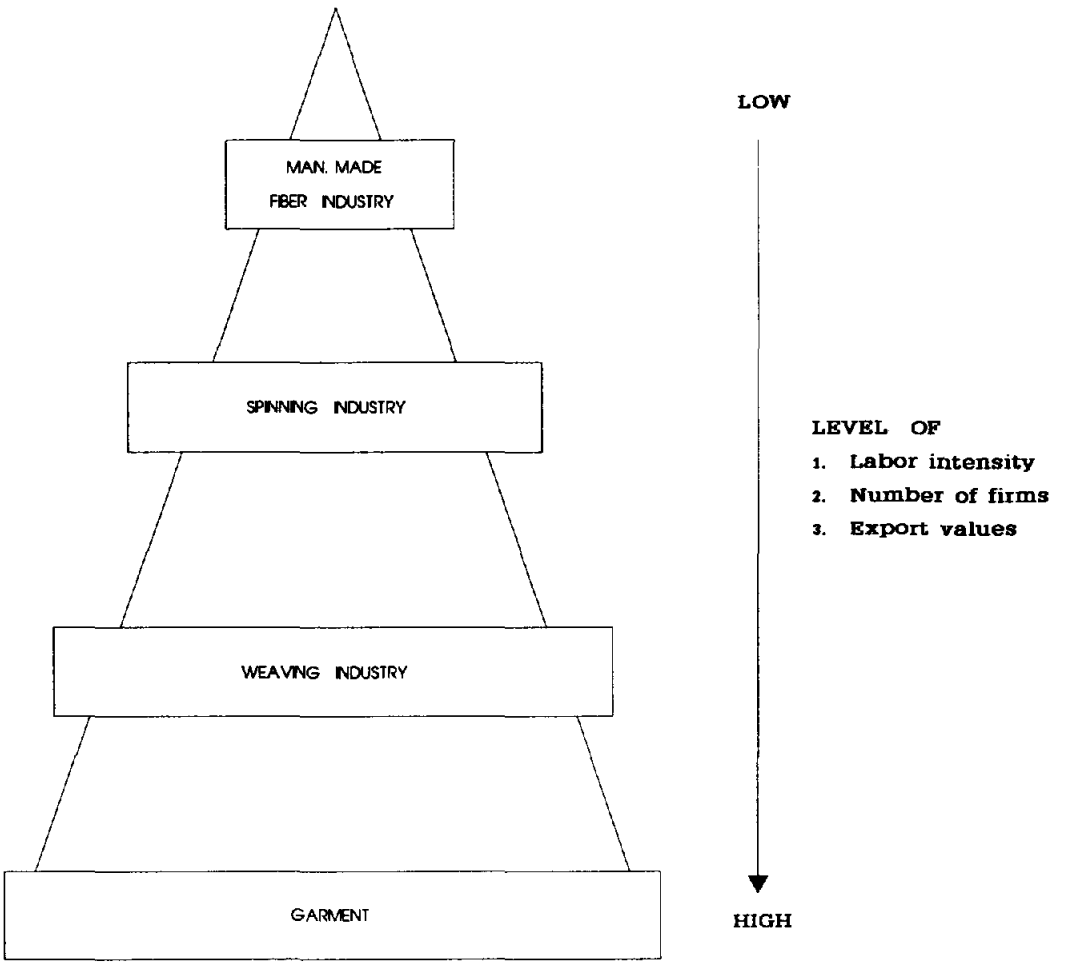
The high growth of exports of garments in the mid-1980s, moreover, left Thai textile suppliers behind. Imports of textile fibres and yarns nearly doubled to support the more than 50 percent expansion in garment exports. Table 5 suggests that from 1985 to 1987 the import volume of man-made fibre, yarns and fabrics has increased markedly. Imports of man-made fibre increased from 22.6 thousand tons in 1985 to 82.2 tons in 1990. Yarn imports in 1987 were 10 times the import volume of 1985, soaring from 8,000 tons to 83,500 tons.

Government policy also contributed to the inability of Thai intermediate products to keep up with export growth. From 1978 to 1987, it exacerbated the inevitable time lag between investment and production by prohibiting the expansion of existing, or the establishment of new, textile plants.

5. THE GOVERNMENT'S POLICY AND STRUCTURE OF THE INDUSTRY

This part of the paper will, first, lay out the government policies generally related to the industry and then focusing on the effects of policies specifically related to individual groups of industries ranging from textiles, dying and finishing, garments to man-made fibre.

The Thai textiles and garment sector is characterized by a large number of firms in the labour intensive garment and weaving industry and a smaller number of firms in the capital intensive spinning and man-made fibre production, and dying and finishing firms (Figure 1). The labour intensive end of the industry, garments, makes the highest contribution to the country's value-added, export earnings and employment in the manufacturing sector.



Source: Suphachalasai, 1992

Figure 1 Characteristics of Thai Textile Industry

Two important factors are responsible for the structure of the Thai industry; the country's resource endowment and government policy. Thailand is at the stage where it has a competitive edge in producing labour intensive products. The county's labor costs are among the world's lowest (Suphachalasai, 1989). The country should, therefore, have a large number of firms in the labour intensive end of the industry, garments, while the second largest should be the weaving industry where there are alternative technologies to choose from, ranging from capital intensive and high technology weaving machines to low level technology and low capital intensity. The number of firms in spinning and dying and finishing, which are chemical-based industries, as well as man-made fibre production should be smaller.

Newly Industrialized Economies (NIEs) in East Asia, including Japan, had experienced similar structures when they were at the early stage of industrialization. The NIEs began with the labour-intensive garments industry. Only when these countries became more industrialized did they move to textiles and then man-made fibre. Japan has now reached the highest stage of development. Its main production is now man-made fibre and it has also become a net importer of garments (Yamawaki, 1991). Anderson and Park (1991) point out that textile and garment industries in the Republic of Korea and Taiwan are heading in the same direction.

The structure of the Thai industry is in line with the country's current stage of industrial development and resource endowments. There exists, however, an imbalance within the industry as its structure may not provide an adequate foundation for future development once Thailand reaches a higher level of industrialization. Government policy has to some extent influenced the structure of the industry.

In addition to tariff protection, the government has given various forms of assistance to both textile and garment industries. Textiles were among the first industries 'promoted' under the Industrial Promotion Act of 1960. Yet textiles promotion has been 'on and off' and inconsistent. The Board of Investment ceased granting privileges to weaving and spinning firms, except for dying, printing and finishing in 1964. The promotion granted to dying and finishing ended in 1971 and was resumed again only for integrated export oriented weaving and spinning in 1973. It then ceased altogether in 1978. In 1984, privileges were again granted to export-oriented garment firms. In 1986, large spinning and weaving firms with capital investment exceeding $2 million, were granted promotional privileges. Also in 1986, the promotion of import substitution investment on man-made fibre, polyester stable fibre and pre-oriented yarn, was first halted and then resumed a year later. Promotional privileges, which ceased for the textile industry in 1986, have now been resumed for spinning and weaving and for firms that produce both for domestic consumption and for export, provided

such firms locate in investment promotion regions. These regions are all in areas outside Bangkok: Samut Prakarn, Samut Sar Korn, Samut Songkram, Pratum Thani, Nontha Buri, and Nakorn Pathom.

Credit subsidies are available from the Bank of Thailand for production and export. Although credit assistance is available to many industries, textile firms have enjoyed the bulk of such credit. Credit assistance was initially requested by textile firms in 1978 as domestic and export demand declined.

Credit assistance is also available for exports in the form of discounted promissory notes. Discount rates vary with the market. However, the United States has threatened to impose countervailing duties (CVD) of around 2 percent if Thai exporters receive credit assistance. The countervailing duty is not applied to exporters who do not obtain credit assistance from the Bank of Thailand.

Prior to the value-added tax system of 1991, the government imposed sales taxes on such intermediate goods as fibres, yarns and fabrics. The tax was cumulative. As intermediate products passed through subsequent processes, the costs of production rose. A study by Hiranyakit (1986) suggests that these taxes do not encourage garment producers to integrate vertically. Integration exists largely within spinning and weaving because this industry has the possibility to produce with economies of scale. Changes in fashion give an advantage to garment manufacturers not tied to woven product suppliers as they can change inputs quickly. This advantage obviously outweighs the cost of sales taxes.

Imported garments and textile products always attract tariffs. Import duties on fabrics and garments, at around 60 percent, are among the highest (Table 6). Man-made fibre has the second highest tariff rate of 30 percent. Thailand has also lacked quantitative restrictions. Only one garment and one type of fabric (unbleached garment and silk fabrics or mixtures of silk and other fibre that contain more than 50 percent silk) have been restricted by import licensing.

Import tariffs on garment and textiles have been reduced since the late 1970s. The government has reduced import tariffs on fabrics and garment from 80-100 percent in 1978 to 60 percent in 1985. Additional import surcharges imposed on man-made fibre were abolished in 1984.

Table 6: Import Tariffs for Textile and Clothing

Percent

	Year			
	1974	1978	1982	1990
Man-made Fibre	20(30)[a]	20(30)	22(15)	30[b]
Yarns(Polyester-Cotton)	20	20	22	30
Cotton Yarns	25	25	27	30
Fabrics	60	80	66	60
Clothing	60	100	66	60

(...) = Import-surcharge as a percentage of CIF import price
a = Figure in 1975
b = Import-surcharge was abandoned.

Source: Industrial Finance Corperation of Thailand (IFCT), 1986.

The government has tried to control textile capacity and production since the early 1970s, for the first time in 1971, by prohibiting investments in new or expanded factories. The reason given was to avoid over capacity. The prohibition on textiles investment was continued until 1987 when the regulation was abandoned. Government policy for the garment industry was somewhat different as new investments were allowed in 1979, but only for small firms with a capacity of less than 30 sewing machines.

5.1 Textile Industry

Textile firms have actively lobbied on behalf of the industry since the early stages of its development in the early 1960s. Government policy toward textiles has encompassed a mix of protection, promotion and restriction. These trends reflect the activities of some of the most effective lobbying groups in the country[4].

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4 The industry consists of five associations: the Thai Textile Manufacturing Association (TTMA); the Thai Weaving Industry Association (TWIA): the Thai Synthetic Textile Association; the Thai Silk Association; and the Thai Garment Manufacturers Association (TGMA). Three of these associations - the TTMA, the Thai Synthetic Textile Association and the Thai Garments Manufacturers Association - represent large concerns. The TWIA represents small weaving firms. The TWIA is the oldest association, founded after World War II to assist manufacturers to obtain and adapt new technology. It became an effective lobbying group in the mid 1980s.

There are three groups involved in lobbying activities: large integrated firms engaged in spinning and weaving, active since the industry's early stages; independent large integrated textile firms; and small weaving firms, the least active in lobbying.

Protection and capacity control are policies brought about by lobbying. In 1970, the government gave the industry protection, as high as 100 percent. Such protection for the first time aimed at sheltering the industry from subsidized imported products from Pakistan. This same tariff protection, however, later prevented the industry from import competition. This has created economic rent from protection. Moreover the regulations related to capacity control created economic rents by preventing new entries.

Government policies concerned with the industry can be divided into three periods, from 1971 to 1977, from 1978 to 1985 and from 1986 to the present. Two important factors dominate this policy. First, production capacities installed by the large firm lobby groups; and second, export performance, usually related to investment promotion. Where there has been export expansion, for example, despite a ban on new establishments or expansion of textiles capacity, widening export capacities is nevertheless allowed.

In 1971, the large firm textiles group lobbied to regulate the industry by prohibiting capacity expansion and the establishment of new textiles firms. The group also opposed granting promotion privileges domestic sales production (Table 7). The objective was to avoid over capacity in production. Prior to 1971, the Board of Investment (BoI) granted investment promotion[5] to textile firms with capacities of 234,800 spindles and 4,950 weaving machines (Osathanon, 1986:4). That particularly amount of textile capacity, or so it was believed, would exceed domestic demand by 20 percent.

Additionally, as there are greater quantities of textile products in stock, the group requested export subsidies as well as assistances to reduce production costs. The government granted export subsidies of around 20 percent, 100 percent tax rebates on inputs, and concession rates for electricity (Assakun, 1990). Consequently, 1972 marked the first time that the country exported textile products.

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5 During that time investment promotions were granted for domestic sales production.

Table 7: Chronological Order of Textile Policies, 1971-1987

Conditions	Date	Government Regulations and Responses
- A textile capacity of 234,800 spindles and 4,950 weaving machines was promoted.	01/09/1971	- Two-year ban on expanding textiles capacity.
- It was expected that there might be an excess capacity.		- "Textiles" was dropped from the promotion list.
		- Provided export subsidies, tax rebates on inputs.
		- Granted concessions on electricity costs.
- Textile exports increased (1972-73).	08/03/1973	- Promotions resumed.
		- New capacities allowed for exporting firms.
		- Allowed existing firms to expand capacity by 50%.
- Textile exports continued to increase (1974-77).	04/09/1974	- New and expanded textile capacities allowed which were granted promotion if producing for export
- It was believed that capacity would be in excess however, exports continued to grow.	10/03/1978	- Ban on new establishments and expansion of capacity for man-made fibre production, spinning, weaving, printing and dying and clothing firms—except for those granted privileges by BoI prior to March 10, 1978.

(Continued on page 15)

Table 7: (Continued)

Conditions	Date	Government Regulations and Responses
	24/08/1979	- New firms could be established and garments capacity expanded but only for firms with more than 30 sewing machines were allowed only for firms exporting to non-quota markets.
	15/09/1980	- The prohibition on investments in the clothing industry ended.
- High exports growth(1981-83) slump in domestic demand	28/01/1981	- Amnesty given to illegal firms not registered with the MoI.
	18/08/1981	- Firms were able to apply to invest in man-made fibre production, but a deposit of $40,000 had to be made with the Ministry of Industry.
- Exports continued to expand.	21/11/1984	- Export-oriented spinning and weaving industries were allowed to establish new firms and expand their capacities.
- Exports continued to grow.	20/04/1987	-Expanded textile capacities and the establishment of new firms producing for both for export and the domestic markets and with BoI privileges were allowed.
- Export boom of yarns and, resulting in yarn shortages	03/06/1987	- Firms not registered with MoI during the prohibition period were legalized.
		- Expanded textile capacity allowed.

Source: Ministry of Industry.

From 1972 to 1977 textile exports increased continuously and thus promotions given to textile investments were resumed for export-oriented firms (Figure 2). Capacity expansion was resumed two years later, in 1973, but exclusively for existing firms producing for the domestic market. The expansion reached a maximum level of 50 percent of existing capacity.

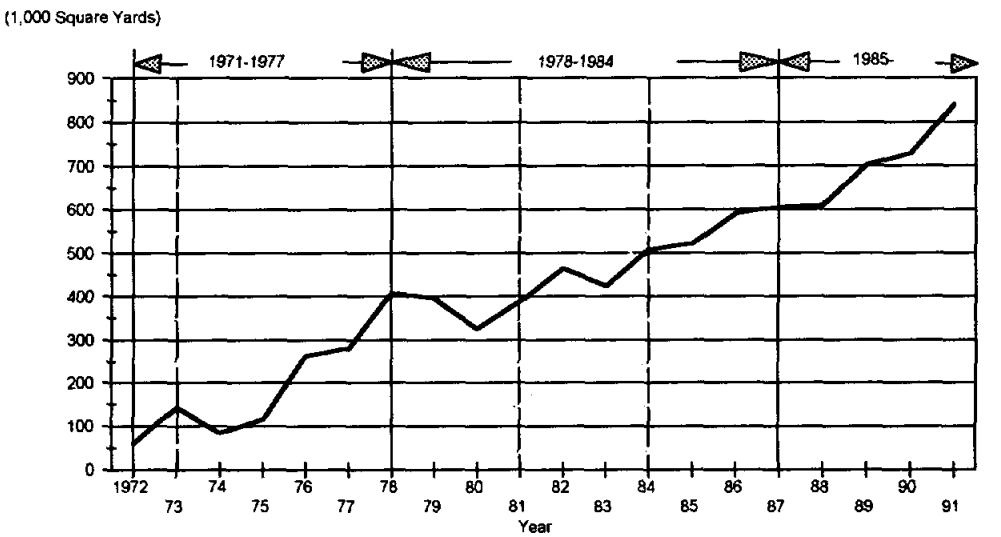

Figure 2 Export Volume of Woven Fabrics, 1972-1991

In 1978, there was once again the re-introduction of regulations limiting textiles capacity, except for those granted promotion privileges prior to March 10, 1978. This time the regulation included dying and printing, and garments, as well as man-made fibre production (Table 7). A slump in domestic demand, as well as a drop in textile exports, were the main reasons (Figure 2). It is also true that there was a slow down in exports due to a slump in world demand. Thailand at that time was not competitive in the world market and the demand for imports was mainly a spill over from major exporting countries in the East Asia.

As a result of the rents created both from tariff protection and capacity control limiting new entries by large companies, a large number of small textile firms, especially weaving firms, were established illegally. They did not register with the Ministry of Industry and therefore obtained a 'free ride' from the benefits available. These firms imported second-hand machines, mostly from Taiwan, producing for the highly protected domestic market.

Lack of cooperation between the Ministry of Commerce and the Ministry of Industry, who controlled capacities, plus loopholes in the regulation itself, made the import of textile machines possible. In 1984, for example, the regulation allowed the establishment of weaving firms producing mosquito-nets and fabrics made from dyed colored yarn. The same weaving machine, however, is able to produce other types of fabrics from different yarns. Increased production capacity was made possible through export-oriented textile firms who were granted promotional privileges from the Board of Investment.

Both the small and large firms tried to acquire the rents thus created. Before the regulation became effective in 1978, large firms their capacities - although they did not need to do so - for precautionary reasons. Table 8 suggests that before the regulation became effective in the number of textile machines imported in 1976 and 1977 were only 246 and 88 units. This increased to 4,696 in 1978. In the weaving industry, imports increased from 1,124 in 1976 to 3,550 in 1978 and to 4,347 in 1979.

Table 8: Imported Textile Machines, 1975-1990

Year	Spinning Machines Quantity (Unit)	Weaving Machines Quantity (Unit)	Knitting Machines Quantity (Unit)
1975	1,305	2,664	6,235
1976	246	2,181	7,910
1977	88	1,124	991
1978	4,696	1,791	1,314
1979	324	3,550	2,812
1980	642	4,347	4,024
1981	1,745	2,836	1,966
1982	1,015	1,854	1,735
1983	906	4,991	2,817
1984	506	2,704	4,375
1985	118	646	6,325
1986	124	694	3,812
1987	1,491	14,934	6,595
1988	1,154	12,245	4,636
1989	1,314	8,299	8,477
1990	1,251	8,813	12,018

Source: Foreign Trade Statistics of Thailand, Customs Department.

The large concerns have never been united. In the early 1980s, for example, one of the major textile producing companies expanded its capacity by importing textile machines from the People's Republic of China, despite the prohibition on textile expansion. The import of weaving machines was part of an exchange trade programme arranged by the Prime Minister's visit to the People's Republic of China. Although the machines were not efficient, as they were all of low technology, production was economically viable for the firm.

The regulations were not, however, implemented effectively. The number of spindles, looms and knitting machines continued to increase by approximately 10 percent per year (see Table 2). Textile machines were imported and installed without being registered with the Ministry of Industry. Realizing that it was unable to control capacity effectively, the government from time to time gave amnesties to firms that registered belatedly, for example in 1981 and 1987.

It is interesting that during the legalized period of 1981 many 'export oriented' firms were not exporting (Ramsey and Doner, 1991). This implies that investment promotion was being used as a means of rent seeking, particularly large firms. Small firms were unable to apply for the promotion.

The policy was carried out continuously until the end of 1986, when the dramatic increase in textile exports resulted in a shortage of yarn. Yarn exports increased markedly in 1983 (Figure 3). Yarn prices in Thailand rose from below the world market price to above it (Bangkok Post, December 1, 1986). In 1986, for example, the price of cotton yarn No. 20/1 was $0.88 per pound in January, and increased to $1.36 in December. For blended polyester-cotton yarn T/C No. 45/1 the price increased from $1.36 per pound to $2.2 during the same period. The increase in prices and shortages of yarns mainly hit small weaving firms lacking integrated spinning capacity.

As a result a group of small weaving firms, as well as some large firms, attempted to abolish the regulation on prohibition of new establishments and expansion of textile capacity. In late 1986, the Ministry of Industry partly abolished the limitation on capacity. Applications to establish new firms and expand existing firms, however, were allowed only in the month of June 1986. In May 1987, the Economic Minister's Cabinet abolished outright the limitation on expanding capacity.

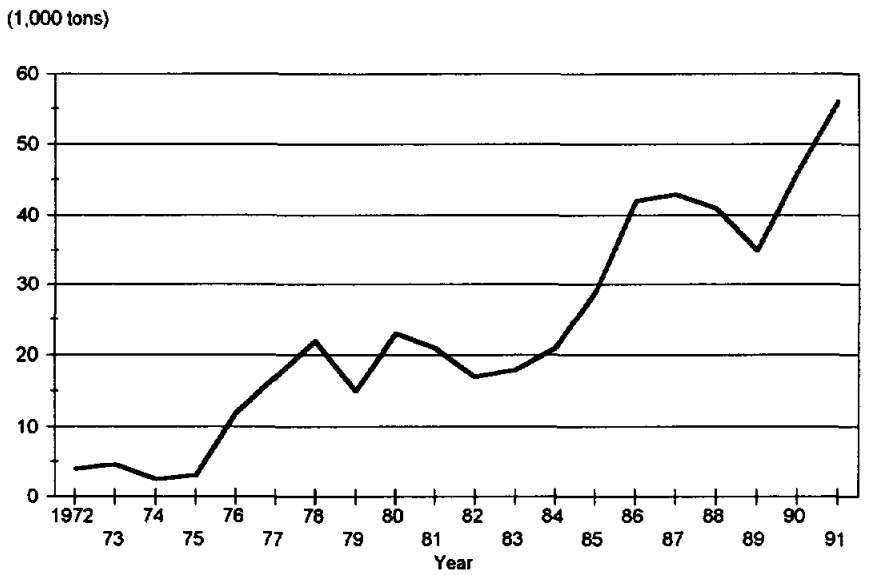

Figure 3 Export Volume of Yarns, 1972-1991

Once the regulation was abolished in 1987, a large number of new firms were established. The number of weaving firms doubled between 1991 and 1987. The number of looms increased from 80,000 to 116,000 during the same period, while the number of spindles increased from 1.9 million to 2.9 million.

Since the barrier to entry has been removed, modern textile machines for both spinning and weaving have been imported and installed. About 18,000 shuttle looms and 3,000 units of shuttleless machines were imported between 1987 and 1990. Many large textile companies have either replaced, or are in the process of replacing, their old machines with the latest models (Table 9).

The government had little success in controlling textile capacity due to the high degree of competition. The policy, however, has restrained best use of the new technology, at least to some extent. Textile firms have concentrated on producing low quality products for the over-protected domestic and border markets[6].

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6 It is estimated that the border trade ing textiles with Laos, Kampuchea and Burma accounts for 20 percent of domestic consumption.

Table 9: Weaving Machines Imported, 1988-1990

Year	Power Looms		No Power		Shuttleless	
	Quantity (Unit)	Value ($Million)	Quantity (Unit)	Value ($Million)	Quantity (Unit)	Value ($Million)
1988	8,949	15.2	937	4.5	1,987	27.0
1989	4,728	8.9	823	3.9	2,094	29.6
1990	4,216	13.5	1,066	8.3	2,978	47.0

Source: Foreign Trade Statistics of Thailand, Customs Department.

5.2 Dying and Printing Industry

Dying and finishing has been affected less by the capacity control. The industry has, however, suffered from the effects of protection given to textile products and protection on the chemical industry, which produces inputs for the textile industry.

At present, Thailand has about 476 dying and finishing firms. Of these, 200 are integrated with large concerns. Although there are many firms in dying and finishing, only 5 percent of these produce good quality products (TDRI, 1990).

Textile inputs are expensive because of the high protection given the chemical industry. Also, the export quota allocation system provides no incentive for firms to export dyed or finished products. The protection given the chemical industry make import tariffs on dyes as high as 50 percent. This lessens the competitiveness of dyed fabrics and yarns. Dyed yarns and fabrics are thus produced for the domestic market while grey cloth and yarns are exported.

Textile and garment exports to developed countries market are subject to the Voluntary Export Restrictions (VERs), under the Multi Fibre Arrangement (MFA). As the export quota is subject to VERs, quota rents arise with the exporting countries. Thailand's quota system allocates the rents arising from MFA to large firm groups. As historical performance has been used as a criteria in allocating export quotas, the system has been designed to make it difficult for small firms or new comers to obtain export quotas for the MFA market (For details see Appendix 1).

In the case of textiles, as most of the quota given by the importing countries are in the form of grey cloth, large firms with high capital stock have no incentive to improve their dying and finishing. It is better for the firms to concentrate on exporting to the quota-market and obtain the quota-rent.

5.3 Garment and Man-made Fibre Industries

In contrast to other industries, the garment industry has many firms and a high level of competition. The labour intensive nature of the industry, and to a lesser extent government policy, are responsible for the industry's structure. Simple technology and low efficiency leave large firms with no advantage over small firms. The industry has not suffered from capacity control. In 1984, the garment industry was able to expand as it was not exporting to the quota-market. In fact, as with textiles, small garment firms were not able to export to the quota-market because the quota allocation system made it difficult for small firms to acquire such quotas.

There are fewer firms in the more capital intensive end of the industry. In the most capital intensive end of the industry, man-made fibre production, there are only 11 firms. Most are joint ventures with foreign companies, for example, from Japan and Taiwan. Similar to the garment industry, government policy and high capital intensity makes it difficult sustain high competition.

6. SUMMARY AND CONCLUSION

The government's policy toward the textile industry has, to some extent, affected the industry's organization. There are a large number of firms in the labour intensive end of the industry and only a small number in the capital intensive end of the industry. The structure of the industry seems to fit well with the country's resource endowments. But when examined closely, an imbalance between large and small firms, particularly in the weaving and garment industries, is apparent.

In the case of the weaving industry, the government policy of attempting to control the industry's capacity is the key factor causing for such a dualistic structure. The policy makes the firms concentrate on seeking rent, rather than on improving their productivity. This exacerbates the time lag on investments and the use of modern textile equipment that could later facilitate the industry's development.

These rent seeking activities are costly to the national economy. An overcapacity for textile production, for example was installed by firms anticipating the legislation that prohibited expansion and the establishment of new textile capacity, both in 1971 and 1978. This hurt the economy as it led to sub-standard production scales and the misallocation of resources. After the policy was abandoned, small weaving firms with less efficient production faced problems in competing with more efficient large firms. Improving production capacity requires a large amount of capital.

The government has failed to control the capacity of textile production and to limit new entries. The legalization of textile capacity in 1981 and 1987 are good examples of this failure. This has, however, created a competitive environment, particularly in rent seeking activities.

The dying and finishing industry suffered most from government policy. There are missing linkages between dying and finishing and the textile sector. Only a small number of dying and finishing firms are able to produce quality products. Protection given to the chemical and fabric industries has force both to concentrate on low quality products for the domestic market.

Thailand has to face stiff competition in the world market. Indonesia and the People's Republic of China are important competitors. Although Indonesia's export specialization is well below Thailand's, it is catching up rapidly (Hill, 1992:39). The Thai industry needs to improve its productivity, particularly on the labour-intensive end, garments, as Thai wages have increased significantly over the last five years. Upgrading and increasing the value-added of export products is one of the important steps needed to keep Thailand competitive in the world market.

The country has to improve its competitiveness as competition in the world market will certainly become more and more intense. According to Dunkel's proposal on textiles and garments, the MFA will be abolished and replaced with a progressive growth in export quotas. The MFA will probably be abolished within 10 years after the GATT Uruguay Round has ended[7]. During the liberalization period, world trade in textiles and garments will increasingly become less restrictive. The less competitive countries will no longer be cushioned by quota rents and, therefore, will be unable to export, thus losing their market shares.

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7 For further details see Suphachalasai (1992a).

The government should enhance the country's competitiveness in various ways. For labour intensive industries, training programs for textile workers would be one way of increasing labour productivity.

Restructuring of tariffs is also required. Protection given to inputs required for up-stream industries should be kept at a minimum. For example, import protection given to man-made fibres should be lowered so that the spinning industry is able to obtain inputs as close to the world market price as possible. Tariffs on inputs for producing man-made fibres should be lowered simultaneously. The same applies to protection for fabrics as well as garments. Reducing tariff protection and allowing competition from other countries is another means to stimulate firms to improve the quality of their products.

Attention has to be given to the dying and printing industry to provide the missing link with textiles. Tariff restructuring by reducing protection on chemicals is also required to lower input prices on such chemicals as of Etherlene Glycol (EG), Coprolactum, Terepthalic acid, etc. Provision of adequate water supplies is also important to the industry. Perhaps the single most important issue for the industry is to design a clear policy for the treatment of the polluted water it emits.

Consideration should be given to improving the export quota allocation system so that it gives incentives to the textile industry to improve the quality of Thai dyed products. Auctioning off the quota would be one way to increase competition among textile producers and thus open new markets.

Appendix 1

Export Quota Allocation System: A Summary

As the Multi Fibre Arrangement is a form of voluntary export restraint whereby exporting countries allocate the export quotas and thus obtain quota rents. The quota allocation system is important: it can either dissipate rents or allow efficient use of the given quotas.

Thailand has a discriminatory system for export quota allocation. The Department of Foreign Trade is responsible for the quota allocations. Two quota systems are used: one for "yarns and fabrics" and another for clothing. In each case, the available quota is divided into two parts: the principal, or basic, quota and a residual quota. The principal quota (usually 70 to 80 percent of the export quota available) is distributed free of charge on an annual basis to exporting firms on the basis of past export performance.

A residual quota, that is the quota left over from the principal quota, is allocated on a monthly basis. Twenty percent of the residual quota is reserved for those trading companies which mainly export for large firms. The remaining quota from these two categories can be sought by any exporting firm, including new exporters and exporters who already have principal quotas. The residual quota (80 percent of the 20 percent left over) is allocated through four main criteria: (1) the utilization of domestically-produced inputs; (2) the price per unit; (3) the value-added to the exported products; and (4) the duration of time between the order and delivery dates (Department of Foreign Trade, 1986 and Hamilton, 1986). If a new exporting company can obtain a residual quota within one year, it will then be entitled to an export quota allocation from the principal quota in the following year.

Although the criteria for obtaining the residual quota appear to represent an open system for newcomers, in reality it is difficult for new firms to obtain quotas. The first and the

third criteria are difficult for small firms to meet. Large exporting firms are at an advantage because they usually have spinning and integrated weaving plants, or even man made fibre spinning and weaving production. Their domestic input content is accordingly high. New exporting firms find it difficult to compete in terms of the third criterion as it is difficult for them to produce high value-added products or high quality products.

The allocated quotas cannot, legally, be bought, sold or transferred to other firms. In addition, exporters are penalized if they fail to export less than 90 percent of their own quota. In the case of the principal quota, the exporting firms that obtain this quota have to surrender any unfilled quota to the Department of Foreign Trade (for reallocation) three months before the end of the year; otherwise their quota for the following year will be cut. In the case of an exporter obtaining a residual quota, the exporter has to fulfill at least 90 percent of the quota, otherwise the firm will be penalized by not being able to apply for the residual quotas for between one to four months.

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