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UNDP/UNIDO - NESDB

INDUSTRIAL RESTRUCTURING PROJECT

15569

Thailand. INDUSTRIAL RESTRUCTURING IN TEXTILE INDUSTRIES.

Final Report.

Prepared by

Juanjai Ajanant,

Suvit Thaniyavarn,

in collaboration with

Spreafico Luigi

UNIDO advisor

1 April 1986

IMC THE INDUSTRIAL MANAGEMENT CO., LTD.
BANGKOK,THAILAND

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Acknowledgement

This report, Industrial Restructuring in Textile Industries, prepared under the auspices of UNIDO/NESDB, is the result of a cooperative effort of many personalities. We are responsible for the sections on Patterns of Demand, Domestic Textile Quota System, Restrictions on Trade, Financial Analysis, Technical Requirement, Financial and Investment Incentives and the Policy Implications. Mr. Luigi Spreafico, UNIDO textile specialist, spent many weeks in Thailand to examine the structure of production and also contributed significantly on the international demand and its trend. Mr. Phongsak Assakul, Managing Director of Bangkok Weaving Mill Co.,Ltd. was so courteous to let us interview him on the technical aspect of spinning and weaving technology for many hours. Industrial Management Company's research assistants, Mr. Kittivong Singhasemanond, Miss Siripun Kitiprawat and Miss Anusara Chanvanitchai, ran around to collect data to support us all the way.

The people mentioned above, however, should not be responsible for the technical errors which we alone shall shoulder the burden.

Bangkok — JUANJAI AJANANT

April 1985 — SUVIT THANIYAVARN

INDUSTRIAL RESTRUCTURING IN TEXTILE INDUSTRIES

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I. THE STRUCTURE OF THE TEXTILE INDUSTRIES[1]

Overview

Within the domestic confinement, the textile industry represents a considerable share both in terms of GDP, foreign trade, and employment. From Table 1, which describes the situation for the years 1975, 1978, 1980 and 1983, it can be observed that the share in manufacturing sector by the textile industry has been in the range of 21-25 per cent of the manufacturing sector. Its share in manufactured imports in 1975 was at 7.5 per cent and gradually declined to the 5 per cent level as of 1983. This trend indicates that the self-sufficiency state has been gained by the textile industry over the period. At the same time, the ratio of textile exports in all manufactured exports ranges between 28-39 per cent, with the highest percentage share in 1978. When we observe the number of manufacturing employees, we find that the number of people employed in the sector has come ups and downs, but this is not to be applied for the case of the textile industry. In 1975, it employed 213,330 persons and the number of employed has been increasing to finish at 342,883 persons in 1983. All in all the ratio of employed persons in the textile industry constitutes almost 20 per cent in 1983.

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[1] This chapter were jointly prepared by Mr.Luigi Spreafico, UNIDO consultant, and Dr. Juanjai Ajanant.

Because the textile industry comprises of several levels of production (from spinning to garments), it has become essential to break down the sub-sectors to view the basic structures closely. We utilize the Input-Output Tables (1975 and 1980) for this purpose. The textile industry has been codified between 067-072 (see Table 2). Growth rates of each production have been quite consistent in terms of outputs. The wearing apparel category is the only one which has gained 4 percentage points during the 1975-1980 period. Value-added for all categories increased by at least a factor of two between the period. The outputs of all categories increased by at least a factor of two also. When we consider imports and exports by category, it can be concluded that imports of spinning, weaving and made-up textile goods have increased while the imports of knitting and garments have turned negative. On the export side, the above categories have contributed to favourable growth patterns. The growth rates of all items have been increasing spectacularly. When we come to the self-sufficiency ratio, all categories showed some positive signs. The overall self-sufficiency ratio in 1975 was 1.00 and the ratio was 1.09 in 1980. This amounts to saying that Thailand is now capable of exporting textile products to the outside world. It also implicitly means that the industry can meet the domestic demand.

The world recession has adversely affected the textile industry. This symptom of recession is not noticeable if one looks at the employment figure. Basically, the lay-off of employees during the bad periods is not easily done; in fact,

according to the Thai labour law, it can be a costly alternative to an organization. Weakened demands tend to manifest in terms of declined capacity utilization. That does not mean that a lay-off is not practised, but it is used selectively. In Table 3, we have shown the capacity utilization in terms of percentage. Crude it may be, but these figures indicate that from 1980 onward the capacity utilization of equipment and machinery in many sectors of the industry have gone down considerably. For example, the man-made fibre industry suffered from the decline in 1980 and 1981, while the yarn industry had begun to trade away since 1981. The two exceptions are the knitting and garment industries. Special attention should be paid to these two sub-sectors, though. Both have low capacity utilization, i.e., in the range of 50-70 per cent of the total capacity. The situation mentioned becomes clearer as one examines the output statistics.

Structure of Production

Cotton and Man-made Fibres

Foreign capital has been a decisive factor in the installation of modern factories, concentrated in man-made fibres and its blends. Foreign capital participates in 42 per cent of the textile companies in Thailand.[/1] In spite of the high concentration in man-made fibre, cotton still plays an important role in the Thai textile industry. Sixty three per cent of the

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/1 Industrial Finance Corporation of Thailand, Comparative Advantage of Textile and Cement Industries in Thailand, Institute of Developing Economics, Tokyo, 1980.

total consumption of cotton fibres have to be imported. Local produced fibre is of low quality and efforts are being made to improve both the quality and yield. Obviously the advantage of increasing domestic production of cotton will depend on the opportunity cost of the land use. As far as the balance of payment is concerned there is no difference in importing cotton or raw material (oil derivates) for the synthetic industry, but there should be differences in the country of origin.

Spinning and Weaving

There are in Thailand, 1.6 million spindles, plus 13,400 open end rotors installed. This is a rather large capacity which places Thailand in a remarkable position among the Asian countries. In Asia, Japan and Hong Kong have been reducing their installed capacity. Compared with the Latin-America countries, Thailand stands in the third place after Brazil, with 4.9 million and Mexico with 3.0 million spindles. Following Thailand comes Argentina with 1.1 million spindles. The spinning operation is concentrated in 59 plants which gives an average size of 30 thousand spindles, twice the minimum economical size. Only 9 plants have a size below 10 thousand spindles. In the synthetic sector there are 317 texturing machines and 394 high twisting machines distributed among 27 plants. Most of these plants are integrated with knitting operations.

Besides being large, the spinning plants are generally modern and also integrated with weaving. The weaving operation is divided into two categories : a) modern factories

with 29,700 automatic and shuttleless looms in 62 plants ; b) small and medium factories with a total of 28,300 looms in 250 plants. These looms are mainly old automatic looms or power looms. The modern factories produce both for the export market and for the domestic market. The small plants produce for the domestic market and the so-called "border market". These factories are not integrated and normally produce fabrics based on purchased dyed yarn and need no further processing in finishing. These plants are located in the urban area of Bangkok and are being put under pressure to comply with the city regulations of pollution or move. It was not possible to estimate the number of people employed by the small plants but, considering the work-load of the power looms, it is believed that they may represent about two-thirds of the total employment in the spinning and weaving stage.

It has to be mentioned also that there are in Thailand 14 plants with 72,000 spindles and 2,700 looms processing hard fibres, mainly jute.

Knitting, Terry Cloth and Carpet

The knitting industry also consists of two categories of plants, an official number of 71 plants with 6,900 machines of which 2,950 are circular and 2,400 are flat and an unknown number of cottage plants with about 26,000 machines of which 86 per cent are flat knitting machines. That makes a total of 32,900. It is reported that the knitting industry is responsible for 22 thousand employments but probably this figure

is under estimated due to the impossibility of tracing the small plants, some of them can work for a long period before they are spotted. Besides that, there are also 718 machines in 12 registered plants for the production of fishing nets.

Terry cloth for towels is produced by 25 main factories with circa 1,300 looms and an annual output of 6,500 tons. These plants are very regular in size-from 40 to 60 looms - although the individual output varies widely according to the weight of the fabric produced. In carpeting there are 7 known plants with the production of 2.7 million of square metres per year.

The Garment Industry

The garment industry follows the pattern of the knitting industry. A group of 57 big plants is responsible for 24 thousand sewing machines. Small and medium size plants account for 17 thousand machines and are in number of 225.

The garment industry in Thailand is quite efficient and most competitive in the international market. It was responsible for exports to the amount of 8,866 million baht (386 million dollars) in 1983 which is 61 per cent of the total textile manufactures of 14,432 million baht (628 million dollars) exported that year. Many plants have already introduced computerized cutting.

References were made about the advantages of having the garment plants integrated to spinning and weaving. Although

it is certain that a knitting mill can be integrated to its own cutting and sewing, in plain weaving it is not necessarily so. These are completely different activities as far as technology and management are concerned. Besides that, the garment industry depends on orders that have to be adjusted to the fashion very frequently and so demands for a great variety of styles and designs. Also the switching from one style to another has to be very swift. A garment plant integrated to a weaving mill will have to depend on other suppliers, in any case; and at the same time, it will not absorb the whole production of the weaving. This integration may be a convenience in some particular cases like specialization in one product (jeans for example), but this is rarely the case. The conclusion here is that there is no need to stimulate such integrations.

Import Dependence

It can be safety assumed that the domestic demand is approaching the saturation point and the industry now relies on the foreign trade. Records of trade between 1979-1983 are shown in Table 4. Here we divide our data into 8 categories. It is notable that while Thai textile firms are capable of exporting more than importing cotton yarn and cotton fabrics, the raw uncombed cotton has been imported into the country. Therefore, the cotton industry relies upon the foreign cotton from the U.S.A. and Egypt among other sources of supplies. The same situation is also prevailing in the synthetic yarn and fabrics producing sub-sectors. Knitted-fabrics are another importable items which see a trade deficit for Thailand. In sum, while

Thailand is self-sufficient in the over-all rating, Thailand requires raw uncombed cotton, man-made fibre and knitted fabrics to process into the finished products.

The success achieved by the garment industry in the export market has to be preserved. THis was the only sector to increase its exports by 11 per cent in 1983 when other manufactures showed reductions varying from 7 to 30 per cent. This preliminary statement is necessary because the garment industry presently depends on imported fabrics to keep its activity. This, in part, is necessary for an industry that has to place its products all over the world and, consequently, needs a wide range of fabric styles, which are constantly changing. On the other hand, a considerable number of garment pieces are produced with conventional fabrics (shirting, household, pants, etc.). These fabrics can, therefore,be supplied by the local industry and they are to some extent.

Since the import of fabrics is made under a "drawback" system, there is no burden on the balance of trade and the problem would be the idle capacity of the local industry in those items that could be produced locally. Table 5 shows the breakdown for the import of textile goods in 1982 including fibres. The highest item is the cotton fibre, which is one of the raw materials for spinning, with 2,024 million baht. The imported cotton could be replaced by local production through the expansion of the cultivated area only if alternative crops are not more profitable. Importing cotton has the advantage of

allowing for a better choice of the staple quality required for each specific product. The second item in importance is rubberized fabric which is mainly used for industrial purposes : 710 million baht. These are special fabrics and the production in small scale is not economical. Unfortunately a more detailed breakdown was not available so that it could be possible to check the feasibility of local manufacturing for at least s me of the products. This figure seems unusually high. Cotton, polyester and nylon fabrics are mainly imported by the garment industry and, as mentioned before, the imports are made under a "drawback" system so they have to be reexported. They accounted for 1,800 million baht, which compares favourably with the 6,573 million value of garment exports in that year. The next important item is man-made fibre used for blends and spun yarn. It amounts to 931 million baht for 24,888 tons of polyamide (nylon), polyester, acrylics and regenerated fibre (rayon). The installed capacity in the country for this group of fibre is 120,000 tons for a demand of 125,000 tons. This leaves an idle capacity of 20,000 tons which do not cover the 24,888 tons imported. Since the figures are rather tight, a more detailed analysis of the installed capacity is necessary taking into consideration the different kind of fibre produced. As a first approach it seems that a reduction of the imports of man-made fibre through protective measures could affect negatively the spinning industry.

The conclusion is that in order to reduce imports it would be necessary to adjest production of the weaving industry to the diversified requirements of the garment industry.

The improvement of management practices to upgrade quality and reduce delivery time, will increase the range of products supplied by the domestic plants.

Export Performance

Table 6 illustrates the domestic output and demand for each category. There are two elements of demands here. The first element is the domestic demand (about 75 per cent and the external demand (25 per cent) (See Figure 1). Within the domestic demand, there is about 20 per cent of total demand coming from the border trade. Demands of inputs are related to the output of the subsector of the industry. In essence, it is the cotton yarn industry which demand from the producers of raw uncombed cotton. Likewise, it is the man-made yarn industry that demands the output from the man-made fibre industry. Both the cotton-yarn industry and the man-made fibre industry were, in fact, reacting to the domestic demand and the external demand. The two components of demand are examined below, in Chapter III.

Total exports in 1982 amounted to 17,242 million baht, including fibres and wastes of all kinds. The same figure for the imports is 8,064 million baht which leaves a favourable balance of 9,178 million. /1

/1 The promotion of exports for textile manufactures has been extensively studied by Dr.Juanjai Ajanant in "Export Promotion in Processed Food and Textile Products", Industrial Management Co.,Ltd., 1984.

Presently the main obstacles to Thai textile exports are the quota restrictions from EEC and U.S.A. Thailand has practically fulfilled her quota in most of the categories but a look at the categories not fulfilled in 1983 to EEC countries. Table 7 reveals that only 34 per cent of the cotton fabrics categories were used. This represents, in absolute figures, 5,280 tons : translated into value, all together, the non used quotas would amount to something around 37 million dollars.

The fact that some of the 1983 quota for cotton products has not been fulfilled may reveal a low competitive capacity in this segment of the market. Evidences are that the plants that have secured the quotas did not have time to adjust their production programme to the requirements and when the surplus quota was surrendered there was little time to assign it to other exporters. There are no evidence that the alleged low technology of the plants would be the cause. In this regard, it is worth quoting the conclusions of a survey made in 1981 by Somsak Tambunlertchai and Ippei Yamazawa : "Foreign ownership and management participation in general are not important for successful export expansion. There are also some locally owned firms which perform well in their export business. The export performance of the firm is more influenced by the type of products manufactured, the efforts made by the management to improve competitiveness through change in the system of production and management and establishment of secured export marketing channels".

II. TECHNOLOGY, PRODUCTIVITY AND QUALITY /1

The Technology Level and Productivity

Most of the large scale plants are up to data in terms of technology. Modern plants started in 1960 with high participation of Japanese capital. Nevertheless even in companies with Japanese capital, European equipment was installed in those stages where Japanese equipment did not meet the technical requirement.

The wide variety of machine found in the plants demonstrate that much concern was given to the selection of the best equipment rather than to use the capital as a way of selling equipment. It is worthwhile to mention an example of combination of equipment in one large size plant visited.

Opening room	Trutzchler
Cards	Howa
Drawing frames	Rieter
Combers	Rieter
Spinning frames	San Giorgio
Cone-winders	Schlafhorst
Twisters	Volkman
Warping machine	Benninger
Sizing machine	Zell
Looms	Picanal-Sulzer
All finishing machine	Sando

Similar combination were found in other plants.

/1 This chapter was prepared by Mr. Luigi Spreafico, UNIDO consultant.

The modern plants produce both for the export and domestic market. The group of plants visited matches the average productivity achieved by representative European plants, e.g. Great Britain, France and Italy, which is around 12 Kilos per man hour in spinning for count No. 24. (Germany and U.S.A. have over 15 Kilos). With average wages at 120 baht per day, including fringe benefits, as informed at the plants, which is about 1/8 of the labour cost in those countries, it is possible to cover the disadvantages of higher capital costs, higher maintenance costs, lack of adequate credit and managerial inefficiency.

In weaving, the achievement was about 71 per cent of the plain weave standard of 68 thousand picks per man hour which is the level of those in Italy and France. In the small scale industry the comparison is more difficult. Operating with old automatic looms or power looms, productivity averaged 10.8 thousand picks per man hour in 3 plants visited. This is, apparently, only 16 per cent of the productivity achieved by the modern plants. But it has to be considered that in the cottage industry there is a high concentration of dobby looms and yarn dyed fabrics, and a wide variety of fabrics is produced, with different work loads.

Certainly the wages paid by these plants are lower and this would be responsible for most of the difference in the

final cost. Nevertheless, the final cost is also affected by the fact that the fabric manufactured needs no finishing, the warp needs no sizing and these plants, although small, have modern machines in pirn winding. So, the operation that would affect the loom efficiency and the quality of the fabric has been modernized.

Apparently this difference in productivity should not be sufficient to cover the advantage of the low wages. How to explain, then, that this industry is surviving (and expanding) and has been competitive in the domestic market as well as in the so called "border market". Labour cost is the factor that conveys to the establishment of a certain technological level and, consequently, of productivity. For each level of labour cost an optimal level of productivity is eatablished so that the minimum final cost is achieved. So, the optimal productivity output does not have to be necessarily the same in different countries or in different market segments within the same country. For macro economic purposes it may become misleading to compare absolute figures of machine productivity (output per unit hour) or labour productivity (output per man hour) even when based on absolute compatible parameters as average count, average picks, etc., which is rarely the case.

Relocation and Modernization of the Small Weaving Plant

As mentioned before, a number of small textile plants mainly weaving are located in the urban area of Bangkok and are being requested to satisfy city regulations on pollution

control especially regarding noise and water waste. These plants will not be able, technically and economically, to adjust themselves to the regulations so they will have to stay on illegally or to move elsewhere. On the other hand, these plants, although still competitive in the domestic market, will have to find a way to stay competitive. The importance of this activity to the economy is expressed by the number of plants and the equipment installed : 250 plants and 28,000 looms. Consequently an average size of 112 looms, most of them non automatic or old model automatic looms.

These plants will shift to another level of technology as soon as, they feel, they are not competitive. Since labour is the factor that has been maximized, they will shift to the next available stage which requires a minimum of capital expenditure. The next available stage is the conventional automatic loom. It is well-known that capital is the scarce factor in developing countries. To amortize the capital invested in those new looms, the investor will have to keep them working at least 15 years. Then, why not shift immediately to the shuttle-less loom ? For two reasons : first, the investment or, put in other terms, the amortization cost per unit of product is even higher and will result in not being competitive since we are dealing with a highly automated machine and replacing labour by capital; second, and more important, the adaptation to the new technology will be difficult due to the gap between both stages and will result in under-utilization of the new equipment and, consequently, increased costs. Last, but not least, technical

improvements in the loom manufacturing during the next 4 or 5 years may reduce the relative price of the most appealing shuttleless loom recently put on the market : the air-jet loom.

The choice of the new equipment, to those plants, is of vital importance. Since the plant will have to stay at an intermediate technological level for a short period, the loom technically and economically desirable would have to satisfy the following conditions:

a) technological complexity capable of being mastered by the existing plant staff;

b) working speed not lower than 220 metres per minute of weft insertion, as a first approach;

c) allow for a pay-back period of 4 to 5 years in order to be replaced, if no more economical after that period.

To cope with this problem it is suggested that a specific feasibility study is carried on using empirical data on the machinery available in the market, effective cost of labour and capital prevailing in Thailand, as well as other imports. Plant project simulations or actual plant examples should be used as a methodology.

Quality of the Products

The garment industry complains about the quality of Thai fabrics. What happens is that the garment industry needs a wide variety of fabrics to cope with the export market and sometimes the local weaving plants are not able to supply within

schedule because of the time necessary to develop the new style. Very often the size of the order is too small to compensate for the cost of development. In order to discuss quality in fabrics it is necessary to understand two concepts of quality:

a) quality of specification (or design)

b) quality of execution (or performance)

The first concept deals with the design and specification of the product. It distinguishes different styles of products, as for example, a fabric made with No. 60/2 combed cotton is of "better quality" than a similar one made with carded No. 30. The other concept deals with the perfection that the specified fabric was executed, e.g. the fabric produced with the No. 30. 30 may be of "better quality" or "lower quality" according to the regularity and strength of the yarn used or number of faults existing in a piece.

In the short term the quality of execution is the most important problem. The quality of design has to be achieved slowly and its development depends on facts that will be discussed later in the report. As to the quality of execution, a complaint that generally comes together with delay in delivery, the survey has revealed that the problem is not so much of technological level but of managerial procedures, mainly production control, quality control and planning. Even when some improvement in the equipment is necessary, it is not of great magnitude. Evidently there is a lack in well trained technical people and managers specialized in textile operations.

Quality and Fashion Trends

Quality of design has much to do with fashion. Fashion trends determine the nature of yarn used (fibre content, spun or filament, bulky or not, etc.) the construction of the fabric (light, heavy, plain, fancy, etc.) and the finishing (shiny, dull, soft, hard, dyed, printed, etc.). In finishing, dyeing and printing will have different trends in different seasons: light shades or dark shades, big prints or small prints, and motives: geometric, floral and etc.

Four main centers are presently the leaders in issuing fashion: Paris, Rome (and Florence), Tokyo and New York. To stay ahead with the fashion, there is only one way: to keep designers and stylists located in those centers. This is a costly operation and the solution proposed is to share the cost among groups of plants. This solution has faced some obstacles due to the keen competition among the plants. Some plants prefer to send observers during the season after the fashion trend has reached the market. This option is suitable for the local market but not for exports.

Fashion is created (or decided) 18 months before the finished product (fabric or garment) reaches the consumer. Stylists, designers, spinners, weavers, dyestuff manufacturers, independently or through their associations, are involved in the process, not always free of conflict of interest. A fashion trend may be a success or not. The exhibitions, which are part of the

process, will be the first test and the consumer will make the final decision. Since a massive advertising precedes the delivery of the products to the retailers, chances are that the fashion is accepted but this is not guaranteed.

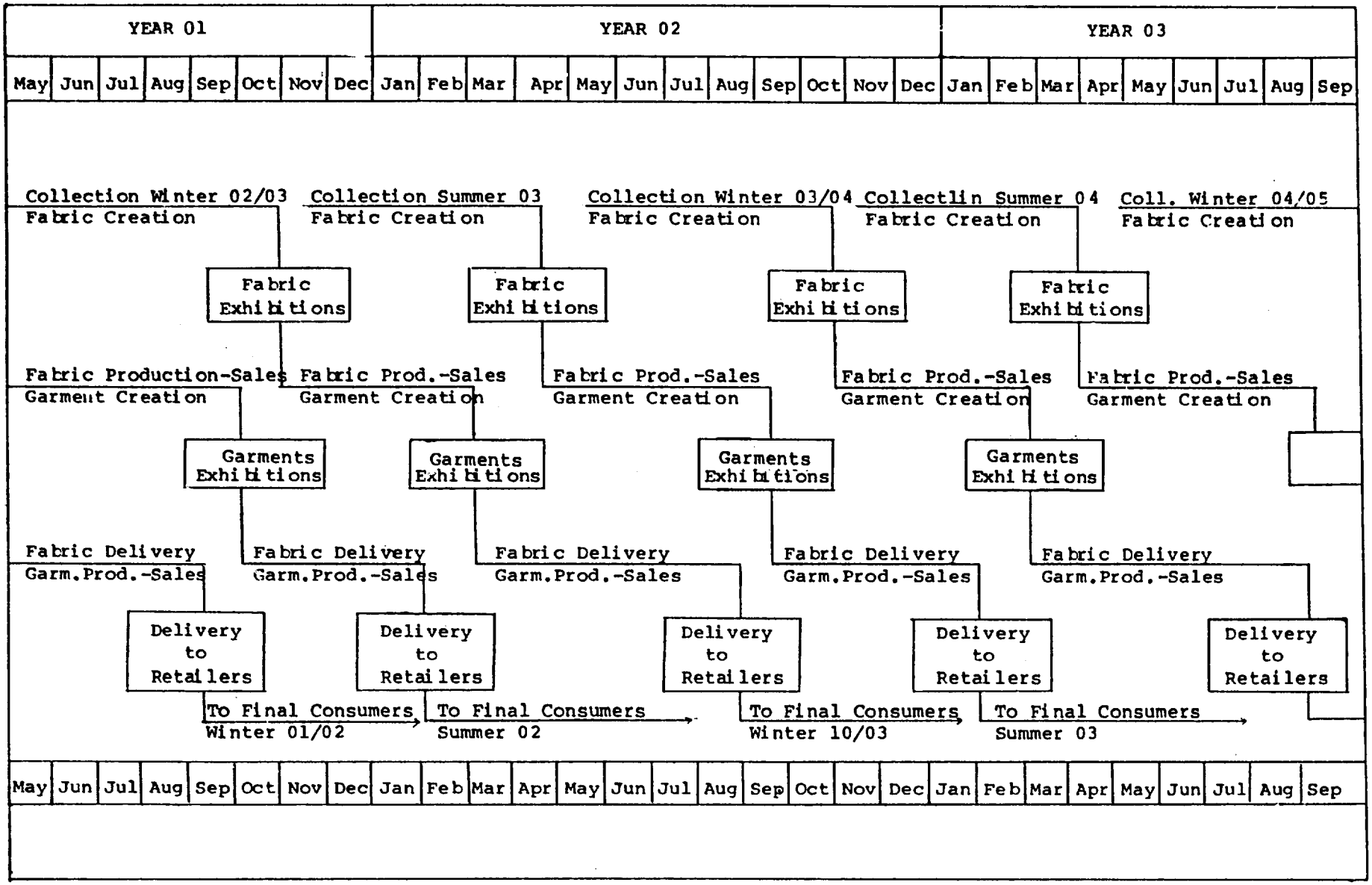
Figure2.1shows the timing in which fashion trends are developed as well as all the parts concerned. The table is self-explanatory. Fashion development is quite a dynamic process and, as can be seen in the figure, there is an overlapping of events. This overlapping also provides feed-back information for the introduction of adjustments in the trends which makes all the process more complicated. And, to make the process even more complicated, there are mid-season collections in between the two main collections of the year.

It has to be stressed, however, that the main bulk of exports consists of classical steady products, not affected by fashion, although fashion products will provide higher profits to those plants that respond quickly to the demand. Fashion articles, by definition, have a short life.

The Needs of Well Trained Professionals

In spite of (or due to) the quick progress and the high level of competitiveness achieved by the textile industry in Thailand, evidently there is a lack of trained professionals for technical and managerial activities in textiles. Most of the quality problems identified were a consequence of lack of control in the production line or strict specifications on execution.

Figure 2.1 : TIME-TABLE OF FASHION DEVELOPMENT-BASED ON DRAFT MADE BY INTERNATIONAL INSTITUTE FOR COTTON



Delays in delivery, a major problem in textile sales, are avoided with competent planning, an activity which requires a highly qualified staff.

It has not been possible to identify a structured and uniform system for teaching textile technology in Thailand. This is not an unusual problem, however. Among many Latin-America countries, Textile Institutes were established only after the textile sector achieved a considerable size and mainly when exports started to play an important role in the economy of the country. Training people for textiles requires big investments in laboratories and pilot plants. The cost of running training facilities is also high. Professors and instructors have to be kept up to date with technology and administrative practices and must be sent abroad regularly.

In Thailand, the "Textile Industry Division", within the Department of Industrial Promotion of the Ministry of Industry, runs a training center established in 1972 with the assistance of UNDP. The training center has a small pilot plant for short and long staple spinning, weaving, knitting and finishing of fabrics as well as silk reeling and silk weaving. There are complete laboratories for quality control and some research. The machinery at the pilot plant is rather modest for the present needs and should be reinforced with some modern units.

Besides providing training courses, the Textile Division also acts as the Secretariat of the Textile Industry

Policy Committee and has to provide the information for policy makings.

Training courses are given to machine tenders and supervisors. There are also courses at higher levels mainly to complement engineering courses given by the universities. The information on these courses was some how fragmented. It seems that there are in Thailand three or four technological institutes and faculties involved in teaching textile technology, but there is not an organized career in textiles starting at the secondary level and finishing at the university level.

The Textile Division has lost its dynamism that is expected from a technical institute. Many of its staff technologists have gone to the private sector where they found better employment opportunities. The Textile Division needs a complete reformulation of its activities, a reinforcement of its staff and a reorganization of the pilot plants including the addition of new machines. A first idea could be to transform it in a Textile Institute with the responsibility of running textile courses at university level and making technical research. Some of the tasks presently assigned to the Textile Division are conflicting or too heterogeneous to be held by the same staff as it is presently done. In brief, they are:

a) upgrading courses for supervisors and foremen in management practice;

b) training entrepreneurs in modern machinery through seminars, etc.;

c) courses in textile technology in different process;

d) training machine tenders;

e) advise the Textile Industry Policy Committee of the Ministry of Industry in solving problems and establishing policies for the sector. This activity covers: "Survey and analyze the movement of the textile industry situation; to analyze statistical data for the recommendation to the Committee; to study and find out solutions to where the problems faced by the industry; to work out short and long term plans for the promotion and development of the textile industry in the country".

f) provide textile testing services to the industry;

g) run a textile design center with the objective of assisting textile plants in developing new designs;

h) assist handicraft workers in silk reeling and weaving.

The reorganization proposed would consider the separation of some of these activities and the creation of a textile institute, as mentioned.

The present design center is of great value in preserving culture and traditions through the textile design as

well as in assisting the handicraft activity in the textile field and should be preserved. However, it is of little help in assisting the industry in developing designs which is a much more dynamic and complex activity (see Figure 2.1) One suggestion is to put it together with the activity of item "h" - Assisting handicraft workers - in one separate department or institution.

The present Textile Division activity of gathering information and providing advice for policy makings will certainly be taken over by the Textile Intelligence Unit when implemented.

In conclusion, it is suggested that the Textile Division be reorganized separating the handicraft assistance (design center and silk reeling and hand weaving) in one unit, information and policy advice in another unit and implementing a Textile Institute which will:

a) provide technical courses at all levels with special emphasis in university degree engineering;

b) provide technical assistance to plants in laboratory services and running tests in pilot plant;

c) make research in fibres, process and products aiming at the development or adaptation of technologies suitable for the Thai economy and culture.

III. PATTERNS OF DEMAND

Introduction

The textile industry in Thailand was established at the beginning of the 1960s. In the early days, the industry's modest aim was to serve the domestic market. As the decade came to an end, the industry was already capable of exporting parts of their products to the overseas markets. Apart from the processed food industry, one can rightly claim that textile products dominated the export scene during much of the 1970s. Though one can readily presume that the industry did not export intentionally, the very fact that it has been contributing more than 10,000 million baht to the economy for many years is enough to convince any non-believer of the strength of the industry, and certainly its competitiveness. What appeared to be an unplanned policy also led to the downfall of many firms within the textile industry as we approached the early part of 1980s. Many accusing fingers were pointing to the international economic barometer. From the 1980 onward the world economy took a slide down the growth scale, leaving many countries riddled with debt and yawning trade balance deficits. Most, if not all, developed countries changed their trade policies from an half-open system to a very closed one. One hears of euphemism of protectionism in the forms of voluntary export restraints (VERs), orderly marketing arrangements (OMAs) and countervailing duty (CVD). These terms never carry the same jubilant connotations in practice. They represent safety nets which the authority must

offer to the domestic ailing firms so that they can survive; whether they will survive or not is not an interesting issue here.

Due to the characteristic of world trade, one can come to a neat conclusion that the textile industry in Thailand suffers from the world recession. During the last four years, the government was also not sheltered from any blame. The industry suggested that the closing of border trade with Laos stopped the industry's only chance for survival. There is no reliable data to support that the border trade was to be the lifeline for the industry. With more than 1,600,000 spindles in the industry, the border trade (or its absence) would have to be sizable to have struck the industry at that magnitude. The industry was actually making an alibi for some other underlying reasons, which we do not know.

Even without some hard data to substantiate the feel, one can argue that the income elasticity of demand for textiles in general is quite low. Therefore, when the world income declined during 1980-1983, the demand for textile products also declined. Clothing is one item in easy potential consumer's baskets of expenditure which can be deferred. That, together with the protective measures in the importing countries, explains why the demand for Thai textile products declined. The world economy has recovered since the year 1983 and has been gaining momentum in the year 1984, the prospect of trade in all forms of textile products is better. Reservation on the prospect of trade

must be expounded further.

As the world economy began to gain its strength after the four-year period of lay-off and ailments, the prospect of textile trade may not be recovered to the previous level. Few reasons are sufficient to illustrate this pessimistic view. First, the overhaul and eventual dismantling of Multi-Fibre Arrangement (MFA) mean that the developing countries have now proceeded to negotiate for textile exports on a bilateral basis. Second, the U.S.A. in recent months has been applying pressure to all exporting countries (to the U.S.A.) to conform to the US legal guidelines. The first reason means that the multilateral trade platform will be shelfed for the textile product, and the Article I of the General Agreement on Tariff and Trade is excused. The second reason, which concerns with the US trade policy, means that the U.S.A. will no longer be the only outlet for all potential exporters. The pressure on the U.S.A. to aid the ailing world economy during the last world recession resulted in a huge deficit at up to US$120 billion in 1984. Of course, one can say that the U.S.A. gains the cheap labour-intensive products and the seigniorage rent earned on the dollars. On the other hand, the EEC and Japan have not contributed significantly to this economic crusade. Both have followed restricted trade (i.e. import) policies. It has become impossible to penetrate both the EEC and Japan. The U.S.A. has continuously applied political pressure to these countries to be receptive to imports of the world. At the same time, the U.S.A. has indiscriminantly used the Trade Agreements Act (1979) to constrict the inflows of goods

into the US territory. Thailand, among many other countries, has encountered with these restrictions in 1984 in the textile products.

Having assessed the global economic climate and its likely impact on the textile industry, it is appropriate to take a good look at the textile situation in Thailand. This report takes 3 issues to be of most importance. The first is that the demand pattern will determine the outcome of the structural change within the industry. Thus, it is essential to evaluate the demand pattern, which will definitely affect the production of textile products. The second centers on the quota system in Thailand, which has been operating since 1971. The Ministry of Commerce wishes to change the quota allocation system, but it is not well informed of the alternative system which will replace the old one. It is not the mandate of the Ministry of Commerce to replace the old system. The third reason is the problem with the legal aspect of trade. The upsurge of trade disputed between Thailand and the U.S.A. in the case of canned tuna and textile products is not a random phenomenon. It has been designed by the trade policy-makers. To counteract the trade constriction, it is proper to formulate certain guideline to sustain the textile trade flows.

Utilization of Given Quotas

While many countries have restricted the textile import from Thailand, it remains in Thailand's interest to fully utilize the quota allocated by major importing countries. It can

be safely said that for major items, which Thailand has a clear advantage in terms of price, less than 90 per cent utilization may imply that a following year's export can use the 'carryforward' clause. However, a bilateral agreement which specifics a duration calls for a full utilization, barring the 'swing', over the entire period with carryforward or carryover in interim years. Before the end of the agreement year, a new agreement will be decided based upon the utilization rate of the exporting countries plus the growth rate expected by the importing countries.

In the examination of the bilateral agreements made between Thailand with the U.S.A., the EEC, Canada, Norway, Sweden and Finland, it has been found that the utilization rates with the Finnish and Canadian quotas were low (see Table 8 and 9). There were 8 items on the Canadian quotas and the rates of utilization ranged between 19 per cent to 117 per cent. In the case of the Finnish quota, there were 2 items, with the low-utilization (less than 70 per cent) in both categories. The utilization rates for Swedish and Norwegian quotas are superior to these two countries. They ranged in the high 90 per cent and in many cases exceeding the 100 per cent level.

While the quotas with the above-mentioned countries cover a small group of ready-made garments, the agreements made with the U.S.A. and the EEC countries take on a broader arrays of textile products. They cover both the fabrics and the ready-made items. In the case of the US agreement, there were mixed rates of utilization in the group I (i.e. fabrics). Woven fabrics

had very high rates of utilization in 1981 and 1982, exceeding 250 per cent. Duck had a low rate in 1982 and 1983. The overall picture of the US group II (ready-made garments) shows that Thai exporters have more or less filled up the limits of the allocated quotas (Table 12).

Like the US textile agreement, the Thai-EEC agreements also cover both the fabrics and the ready-made garments (see Table 13). It has been found that several items have not been fully utilized. At the top of the list are the various types of cotton fabrics (gray or otherwise), where the rates of utilization are in the twenty and thirty percent ranges. Men's woven shirts had a 40-50 per cent rate of utilization for 1981-1983. Pajamas, skirts, track suits are the other items which have low rates of utilization.

Trends of the Quota Allocation

The new textile agreements made between Thailand and the U.S.A., the EEC and other countries have different charabteristics as far as the item coverage, the duration, the growth rate allowed for each item. The EEC countries deserve to be mentioned separately. Its community quotas are also broken down into different regions (see Table 16). The US agreement (covering 1983-1987) exhibits a more generous quota given to Thailand among all the agreements. It is based on the 6 per cent growth rates for all the items, the exception being the men's sweaters. The US agreement, adhering to the previous MFA's basis, can give more rooms for Thai exporters. The EEC agreement

(covering 1983-1986) exhibits a tighter access to the markets with most items at below the 4 per cent growth rates. Cotton fabrics have been agreed upon at the 1 per cent growth rate. The Finnish agreement (covering 1983-1985) places most of the items under surveillance (i.e. the administrative control). Apart from this measure, the agreement with Finland calls for the 1-2 per cent growth rates for man's and boy's shirts and brassiere. The Canadian agreement (covering 1982-1986) allows for a 6 per cent growth rates for all items. The Canadian agreement is also flexible in terms of increasing the level of growth in particular years. Exports of textile products to other European (non-EEC) destinations are shown in the Table 19, 20 and 21. The general feature of these agreements is that they tend to be smaller than the U.S.A. and EEC countries; the growth rates allowed for items are also very small. Perhaps, Thai textile products (especially the ready-made garments) have successfully penetrated these markets, and the reaction to increased imports is usually to restrain them to a very low level.

Judging from the overall trends of the agreements which Thailand has made with major importing countries we can come to following conclusions:

(a) The U.S.A. will remain the most viable market for Thai textile products; it allows for a 6 per cent growth rate in all items;

(b) In the EEC countries the cotton fabrics will have a good prospect since 1982 and 1983 saw a low rate of utilization;

(c) There are items which have low utilization rates in the EEC countries and they should open an ample opportunity for ready-to-wear apparel exporters to exploit.

Outlook for the Textile Industry

In response to the above patterns of quota allocation, the industry must be ready to take on the opportunity which will avail itself as the world economy fully recovers from the recent recession. Table 22 gives the physical structure of the textile industry as of 1982. There is no more up-to-date data on the equipment being used, and our analysis has been based on the present equipment (1982). In fact these data should be adequate since the textile industry has not invested or expanded in the last 24 months since 1982. There are 1.6 million spindles in the industry and this represents a big number at the global scale. There are 57,338 looms for weaving the fabrics. The majority of the looms is the power looms and automatic looms with some high-end technologies (i.e. shuttleless looms) in some plants. There are 32,531 knitting machines and the majority of knitting plants are small-operators. Though the statistics are not broken down into small and large firms, they both exist in the same environment. Big firms tend to be producing synthetic fabrics and they are destined for exports. Small firms (including knitting) produce both cotton and synthetic fabrics. It is not possible to cover the machine used at the garment level.

Given that the Thai textile industry is a large employer of labour (approximately up to 400,000 persons), the restructuring programme must take into account of this factor. The graduation from power-looms to automatic looms will come naturally for most firms as they find them to be more efficient. Good used machines are now available to small firms since major exporters like Hong Kong and South Korea are embarking on the high technology products and high-end garments. Yet Thailand is not ready to graduate to shuttleless looms because of the labour-replacing factor. At the going wage rate, it does not pay to go towards automatization which replaces cheap labour.

The fabrics which have earned substantial amounts of foreign exchange for Thailand are cotton and synthetic fabrics. The proportions of raw-materials imported for both fabrics are as follows: cotton records a heavy deficit for Thailand even the value-added gained from the exported cotton fabrics cannot offset. Man-made fibre imports have declined in terms of value due to the glut of cheap fibre from Taiwan, though the quantity imported has increased. The textile industry should expand towards the cotton-fabric production which has demands coming from the EEC countries and the U.S.A. in the form of fabrics. There will be deficit in terms of cotton import, which outpaces the cotton export, but the price of uncombed cotton is quite stable. At the same time, the man-made fabrics production should be maintained at this rate. In the knitting department, there are ample opportunities for them to exploit. Most European countries' quotas have allowed for woven/knitted garments. At

present Thailand has a dificit in terms of knitted fabrics. The knitting machines should use the mercerized cotton thread to produce cotton knitted fabrics for exports or for the production of garments. All in all, the trends are set toward the expansion of cotton fabrics production.

At present, the cotton fabrics exports constitute about 10.5 per cent of the total textile exports (see Figure 2). In order to increase the cotton production, we must make the assessment of the demands coming from the domestic sources and external sources. Unfortunately there is no estimate of the domestic demand and we have to continue to consider only the external demands.

To calculate the demands for the cotton-fabrics from Thailand, we have made the following assumption:

(a) the domestic demand for cotton fabrics does not change;

(b) the average demand for export is 140,000,000 sq.yds. without reducing the domestic demands;

(c) the US demand for the cotton fabrics increases by 6 per cent;

(d) the EEC demand for the cotton fabrics increases by 1 per cent;

(e) the other external demand for the cotton fabrics increases by 1.27 per cent.

Assumptions (a) and (b) are necessary because the domestic demand constitutes a major portion of the annual output, a few

percentage change would disturb the derivation. In looking at the year 1982 figure for export, it was found that cotton-fabrics exports recorded the highest quantity. This regarded as an abnormal year. At the upstream level, there was no additional import of cotton (uncombed) to justify that figure. The additional exports must have come from the domestic residue (i.e. the reduction of home demand). We have calculated the share of the US imports of cotton to be around 18 per cent of the total exports, and the share of the EEC is to be around 26 per cent of the total exports. Meanwhile the compound growth rate of cotton-fabric export for the 1977-1983 period is about 1.27 per cent.

With the above assumptions, we have derived at the following figures for the external demands for cotton (see Table 3.1

Table 3.1 PROJECTION OF COTTON FABRICS FOREIGN DEMAND *

(1,000 sq. yard)

Year / Destination	1985	1986	1987	1988
USA	25,975.32	27,533.84	29,185.87	30,937.02
EEC	35,750.10	36,107.60	36,468.67	36,833.36
Others	77,206.06	78,186.57	79,179.54	80,185.16
Total	138,931.48	141,828.01	144,834.08	147,955.54

Note. * based on the total quantity of 136,139 sq.yds. for 1984. These foreign demand estimate must be regarded as the under-estimated of the 'true' figure since we only assume that the non-quota export will only grow 1.27 per cent. As the world economy continues to the full swing, the non-quota portion can exceed this value.

The projections can be summarized in words that the foreign demand for Thai cotton-fabrics will begin to outpace the capacity of the industry to produce by 1986 by 1.8 million sq. yds. By 1987, the foreign demand, ceteris paribus, will lead to the excess demand of fabrics by 4.8 million sq.yds.; 1988 by 7.9 million sq.yds.

Cotton and cotton blended yarns and grey fabrics have an expanding market in Europe. Household goods, mainly bedspreads and tablecloth, are the articles in the group of finished products, that also show an increasing demand. Yarns and grey fabrics are not affected by fashion changes so it is possible to make long term planning at the plant level. Fashion trends in household textiles are changing more slowly than other finished goods like printed fabrics for garments. Although being a finished cut and sewn article, the household product allows for long periods of production planning within the factory.

IV. RESTRICTIONS ON TRADE THROUGH LEGAL MEANS

Throughout the year 1984, Thai exporters have been facing with the increased use of non-tariff measures as a means to stop Thai trade. In the first quarter of the year, Italy and the Netherlands accused the frozen seafood exporters of exporting items with biotoxin. Both countries, of course, are pressurized by their local fishing fleet operating off the Mediterranean waters to reduce the frozen marine exports of Thailand. Japan has always been critical of Thai quality products; they charge that Thai products are of low quality. Then, the canned tuna industry was in the legal entangle with the US industry in the US court. As of this writing, the US textile industry has filed a legal suit claiming, under the US Trade Act of 1974, that Thai textile industry received an export subsidy. These events are not coincidental. The incidents can be said to be the end products of trade deficits among EEC countries and the U.S.A. due to the influx of cheap labour-intensive or resource-based products. Japan, on the other hand, has been using the controlled trade strategy to stop report penetration for many decades with huge success. The US and the EEC marketing channels are quite unlike the Japanese system and to penetrate these markets is a relatively easier task. The turning point must be the weakened GATT system (Krause 1984).[/1]

/1 Lawrence Krause, "The Devcloping Countries and the GATT," KDI, mimeograph, 1984.

Article No. I of the GATT Charter states the university of trade. That is, countries must honour the most-favour-nations clause, regardless. Then the GATT system broke down because of three significant elements. Firstly, it allows the GSP and the discrimination by the economic communities such as EEC against the non-community countries. Secondly, GATT has failed to find a resolution on the trade disputes, which is satisfactory for countries in disputes. Thirdly, GATT has not been able to bring some transparency into the non-tariff measures. Subsequently countries such as the U.S.A. and EEC have resorted to the legal system in their respective countries to prevent the trade influx. This report does not believe that any supra-national organizations such as the UN or GATT can interfere with the trade-related dispute in a country like the U.S.A. It will breach the sovereignty of a nation from so doing.

If there is nothing an international organization can do to alleviate the trade problems, the likely question is whether Thailand can find a solution to this restriction on trade. It is our belief that the EEC has not appplied the legality into trade as much as the U.S.A. has done for a number of reasons. Firstly, EEC countries are already restrictive on agricultural products. Secondly, EEC countries have diverse legal systems and they cannot be harmonized easily to prevent trade. At the same time, there are trade diversion affects which member countries are suffering from. For example, before the collapse of ISA, Britains wishes to join the ISA so that it may ratuer sell it beet-sugar to the outside, or the community. In

addition, exporters have been able to switch from France to Italy and so on without disturbing the community quotas. Therefore, we have the U.S.A. to be the only country diligently applying its laws to every trade suspect. /1

It is now appropriate to review the essence of the US Trade Agreements Act (1979) and its implications to the Thai textile industry respectively. First of all, it must be understood that because Thailand is a new member of GATT, effective from November 1982, but she is not a signatory of GATT's Code on Subsidies and Countervailing Duties. Neither she consents to the key articles of the Code, i.e. Article VI, Article XVI and Article XXIII, her position is somewhat different from the signatory of the Code.

The Trade Agreements Act of 1979, which is the amendments of the Trade Act of 1930, gives the power to the US International Trade Commission (USITC) to determine whether Thai textile exports to the U.S.A. cause materially injury due to the 'export' subsidy programme. If found under these provisions that Thailand implemented a subsidy programme, the President can issue the counter-vailing duty (matching the level of subsidies) to curb the Thai textile imports into the U.S.A. But since Thailand is not a Code's signatory and does not enter into a bilateral agreement with the US government, based on the Trade Agreements Act of 1979, her position will be treated differently.

/1 The EEC has only recently issued countervailing duty orders for 6 cases; Japan has issued with just one case. Between 1930-1969 the U.S.A. was issued the CVD 34 times.

Table 25 summarizes the possible action which the US firm or the US government can take action against subsidized trade. Table 25 actually lists all the possibilities which the US firm or the US government can take the issue up with the country in question. However, the case of Thailand does not fall into any of the above categories.

It should be understood that under the present situation, Thailand is not required to go through the injury test. The suit on Thai textile is that Thai exporters have been granted subsidies (export subsidies) through the Investment Promotion Act, the export credit facility and etc. Thailand can have a leeway to tackle this charge before the countervailing duty is applied. The big questions hinge on the words 'subsidies', "anti-export bias", and "infant industry argument." We shall address on these words in the following paragraphs to elucidate their finer points.

Many definitions of the term 'subsidy' have been offered by acadamics, accountants, and trade practioners, but vitually all definitions have failed to meet the practical needs of US policy-makers. To give but one example, the United Nations has set forth a definition of subsidies to be used for national accounting purposes: /1

/1 United Nations, A System of National Accounts, N.Y. 1982, P.124.

Subsidies include all grants on current account which private industries receive from the government. These are transfers which, in view of the basis on which they are made, represent additions to the income of the producers from current production. The grants may, for example, be based on the amount or value of the commodities produced, exported or consumed, the labour or land employed in production, or the manner in which production is organized and carried on. Transfers by public authorities for investment purposes or to cover distruction, damage and other losses in capital and working assets are classed as capital transfers rather as subsidies. Subsidies also include all grants on current account which government makes to public corporations, for example, in compensation for operating losses (negative operating surplus). In the case of government enterprises, transfers on current account should be treated as subsidies when it is clear that the transfers are the consequences of the policy of the government to maintain prices at a level at which the proceeds of the enterprise will not cover the current costs of production.

Objections to this definition have been numerous and therefore policy-makers have, in trying to find a workable solution, opted for a degree of subsidies. The important questions are: "Under what circumstances can part of the costs of production permissably be observed by the government? And when can one country rightly retaliate against the subsidies of another country?"

According to Hufbauer and Erb (1984), four broad concepts underlie the international rules that discipline subsidies and countervailing measures. /1 First, producers in each nation should have access to internationally-traded inputs at 'world' prices for use in export production and should be able to sell their own output on world markets at 'world' prices. Broadly speaking, national policies by the Thai authorities that enable such access are accepted by the international community. Second, governments should not subsidize exports, in the sense of offering the encourage the sale of goods abroad at cheaper prices than their sale at home. Neither should governments operate preferential schemes for exempting wages, profits and other types of income earned in the production of exported goods from direct taxation. Nor should governments introduce second-best schemes to compensate particular export sectors from the adverse impact of overvalued exchange rates, the distortions created by excessive protection for domestic industry, or labour market distortions.

/1 Garry Hufbauer and Joanna Erb, Subsidies in International Trade, Institute of International Economics, Washington D.C. 1984.

Third, government should be free to offer general incentives to industry or agriculture-e.g. by way of tax relief, roads, ports or schools, but government should not offer sector-specific incentives that injuriously affect the commerce of another nation. Fourthly and finally, a nation should be able to take offsetting remedial action in cases where foreign (non-US) government violate the second and third principles and the resulting trade harms the nation's economic interests.

From the above 4 broad principles, Thailand can be found to be free of all cases. The government of Thailand has not directed its effort to subsidize its exported goods specifically. Neither has it chosen to compensate for the overvalued exchange rate due to the prevailing protective stricture of the economy. The Investment Promotion Act granted the tax priviledges for textile producers on the infant-industry argument. Without certain types of incentives, industrialization programme for Thailand cannot materialize. There is a strong basis to protect the industry in question to replace imports. In general, by the time it can export to overseas, such exemptions from taxes are expiring.

As far as the export credit refinancing facility is concerned, this measure is not a direct subsidy as generally thought of by the U.S.A. Consider that Thailand has not been able to build the industry on the first principle (i.e free access to import at world prices), it is only fair to be able to make some adjustment at the tail end of the process. Incumbent bureaucratic machinery and domestic barriers are not easily

reformed to give the economy a free trade regime. To help the exports, the authorities compensate the implicit costs incurred in the export production through the cheaper export credit. Furthermore, this facility has not operated with specific sectors in mind; it is used across the broads as an anti-export bias corrective measure. The GATT has traditionally allowed developing countries special freedom in the presuit of their commercial policies. This freedom is rationalized by an appeal to the infant-industry argument. According to this principle, a particular industry may not be competitive on world markets today, but if encouraged by protective policies, the industry may be competitive within a reasonable period of time. Thus, Thailand should be free to subsidize exports at least down to the world price. /1

Among the US legal profession, within the Injury Test School of Thought, there are followers of the anti-export bias corrective measures practiced by many nations around the world. This group of scholars believe that it is justifiable to have a subsidy to correct the anti-export bias existing in the country. The Thai case would fall into this group since the protective structure of Thai industry has not favoured the export-oriented industries. A defensive line along this belief is not easily defended, but it is a line of defense the Thai textile industry can take in coming months.

/1 See, Bela Balassa, "The New Protectionism and the International Economy," Journal of World Trade Law, 1978, p. 409-36.

This report forsees that the legal suit in the US court against more successful Thai exports including Thai textile products will continue in many months ahead. If the year 1984 was to be a sample year, the next few years will see the legal suit against canned pineapple, textile products and so forth. There are certain things which both the private sector and the Thai authorities can do to mitigate the ensueing litigation. These are:

(i) the government should support the private sector through the release of 300 million baht Export Development Fund to aid the cost of legal defence;

(ii) the private sector should opt for the legal defence since the legal sumption of the U.S.A. is quite open and many cases have been decided in favour of Thai products;

(iii) the government must re-assess its GATT's membership and the possibility of signing up for the Code on Subsidies and Countervailing Duties. At present, it appears that the signing of such Code would lead to the controntation between the Thai and the US governments. This option is not recommended at this junction;

(iv) the countervailing duties (CVDs) are not severely harmful to Thai exports as generally feared by exporters. In all likelihood, CVDs cannot offset the clear comparative advantage

of many Thai products. The CVDs merely add to the consumer loss among the American cosumers;

(v) as a measure to assist Thai authorities, it is advisable that legal experts on both the US and EEC laws be sought for their advice.

V. TECHNICAL REQUIREMENT TO IMPROVE THE THAI TEXTILE INDUSTRY

Introduction

In the section III it has been assessed that the major international demand would accentuate over the cotton products. Questions which we must answer fall into following headings:

(a) Is there a capacity in the industry to satisfy that demand pattern?

(b) If the answer to question (a) is affirmative, what necessary changes are required to fit in with the said demand?

(c) Are there problems which prevent the industry to progress to the broad-based textile industry?

These three questions are considered to be paramount questions which both policy-makers and the industry have been asking time and again.

Data on the utilization are sparse and are not easily assessed at a long range. There are several misconceptions surrounding the rate of utilization. In the engineering field, the idealistic figure must be 100 level where machines operate full-time over 24 hours of operations. That concept is based on the perfect condition of machine; machines break down infrequently. In reality, machines breakdown through many

reasons. For an example, some machines require services and maintenance at intervals. Therefore there is no machine which runs continuously over 24 hours yearround. Technical supervisors are employed to reduce the stoppage. Spare machines are used to substitute the machines which require servicing. Such are the normal operations of any plant. We, therefore, cannot expect the 100 level for utilization.

The ideal situation would call for the operation of plants and machines in the range of 90 level. The capacity utilization indices reveal that the weaving industry has suffered a major setback in 1982 when it operated below the 80 per cent level. Previous to that year the industry had operated in the upper 80 and 90 level rate. The year after 1982 saw a significant trade development which spells another constraint to demand. Developed countries had implemented trade restrictions which obviously affect the growth of exports of textiles in general. Therefore, we say that there is capacity which we can use to produce more cotton fabrics.

Another factor which is worth mentioning is the influx of second-hand machines into the country. A reliable source informs that the spinning machines have increased from 1.2 million machine to 1.5 million. The 300,000 spinning machines have been imported from China PRC, Hong Kong and South Korea. Though the Ministry of Industry prohibits such installation when the gloomy picture on the excess capacity is upon us, producers have not paid heed to the regulation. The illegal machines, are

inefficient to produce for quality exports, and therefore, they are used to produce low quality products for the domestic markets. Out of the previous 1.2 million spinning machine more than 80 per cent of them is used for exports. Therefore, the newly-installed second-hand machine produce goods in direct competition with the existing machines, in the domestic market. It is possible to overhaul and maintain the old machine to produce quality export but that is not usually done for financial requirement can be sizable. This factor is brought in to stress that there is an excess capacity within the textile industry.

Having said that there is an excess of capacity in the spinning and weaving industries, one does not argue for fresh capital investment to meet the expected demand of cotton fabrics. This point must be explained in details because economists have often been confused by the textile production technique. They thought that spinnings of synthetic fabrics and cotton fabrics are different and machines are not compatible for both outputs. The truth is that the machine for cotton output is a rudimentary step before the industry progresses to the synthetic (i.e. P/C) output. Therefore turning some machines to produce cotton fabric is simple.

To expose the reader to the steps in the production process, the spinning and weaving stage comprises of

(a) Carding,

(b) Drawing,

(c) Combers,

(d) Spinning,

(e) Cone-winders,

(f) Twisters

(g) Warping,

(h) Sizing,

(i) Looms.

The steps (a) to (c) of the polyester/cotton blend spinning is more sophisticated than the cotton blend spinning. There is no adjustment when one uses the machines for cotton production. Consequently the excess capacity of the spinning can be used for the cotton production. Suppose the plant has been producing Number 45 for P/C it can be readily switched over to Number 45 cotton with no adjustment. Of course, controlled temperature has to be installed since two different types of spinning require different level of humidity.

From steps (e) to (i) the existing plants can follow the previous steps with no adjustment. It is appropriate to point out the majority of looms in Thailand produce at 47-48 inches width while the international demand for fabric aims at 60 or more inches in width. Garment industry has demanded that width as there is a cost reduction through reduced wastage at the cutting stage. The trend towards wider fabric has been established for some time, and this will continue for a number of years. The technical adjustment which this report foresee is that the Thai textile industry will have to adjust the sizing and looms to fit with the international pattern. Sizing machines and adjustment to looms are the minimal technical requirements which

the industry must adopt to stay in the international market.

At present, there are both plants which produce for local markets and exports. Among the plants which aim at exports there are two types of producers. The first group consists of the large producers of certain line. This group does not change the output frequently. The second group comprises of producers who have not specialized in a narrow range of output. They operate with flexibility in terms of products. It has been found that Thailand has exported cotton fabrics mainly in grey cotton. Printed cotton fabrics are not the norm here.

The industrial base is not broad enough to go toward the printed cotton fabrics. It is not surprising to see that Thailand continues to import printed fabrics for garment producers. The missing link to go toward the broad based textile industry has to be described to appreciate the delicate issue. The missing link lies with the finishing and dyeing industry. The industry has not progressed to the international standard. It tends to concentrate on smaller width fabrics and it has not followed the international fashion in terms of colour and print. The basic chore of the industry is to service whoever demands the dyeing and printing. It is not surprising that garment exporters have focused on imported fabrics rather than using the 45 inches printed fabrics. Finishing industry must take a look at itself in terms of satisfying the local exporters.

As the finishing stage of the industry is of different standard from that of the international scene, two

events take place. Firstly, the fabric exports are sent to the finishing plants overseas. This means Thailand can only export grey cotton fabrics. Secondly, garment exporters continue to use the 60 inches printed cotton fabrics. The two independent events also imply that Thailand loses a value-added to foreign firms who finish the fabrics for final users. There is also an outflow of valuable foreign exchange towards overseas exporters of the printed fabrics. If the Thai textile industry can bridge the gap (finishing and dyeing), the industrial base will be broader.

Another facet which has not escaped our investigation is the software technology required to run an efficient plant. The hardware technology can be bought and used by producers. In reality we do not expect the industry to jump to the shuttleless looms en masse. Advanced technology also requires skillful technicians to look after them, and the pool of skillful technicians is so small. Spinning has developed into a slightly capital intensive production over the years. In Japan the norm to have one worker manning 40 machines while the norm here is to have 20 machines under one man. It is not essential to go forward to the high technology when there is a room for improvement at the prevailing technology (i.e. x-efficiency).

This section has examined several technical aspects of the industry and can be concluded here that

(a) the spinning and weaving industry must adjust to a wider fabrics to stay in the international market;

(b) Thailand is in need of a finishing and dyeing plant which can accomodate the international demand;

(c) Advanced technology cannot be adopted without due consideration to the skill content of workers;

(d) There is a need to improve the productivity of labour in terms of training.

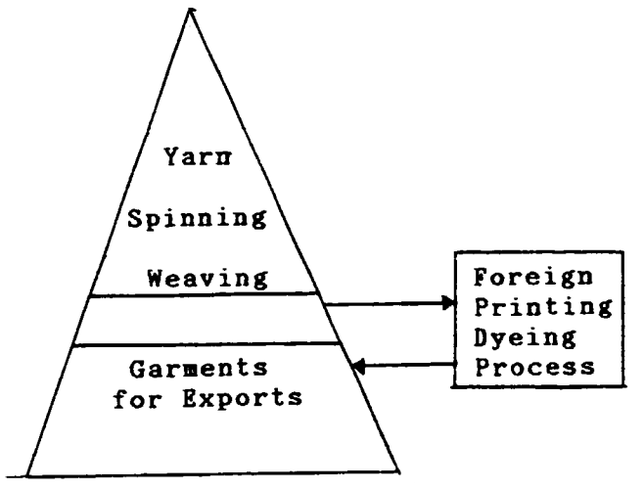
Finishing and Dyeing Industry

When one considers the abnormal pattern of development in the textile industry, the most obvious is the inflow and outflow of similar textile products. Take for an example, there are exports of fabrics (mainly plain or grey) and there are imports of printed fabrics. This anomaly causes the industry to stall and it cannot progress to the vertical integration beyond the plain or one-colour cloths. Experiences gained among the textile industries within West Germany and Italy show that the industry has to move through time to the higher value-added stage of production. There are reasons to purport that this kind of development is healthier.

At the moment, the bulk of foreign exchange earnings comes from the garment industry. But the garment industry has persisted on imported materials, and through the tax

rebate and refund systems it can be exempted from the tax burden. There is a portion of value-added which has been accrued to the foreign printing and finishing entities abroad. (See Figure 5.1)

Figure 5.1: PROCESS OF THE TEXTILE INDUSTRY



Every study, thus far, has made little attempt to rationalize this missing ingredient in the integration of subsectors. Capturing that missing value-added means that the value-added can be increased. Textile industries in Northern Italy rely on the imported plain or grey fabrics. Through subsidies the industry became specialized in the printing and dyeing process. Today Italy is the largest net exporter of fabrics and garments.

It is natural that the Thai textile industry will move into that direction. There are 2 sides to force that to happen. The markets of Thai products especially fabrics have been reduced through bilateral agreements and the Multi-Fibre Arrangements (MFA). The growth of 2-3 for fabrics demanded in the EEC and the U.S.A. must be regarded as low. With competition

from Pakistan, Sri Lanka, and others in Latin America, the market penetration has been a troublesome affair. The recent ruling by the US - ITC signifies that an easy access into the developed countries is doubtful.

While the demand does not grow rapidly its market price has been under pressure from various countries. These countries have sufficient capacity and know-how to compete with Thai products. It is in the industry's interest to move up the staircase.

Despite the necessary changes which the industry's leaders acknowledge they are at the same time not optimistic in the full integration of the sub-sectors. Different groups in the industry cannot reconcile their differences. Garment exporters may not convince the dyeing and finishing industry to go toward 60 inches machines because the demands from garment exporters are uncertain. Other factors which prevent such fusion are the variety of fabrics, lead time in terms of delivery, and tax refund and rebates.

Garment exporters have relied upon the imported fabrics because it takes them shorter time to receive their orders from Hong Kong. Hong Kong's fabrics makers have a large stock of printed fabrics. On the cost side, the cost of the production has kept up with the change in the energy prices, labour wages and the high interest rates. The escalating cost tends to narrow the gap between the price and cost. This narrow corridor of profit margin once forced the industry to search for

a market abroad. Again the same phenomenon might be forcing the industry to move up to the higher value-added items.

Another factor which tends to accentuate that move towards higher value-added items is the presence of competitors from developing countries. Sri Lanka, Colombia and Brazil have competed with the textile fabrics to suit the purchaser's specification. It takes Hong Kong fabric exporters to deliver the fabrics in 3 weeks or even less. In contrast, the finishing industry only undertakes the printing when ordered in bulk and the delivery time is longer than that of Hong Kong's exporters. The most important factor is the tax drawback system which disallows the drawback on domestic fabrics used for exported garments. The Customs Code of Thailand does not allow the drawback even in the case of the industry locating in the export processing zone. A recent ruling against Saha Union Co. on this point reminds us that the bureaucratic and legal codes do not favour such an integration.

Looking at the dyeing and finishing industry itself, one is surprised on the number of firms. Out of 275 firms which are memebers of Association of Textile Manufacturers, 230 firms are yarn dyeing ones. The majority of these firms uses hang dyeing with 9 firms use the cone dyeing technique. These firms service the domestic demand mainly. In 1982 the finishing industry was able to export 75,000,000 sq. yards through orders from abroad. This figure represents a small proportion of the total capacity.

Within the technical sphere, garment exporters have always complained of the qualities of the service. There are two underlying reasons to such interior services. Most of the entrepreneurs and people in the finishing industry lack the thorough know-how of dyeing technique. Lack of quality control on thread, basic pigment, knowledge and water properties are the stumbling block. The other thing is that the finishing industry does not wish to undertake the capital investment to upgrade the service and lack the marketing software. While the international market has moved toward the 60 inch width to assist the garment manufacturers, the finishing industry in general continues with the 48 inch printing and dyeing process. The industry does not want to gauge the demand by attending fabric shows for Summer and Winter Collections. Without this knowledge the industry cannot cater for the exporters of garments. It may be true to say that there is a risk factor in so doing and it may not be able to shoulder the total loss.

The above passage clearly indicates that the full integration of the industry in order to capture the high value-added depends on the finishing and prining industry. The question is "Can the firm of such calibre be promoted to fill in the void?" The Board of Investment has not given the promotion certificate to the finishing and printing industry for many years. At the same time, the BOI is promoting the dye pigment industry which runs against the interest of the finishing and printing industry. An additional blockcade is that the finishing industry is selling its service to all comers. Suppose it wishes

to receive the export incentive package presently available to commodity/product exporters, can the BOI monitor its reported services?

In the recent World Bank report (1983) the cost estimates to improve the finishing industry in Pakistan, the Philippines, Portugal and Turkey were given. New investments to adjust the industry are quite enormous. In the Philippines, it would cost US$ 35 million; Pakistan US$ 52; and Turkey US$ 59 million. We have no way to know how the report derives at these figures. The presumption is that of Thailand wishes to undertake the step to integrate the industries, it may have to invest at least US$ 35 million so that the textile industry in toto can capture the high value-added.

Our conclusions are as follows:

(a) the textile industry can capture the full value-added with the acceptable standard of finishing and printing services;

(b) there are technical, bureaucratic and other problems in promoting the finishing end of the industries;

(c) the size of the new investment is quite large.

VI. FINANCIAL REQUIREMENT TO IMPROVE THE THAI TEXTILE INDUSTRY

Introduction

In the previous section it has been assessed that there is an excess capacity in the spinning and weaving industries and that one possible way of utilizing this excess capacity is to redirect some machines to produce more cotton fabrics. It has also been assessed that the major international demand for cotton fabrics has moved towards wider fabric for sometime, and this will continue for a number of years. Therefore, in order to meet the international requirements it is proposed that the majority of the textile industry should aim at producing cotton fabric of 60 or more inches in width instead of 47-48 inches currently produced by the majority of this industry.

In order to meet the above mentioned requirement, it has been proposed that the industry will have to adjust the sizing and looms to fit the international pattern. In our opinion, these adjustments are the minimal technical requirement which the industry must adopt.

A reliable source informs that to do this, an "average size plant" needs to replace only one sizing and 100 more looms to its existing machines and equipment. /1 The cost of one sizing machine (picanol) is estimated to be around 5 million

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/1 The term "average size plant" refers plants which have 25 to 30 thousand spindles with the total output being distributed both in local and foreign markets.

baht and a loom will cost in the neighbourhood of 300,000 baht, thereby bringing the total amount of investment to 35 million baht. Questions with we must answer regarding this issue fall into following categories :

(i) Is it worth to invest 35 million baht for the aforementioned plant to change its production pattern from producing 47-48 inches of cotton fabric to 60 or more inches cotton fabric ?

(ii) If the answer in (i) is affirmative, how much should the industry invests in order to produce wider cotton fabric and how do they obtain the capital necessary for this investment?

The answers to these questions will, of course, enable one to see if the proposed solution of adjusting the spinning and weaving industry to produce wider cotton fabric is indeed a right solution.

In order to answer the first question, we have interviewed and obtained suitable data necessary for our purpose from a well-informed source. The identity of the interviews is not disclosed since data on factory cost and sales are too sensitive to divulge to the public. The following data are description of an average size plant obtained through an interview:

Existing Machine	:	25,056 spindles ; 400 looms
Production Capacity	:	Cotton yarn 15,120,000 lb/annum
		Cotton gauze 37,510,000 yards/annum
		Cotton fabric 13,410,000 yards/annum
Capacity Utilization	:	Close to 90 per cent
Sales		Total output is marketed at 40 per cent for local and 60 per cent for export sales
Size of Cotton Fabric:		The plant produces mainly 47-49 inches of cotton fabric
Raw Material	:	Using raw cotton imported from various countries.

The impact of investing on a sizing machine and another 100 looms is as follows :

(a) Additional Cost of Investment

- sizing bachine	=	5 million baht
- looms (new)	=	30 million baht
- total additional investment	=	35 million baht

(b) Working Capital

In order to produce 60 inches cotton fabric, the company needs another 2.5 million baht for working capital (see Appendix II).

From (a) and (b), the net additional investment for this project is totalled to 37.5 million baht.

(c) Impact on Cost

The additional cost of producing 60 inches cotton fabric is estimated to be 1.26 baht per yard. This additional cost is projected to increase at a rate of 6 per cent per annum (see Appendix III).

(d) Impact on Sales

By increasing the width of cotton fabric from 47-48 inches to 60 inches, the profit accrued per yard is 2.16 baht. It is also projected that the market price of 60 inches fabrics will continue to grow at a rate of 4 per cent per year (see Appendix IV).

Evaluation of the Project

Based on data generated in Table 6.1, we have come to the conclusion that the proposed solution of producing wider fabric (60 inches) is a plausible solution. The internal financial rate of return of this project based on an initial capital outlay of 37.5 million baht is 19.4 per cent. This rate will look even better had we assumed that the old sizing machine can be sold at salvage cost. Thus, from the financial view point the benefit of investing an additional 37.5 million baht outweighs the cost of investment.

Market Condition

In this section, we shall examine the overall picture of the market for cotton fabrics through demand and

Table 6.1 : INTERNAL FINANCIAL RATE OF RETURN

(Thousands of baht)

Inflow	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Sales per year (yard)	13,410	13,410	13,410	13,410	13,410	13,410	13,410	13,410	13,410	13,410
Price increases (per yard)	2.16	2.25	2.34	2.43	2.53	2.63	2.73	2.84	2.96	3.08
Cost increases(per yard)	1.26	1.33	1.42	1.50	1.59	1.69	1.79	1.89	2.01	2.13
Revenue increases (per yard)	0.90	0.92	0.93	0.94	0.94	0.94	0.94	0.95	0.95	0.95
Total Revenue	12,069	12,337	12,337	12,471	12,605	12,605	12,605	12,740	12,740	12,740
Outflow										
Depreciation for newly invested machines	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500
Depreciation for old sizing machine	300	300	300	300	300	-	-	-	-	-
Net depreciation	3,200	3,200	3,200	3,200	3,200	3,500	3,500	3,500	3,500	3,500
Cash flow	8,522	8,682	8,682	8,763	8,843	8,816	9,044	9,044	9,044	9,044

Internal rate of return= 19.4 %Initial capital outlay= ฿ 37.5 million

Note 1, The useful life of new machines are expected to be about 10 years (using a depreciation rate of 10 % per annum

2, Capacity of production = 90 %

3, Cash flow = (Revenue) (1-T) + T(depreciation),Where T= Tax rate (40 %)

supply analysis. Looking at the supply side, the total production capacity of cotton fabrics in Thailand is now about 2,800 million yards per year.[/1] Expansion of capacity (looms) has been forbidden since September 1981 due to over capacity in the local industry. With respect to market demand, it is reviewed in table 6.2 that the total demand for cotton fabrics had an annual growth rate of 5.2 per cent. The demand for cotton fabrics was about 870 million yards in 1983. This clearly indicates that the industry has an excess capacity of producing cotton fabric. However, in the last half of 1983 there were indications of an upward demand trend for cotton fabrics. The export quotas allotted to Thailand by the U.S.A. and the EEC countries increased over the previous year by 6 per cent and 18.8 per cent respectively, whereas the quotas for large textile producers such as Taiwan, People's Republic of China were cut down. It is also believed that the economic recovery and the greater purchasing power of the general public would help to maintain the promising future.

Since the international demand will favour wider cotton fabrics, it is reasonable to utilize the excess capacity (looms) to produce wider cotton fabrics (60 or more inches). To do this, we have proposed that for an average size industries the minimum technical requirement to improve this industry is that of replacing the old sizing machine with the new one and added to it another 100 looms. However, since expansion of looms is prohibited due to reason mentioned above, one may acquire

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/1 Japanese Chamber of Commerce, Survey Report on Production Capacity of Textile Industries in Thailand. Bangkok, 1983.

Table 6.2 : PAST TOTAL DEMAND FOR COTTON FABRIC (1977 - 1983)

(Million yards)

	1976	1977	1978	1979	1980	1981	1982	1983
1) Production	626.7	685.6	713.1	734.0	761.0	790.7	853.2	n.a
	14.6	19.4	19.0	14.5	20.0	18.1	16.7	22.2 (Jan)
2) Export	122.9	120.2	130.7	109.6	112.0	95.6	152.6	93.9 (Jan)
3) Domestic Demand	518.4	584.8	601.4	638.9	669.0	713.2	717.5	n.a
4) Total Demand	641.3	705.0	732.1	748.5	781.0	808.8	870.1	n.a
± %	-	9.9	3.8	2.2	4.3	3.6	7.6	-
Growth	5.2 %							

Sources : - The Thai Tetile Manufacturing Association

- Department of Customs. Ministry of Finance

additional looms from local plants which have excess capacity of production. Thus, the additional investment in terms of buying old looms will be much lower from the proposed one (30 million baht). In our opinion, this is a logical way of utilizing the excess capacity currently existing in the textile industry.

Financial Requirement for Adjusting the Industry

There are currently about 920 plants producing cotton fabrics. The minority of this group are produced both for local and foreign markets. Within this group, there are two types of producers. The first group consists of the larger producers of certain line. This group does not change the output frequently. The other group consists of producers who have not specialized in a narrow range of product. They operate with flexibility in terms of products. Among plants which currently produce for local and foreign markets, 15 plants fall into our specification. Other are either too small to afford the additional investment recommended by us. While some of them have already produced 60 or more inches of cotton fabric. Thus the total amount of financial required to adjust this industry is in the figure of 525 million baht. This amount will be much lower considering when one acquired looms from plants which have excess capacity. Clude it may seem, this figure provides a reasonable amount of financial requirement that the industry can afford.

Considering the amount of money needed to invest in the proposed plant, the additional investment of 35 million baht is small when compared to the total amount of money already

invested for a particular plant that meet our specification. Moreover, if the majority of this average size plants continues to produce 47-48 inches instead of 60 or more inches of cotton fabric, they will stand to loose in the future. The major reason is that international demand will, in the future, move towards wider cotton fabrics (60 or more inches). In our opinion, the financial required for this investment can be acquired from private sources either in the form of share capital increase or by using long-term sources of fund as ways of financing this investment. The later case may be acquired from the Industrial Finance Corporation of Thailand (IFCT) which is keen in financing such project.

In conclusion, we feel that the export markets for cotton fabric will continue to have a promissing trend. What is need for the industry are minor adjustments in equipment. Major adjustments will be in management.

VII. FISCAL AND INVESTMENT INCENTIVES

Introduction

The restructuring of the textile industry cannot be completed without the changes in the incentives available to the industry. It is amazing that behind high and even protection the industry has been able to produce and export for a number of years. Combinations of low labour costs, available raw-material sources and know-how give the textile industry a continuing advantage. At the same time, the major constraints from the outside from the importing countries coupled with low productivity across the industry amidst intense competition from other LDCs, indicate that the industry must be assisted.

There are reasons to claim that the industry is valuable to Thailand. Employment creation, foreign exchange earnings, replacement of imports are among the merits of the industry. If the industry were to be wiped out tomorrow, at least 400,000 persons will be out of job; several thousands million bahts in foreign exchanges will be lost; and imports will flood the domestic markets. These are sufficient reasons to improve the industry. We shall touch upon 2 aspects:

(a) protective structure of the industry;

(b) investment incentives.

These are two broad areas crudes an investigation.

Let us first examine the protective structure of the textile industry through the use of effective rate of protection (ERP). Here we shall combine two recent works (Ajanant et al, 1984; Industrial Management Company, 1985) to indicate the structure of protection. These two works are based on the I/O of two periods. In addition both studies have applied the general equilibrium analysis to the ERP measurement.

Table 7.1: ERP OF THAI TEXTILE INDUSTRY

I/O	Industry	1975	1980	NRP 1980
067	Spinning	-56.75	66.06	0.24
068	Weaving	60.37	109.57	0.61
069	Textile finishing	-41.65	177.19	0.60
070	Made-up textiles	58.15	44.50	0.42
071	Knitting	-5.66	120.59	0.60
072	Wearing apparel	143.87	69.36	0.64

Note: ERP means the Corden type

Source: Ajanant & et al (1984)
Industrial Management Company (1985)

A slight difference between these two studies is that the 1980 works treats the finishing of textile as a service while the other work regards the finishing to include the cost of fabric along with the finishing service. There are many differences in the two sets of ERP in Table 7.1. This is understandable because the nominal rate of protection for sub-sectors of the economy along with the cost of production have changed over the year. In

1980 the rate of tariff was reduced from the high level in 1975 thus ERP of 1980 show positive signs. Spinning, which was penalized in 1975, made a gain in 1980. Knitting, which was penalized in 1975, gained from the protective structure. The wearing apparel activity had a declining value of ERP. All in all the ERP of 1980 indicate a high protection.

Whether the textile industry receives a high protection is to be compared to other activities in the economy. Table 7.2 ranks the ERP by its magnitude. It can be seen that the textile as a group is ranked fifth behind transport equipment, tobacco, beverages, and plastic products. When using the Corden type of calculation, the textile is ranked eighth. Looking at other activities which can broaden the industrial base of the economy one can see that electrical and machinery were receiving lower protection. The engineering industry has a wider implications for the economy. Yet it receives a lower protection than the textile industry. This experience of the Thai protection is not unique, however. Many developing countries such as the Philippines, Turkey, Pakistan and Portugal have accorded high protection to their textile industries (de Vries, 1983).

The high protection for the industry which was established over 2 decades ago means that it tends to produce low quality products for domestic consumption. Even when there are exports produced by the industry the price competitiveness is doubtful. Of course, consumers pay for the low quality in the form of high priced item (in contrast to cheaper import). Whether

Table 7.2: EFFECTIVE RATES OF PROTECTION BY MAJOR GROUP OF INDUSTRIES

	Sector	Effective Rate of Protection (ERP) %			
		Balassa	Rank	Corden	Rank
0.	Agriculture	15.88	21	13.90	22
1.	Food	97.65	10	47.27	14
2.	Beverage	213.81	3	179.77	4
3.	Tobacco	307.35	2	251.67	3
4.	Textiles	119.33	5	78.93	8
5.	Leather	55.11	18	41.61	16
6.	Wood & Wood Products	60.41	15	44.39	15
7.	Paper & Paper Products	58.03	17	40.41	17
8.	Basic Industrial Chemical	58.87	16	35.49	19
9.	Chemical Products	94.39	11	59.98	10
10.	Refineries & Petro. Products	-1197.65	23	-3764.39	23
11.	Rubber & Rubber Products	21.90	19	16.88	20
12.	Plastic Products	213.56	4	117.00	5
13.	Ceramic & Earthern ware	117.16	6	82.90	7
14.	Glass and Glass Products	115.39	8	83.99	6
15.	Other Non-metallic Products	71.22	13	40.14	18
16.	Iron & Steel	62.93	14	49.57	12
17.	Non-Ferrous Metals	-390.02	22	835.52	1
18.	Fabricated Metals	116.65	7	77.84	9
19.	Machinery	111.29	9	52.38	11
20.	Electrical Ind. Machinery and Appliances	80.27	12	48.93	13
21.	Transport Equipment	1376.05	1	261.54	2
22.	Other Manufactured & Products	21.46	20	16 68	1

Source: Industrial Management Co.,Ltd (1980)

the consumer realizes quality is not found. Most Thai consumers have never examined the number of faults in one square yard while international purchasers insists on fewest number of faults. These consumers pay for both low quality and high priced items. The protective will also postpone the days when firms have to face with stiffer competiions from abroad. Domestic competition is not ruled out but the profit margin, given by the protection, is sufficient to ensure the high-cost producers of economic rent.

The investment incentives can be broadly defined to comprise various provisions granted by the government to the industry. In this study it shall focus on the incentives given by the Board of Investment of Thailand. Though it is unfair to treat BOI as such, its activities have affected many industries inevitably. As the private investment promoter of the country, BOI has undertaken many steps to promote the textile industry. In 1960, the BOI granted the incentives to investors in all textile fields. The following year, it allowed the joint-venture between a Thai partner and a foreign partner. By 1971, the industry had already established itself in the country and there was excess capacity so the BOI along with Ministry of Industry terminated the privileges to be given to new textile firms. Two years after that the BOI re-instituted the textile industry on its promotion list. This time it emphasized the dyeing and finishing industry. Since 1975, the BOI has not terminated the promotional privileges to textile firms. Instead it has continued to promote garment exporters.

The role of the BOI had been braodened to other fiscal matters as well. Usually the BOI can exempt all forms of taxes, normally levied on capital, raw-materials, corporate income and etc. By 1975, the BOI was empowered to levy the import surcharge on imported items. Economists are inclined to think that the BOI insists on protecting high-cost infant industries. The other side of the coin is that the Thai Anti-Dumping Code has not been used to thwart the cheap and 'unfair' imports into the economy. The BOI's import surcharge was used as the stopper to such 'unfair' imports to ensure that the domestic producers can survive. With due consideration, it can be said that the investment promotion of the textile industry is sufficient to ensure the profitability of the operation. The BOI cannot participate in the investment of certain sectors of the industry forever. It appears that major decisions are made by the Ministry of Finance and the Ministry of Industry. The Board of Investment's role is complimenting the other two ministries, not leading them in any way.

We can establish that the fiscal incentives are the major thrust to the appropriate development of healthy textile industry, and the role played by the BOI is conceived to be complimentary to the broad policy. In 1983, the National Economic and Social Development Board took a critical examination of the textile industry in view of the declining productivity and competitiveness. That study has a lot to offer as far as the changes in the fiscal incentives are concerned. We have re-examined the facts and compared them to the report of the NESDB.

From that comparison, we can recommend the fiscal package along the same line.

To really appreciate the fiscal impacts on the textile industry, one must begin by looking at the following facts. Import duties levied on textile products-yarns, fabrics, garments-have been quite disperse; its range is between 5-100 per cent of the C.I.F. price at Bangkok. That pattern of tariff dispersion lasted many years until 1980 when there was an alteration to tariff rates. The resultant tariff, in consequence, ranges between 3-60 per cent of the C.I.F. price. At the disaggregate level, between 1974-1978 the nominal rates of protection for synthetic yarns and thread lied between 10-50.3 per cent. The nominal rates of protection of finished garments ranged between 10-85 per cent. By 1978 there was a move to narrow the tariff dispersion, bringing the nominal rates of protection on synthetic yarns and thread to 20 per cent and those of garments to 100 per cent. In 1982 the nominal rates of protection were revised such that tariff rates for yarns and thread averaged 22.58 per cent and those of garments 66 per cent. (See Table 7.3)

When the nominal rates of protection of the said textile products have been compared to similar products (i.e., intermediate products and consumer nondurables) the tariffs on thread and yarn are moderate. While the tariffs on wearing apparel have been quite high. Within the intermediate Products I, the ERPs for thread and yarn between 1974-1982 averaged 28.1-67 per cent while the ERP for other intermediate products averaged -21.1 to 280.3 per cent. In the consumer nondurables the average

Table 7.3: SELECTED NOMINAL AND EFFECTIVE TARIFF RATES, 1974, 1978, 1982 AND 1983

(Percent)

Industries	Nominal rates (range)				Effective rates			
	1974	1978	1982	1983	1974	1978	1982	1983
Processed food								
Sugar	(0.0), (-100.0)	(0.0), (-100.0)	(0.0)-(-80.0)	0.0	-86.0	-20.3	-21.6	-21.2
Sweet condensed milk	20.0	20.0	22.0	6.6-25.0	/a	33.6	62.4	68.3
Wheat flour and cereals	30.0-80.7	30.0	33.0	33.0	30.3	466.6	2,948.5	/a
Fruit canning	83.3-196.1	80.0	66.0	66.0	-8.0	n.a.	/a	/a
Animal feeds	0.0	0.0	0.0	6.6-11.0	-1.3	-2.1	-3.7	-12.1
Beverages and tobacco								
Beer	249.5	100.0	66.0	66.0	/a	39.7	15.4	2.5
Cigarette & tobacco	30.0-71.7	20.0-60.0	27.5-66.0	27.5-66.0	1,067.1	-25.3	-6.9	-10.7
Construction materials								
Cement	10.0-50.0	10.0-50.0	10.0-55.0	10.0-55.0	43.9	n.a.	0.4	-10.7
Intermediate products I								
Veneer and plywood	30.0-60.0	30.0-60.0	6.6-66.0	6.6-77.0	/a	-13.19/b	-21.1/b	21.6/b
Thread and yarn	10.0-50.3	20.0	22.58	22.0	39.0	25.1	67.0	7.1
Glass sheet and products	0.0-72.5	5.0	3.3-88	14.3-88.0	73.0	/a	280.3	131.8
Iron and steel basic industries	0.8-30.0	5.0	0.5-5.5	2.8-5.5	37.7	58.4	58.9	-16.1
Rope and cordage	15.0-30.0	5.0-30.0	16.5-33.0	33.0	29.0	-4.0	28.8	31.6
Intermediate products II								
Rubber tires and tubes	15.0-37.6	30.0	16.5-33.0	16.5-33.0	33.4	24.7	47.9	28.1
Paints and varnishes	30.0	30.0	26.1	26.1	57.8	83.9	37.9	27.1
Chemical products, plastic and synthetic	0.0-723.7	30.0	11.0-66.0	11.0-66.0	34.9	75.5	122.7	97.4
Finished structural metal products	0.8-60.0	30.0	22.0	22.0	49.1	80.3	41.4	58.5
Other metal products	0.8-60.0	30.0	33.0	33.0	57.6	80.5	79.5	56.2

Industries	Nominal rates (range)				Effective rates			
	1974	1978	1982	1983	1974	1978	1982	1983
Consumer nondurables								
Clothing	10-0-85.0	100.0	66.0	66.0	/a	243.4	105.8	126.2
Textile articles	30.0-60.0	5.0-100.0	5.5-66.0	5.5-66.0	93.6	61.6	30.2	35.2
Shoes	30.0-70.0	100.0	66.0	66.0	199.5	669.4	172.8	185.0
Drugs and medicine	0.0-30.0	30.0	0.0-30.0	0.0-80.0	59.8	-14.9	-16.5	72.6
Soaps and detergent	8.6-60.0	30.0-80.0	16.5-66.0	16.5-66.0	84.0	144.9	66.5	88.0
Consumer durables								
Motorcycle assembly and parts	30.0-40.0	30.0-60.0	33.0-66.0	33.0-66.0	36.4	102.6	15.03 /c	0.93 /b
TV and household appliances	5.0-80.0	5.0-100.0	5.0-55.0	33.0-55.0	830.2	/a	188.04	84.8
Wood furniture	50.0	80.0	66.0	66.0	189.4	/a	1,693.4	2,000.0
Machinery								
Tractor assembly	2.0-5.0	2.0	2.2	2.2	5.7	5.5	n.a.	n.a.
Wires, cables and accessories	10.0-30.0	30.0	33.0	33.0	62.1	75.6	86.0	77.2
Transport equipment								
Car assembly	80.0	150.0	150.0	150.0	353.9	/a		
Truck assembly	40.0	30.0-40.0	20.0-40.0	40.0	100.7	392.4	308.2 /d	9.3 /d
Motor vehicle parts	15.0-60.0	15.0-80.0	50.0-80.0	50.0-80.0	84.9	55.0		
All Sectors								
Non-import competing	34.6	50.8	47.0	47.6	39.7	52.4	47.1	51.3
Import competing	24.8	35.7	28.8	30.3	44.8	78.3	37.1	23.9
Exports	-6.5	13.7	21.2	32.7	-39.9	38.2 /e	43.4 /e	39.3 /e

Note: /a Negative value added at world market prices.
/b Including sawn woods
/c Including bicycles
/d Including passenger cars, commercial vehicles and parts
/e Average rates for industries with larger than 10% export sales. The rates would be negative if only export sales are included.
n.a. = not available.

Source: Narongchai Akrasanee, The Structure of Effective Protection in Thailand (1975), Dhavil Wisuthachinda, Custom Tariff of Thailand (1981) and Ministry of Finance (1982)

ERP for the group was -16.5 to 669.4 and the ERPs for garments were between 105.8 to 243.4.

The structure of protection is also affected by the Board of Investment's import surcharge. These import surcharges are used to protect the promoted industries under the BOI scheme. Among all the subsectors of the textile industry, synthetic fibre is the only textile product which has been enjoying this additional protection. The import surcharge on the synthetic fibre was first implemented in 1976 and it has been used continuously ever since. Between 1976-1984 the rates of import surcharge varied between 5 to 30 of imported prices (See Table 7.4) The underlying reason to such a high variation of import surcharge is due to fluctuations of international prices of synthetic fibres. It is a known fact that the production of synthetic fibre is a capital-intensive process. Producers have maintained the cost through spreading over a big volume of output. At times when there is a glut of supply worldwide, producers would rather sell below the average cost than to adjust the scale of output. Thailand does have an Anti-Dumping Code and it has not been effective in dealing with dumping. Therefore the BOI's import surcharge is used as an anti-dumping device.

Prevailing Taxes on Textile Products

The tax burden on textile producers can be very complexed. In the case of imported goods, import duty, business tax and municipal tax are levied on the goods. For the domestic producer, he is responsible for the business tax and municipal

Table 7.4: IMPORT SURCHARGE FOR SYNTHETIC FIBRE

Effective Dates	Product	Rate
13 Feb. 76 - 15 Aug. 76	PSY, PFY, NFY, NSY	30
11 Aug. 76 - 31 Dec. 76	PSF, PFY, NEY, NSY	30
15 Jan. 77 - 31 Dec. 77	PSF, PFY, NFY, NSY	30
1 Jan. 78 - 31 Dec. 78	PSF, PFY, PSY, NFY, NSY	30
6 Feb. 79 - 5 Feb. 80	PSF, PSY, NSY	30
	PFY, NEY	10
13 Feb. 80 - 12 Feb. 81	PSF	30
	PSY, NSY	20
	PFY, NFY	10
5 May 81 - 4 May 82	PSF	20
	POY, PSY, NSY	15
	PFY, NFY	5
23 Jun. 82 - 26 Dec. 82	PSF, PFY, NFY, POY, PSY, NSY	10
27 Dec. 82 - 22 Jun. 83	PSF, POY, PSY, NSY	20
	PFY, NFY	10

N.B.: PSF = Polyester Staple Fibre

PFY, NFY = Polyester/Nilon Filament Yarn

PSY, NSY = Polyester/Nilon Stretched Yarn

POY = Partially Oriented Yarn

Source: Project Analysis Division, Board of Investment

tax. From this times of tax structure, the taxes tend to escalate as the number of times the product passes hands.

The import duties for the textile products are as follows: (a) 66 per cent on imported fabrics and garments; (b) 11-12 per cent on imported natural fibre thread; (c) 22 per cent on imported synthetic fibre plus additional 20 per cent import surcharge.

The municipal tax is collected along with the business tax. Usually the municipal tax is 10 per cent of the business tax. The followings describe the combined tax rate for textile products: (a) 7.7 per cent for garments; (b) 7.7 per cent for all imported fabrics; (c) 5.5 per cent for domesticly-produced fabrics; (d) 3.3 per cent for thread and polyester yarn sold to weavers; (e) 3.3 per cent for finishing and dyeing process.

From the above two paragraphs we can judge the total tax burden on the importer, local producer, and exporters. For the importers of textile products, the combined tax burden will naturally be higher than the other two groups. Imported garments and fabrics are levied 80.38 per cent; cotton thread 31.88 per cent; silk thread 15.05 per cent; and polyester fibre 47.18. At the same time the total tax on raw-materials for the production of polyester fibre is levied between 9.63 to 20.91 per cent.

Local producers are involved with taxes in 3 different stages. They pay for import duty and business tax when

they import raw-materials for the production. Suppose he chooses to buy domestic substitutable inputs he pays for business tax already embedded in the purchase price. Once he sells his product, business tax is levied upon his sale. Exporters tend to be in a superior position to the other two groups. In general exporters do not pay export tax and business tax. They may not pay taxes on capital machinery imported if they had earlier recived the BOI certificate of promotion. Exporters also receive tax refund and tax rebates for all imported materials once the finished products have been shipped to the customers.

Import duties of the textile products are different when one considers each sub-sector of the industry. Tariffs levied on the raw-materials and intermediate inputs are lower than these levied on the finished products. This tariff pattern promotes the production of upstream industries. Nonetheless if one observes the tariff levied on fabric, which is an essential input of garment manufactures, the tariff is equal to that of garments. The protection given to the weaver has led to a great expansion of weaving capacity to the point it exceeds the demand. Thus the protection of fabric indicates that there is a misallocation of resource. The protection was aimed to coerce garment exporters to use domestic fabrics. But the garment exporters have continued to rely on imported fabrics due to the access to both rebate and refund systems. It, in a nutshell, is redundant to impose a high tariff on imported fabric under this situation.

ERP of Textile Products

Apart from the nominal rate of protection, one can use the ERP to judge the protective structure. Table 7.5 illustrates the various ERPs of different textile sub-sectors. It must be mentioned that the weaving sub-sector receives the highest ERP within the textile group. Excluding the BOI's import surcharge, the ERP is 80 per cent; when the import surcharge is brought into the calculation, the ERP is reduced to 70 per cent. The knitting industry has the second highest ERP at 47 per cent. The ERP for the spinning industry is 23.69 per cent (exclusive of import surcharge) and is 27.14 per cent (inclusive of import surcharge). The lowest ERP is seen in the finishing and dyeing industry. It is calculated to be -17 per cent. The ERP of the finishing and dyeing is not reliable, however, various empirical studies tend to obtain negative ERPs for this sub-sector. On the other hand, when the ERP is calculated in the general equilibrium framework and the service of the industry is treated separate from the raw-materials, the ERP turns positive.

The Multiplicity of Taxes

The tax structure can be very complicated as will be demonstrated below:

Figure 7.1: TAX STRUCTURE OF TEXTILE PRODUCTS

STEP	Activities	Taxes
1.	Import of Raw Materials	Import Duties + Business Tax + Municipal Tax
	↓	
2.	Yarn Production	Business tax and Municipal Tax (3.3 per cent)
	↓	
3.	Wearing	Business and Municipal Tax (5.5 per cent)
	↓	
4.	Printing & Dyeing	Business Tax (3.3 per cent)
	↓	
5.	Weaving Apparel	Business and Municipal tax (7.7 per cent)

The hidden taxes (business tax and municipal taxes) have been calculated; and its calculation is based on the hypothetical case where the industries use domestic inputs in every stage of production, exception being the raw materials for polyester yarn production. The value of a shirt is normalized to 100 baht and out of this value the tax burden is around 17.48 baht (See Table 7.5).

Table 7.5: HIDDEN TAXES IN A 100 BAHT VALUE

Step	Activities	Taxes
1	Yarn	2.94 baht
2	Thread	1.92 "
3	Printing & Dyeing	0.23 "
4	Fabric	4.69 "
5	Shirt	7.7 "
	Total tax	17.48 baht

The tax burden along with the inappropriate protective structure of the textile industry has not resulted in a healthy development. While Thailand is capable of exporting textile products, the value-added is not fully captured. Imports of textile products still prevail. We recommend that the followings:

(a) Revise the tariff rate of synthetic thread and yarn from 20 per cent to 30 per cent;

(b) Restrain frequent changes of BOI's import surcharge;

(c) Import surcharge may be used as an anti-dumping device and it shall not be in excess of 30 per cent of the tariff rate;

(d) In case of uncontrolled dumping, the authorities may resort to import licensing;

(e) Revise the tariff rate of fabrics from the 60 per cent to 50 per cent (See Table 7.6).

Table 7.6: PRESENT AND PROPOSED IMPORT DUTY AND IMPORT SURCHARGE RATES FOR TEXTILE INDUSTRIES

Items	Import Duty Rate		Import Surchages	
	present	proposed	present	propose
Material for rayon	3%	3%	-	-
Raw material for polyester				
EG	7%	7%	-	
DMT	7%	7%	-	
TPA	7%	7%	-	
Synthetic Fibre				
PSF	20%	30%	20%	not exceed 9% (or not exceed 30% of import duty)
PRE or POY			20%	
PSY			20%	
NSY			20%	
PFY			10%	
NFY			10%	
Rayon			10%	
P/C Yarn				
Cotton yarn	25%	25%	-	
Silk yarn	10%	10%	-	
Fabric	60%	50%	-	
Garment	60%	60%		

VIII. POLICY IMPLICATIONS AND RECOMMENDATIONS

The textile industries in Thailand have been contributing significantly to the economy since its inception in the 1960's. Its early days' contributions encompassed employment creation and savings of valuable foreign exchange. Since 1970's the industries have become one of the leading foreign exchange earners and the employment totalled 400,000 persons. The viability of the monolithic industry has been questioned because of the international economic situation being unfavourable and low productivity among firms of the industry. The textile industries of other countries had gone through this process before and they have survived quite remarkably. Experiences gained around the world are valuable and point to a new thinking on the restructuring of the industry.

There are 4 areas which require a new approach work to improve the level of viability of the industries, and these are

(a) Improvement of the structure of supply;

(b) Improvement in the market demand;

(c) Revised incentive system; and

(d) Improvement of the value-added.

The structure of the supply can be improved by four pronged measures. Firstly, the close control on the importation of new and used spinning machines is required. While the official

statistics may state that there are 1.2-1.5 spinning machines, there are at least 200,000 to 300,000 machines installed in addition. Excess capacity has been produced by these machines. Licenses to import machines for textile process must be required. Secondly, the basic minimum technical improvement must center on the 60 inch width of fabrics. The garment industries are going towards the 60 inch width and for exports and exported garments industries the large-sized firms, which are already in the export business, should adapt the idea eagerly. Our prototype has indicated that the investment in a new sizing machines and acces sories to proceed to 60 inch width is financially sound. Thirdly, there must be a larger pool of qualified personnel managing and operating the plants. The present training courses and seminars by Ministry of Industry is not adequate. Technical assistance from UNIDO/UNDP is required to produce the new corps of managers and foremen for the industry. The textile institute can be a booster to the software development for the industry. Fourthly, the textile industry must adapt its design to suit the market demand. It takes 16-18 months before the exhibited fabrics go into the stores in the U.S.A. and EEC countries. Both garment exporters and fabric producers have flocked to these Summer and Fall Exhibitions. The displayed fabrics can point to the coming year's demands from garment producers around the world. Private sector's managers can use the knowledge gained have to tailor the suppliers in accordance to era-changing demands.

People tend to be pessimistic of the demand manoeuver because there are fewer demands and gluts of supplies.

Because Thai reports of fabrics and garments constitute a low percentage in the major markets, there is a possibility to manipulate this demand. Firstly, the negotiations via the bilateral and MFA agreements are the responsibility of Ministry of Foreign Trade, Ministry of Commerce. These on-going negotiations must be used effectively to enhance the market access for Thai exports. Secondly, the increased use of both legal, tariff and non-tariff measures have adversely affected the industrial performance. The government will have to forge ahead with a monitoring unit to closely watch the international development. It must also approve of a lobbyist who operates on behalf of Thailand. Thirdly, there is a strong demand trend towards natural fabric in recent years. A production switch to 100 per cent cotton output can ensure a sizable portion of the demand.

The overall performance of the industry is dependent on the rationalization of the sub-sectors. As the international competition is keener and the wage cost is creeping into the profit margin, it is essential for the industry to move up to the high value-added podium. A recent study by Suehiro (1983) shows that large firms in the textile industry have adopted the full integrated approach. This is one of the many approaches to take advantage of the present tax system. However, the full-integration is not complete without the proficient printing and dyeing process. Each year, a sizable value-added is accrued to foreign firms specialized in the printing and dyeing process. The Board of Investment must look into this carefully to

give an incentive to an investor of such technology.

The incentive system is the least mentioned item in this report but it is regarded as the most important factor in determining the performance of the industries. We did not dwell at the incentive system at length since many previous studies have suggested a reform. Recommended programmes are: (a) revise the tariff rate of synthetic thread and yarn to 30 per cent; (b) infrequent revisions of import surcharge; (c) import surcharge must not be in excess of 30 per cent; (d) import licensing can be used to ward off dumpings; and (e) revise the tariff rate of fabrics from 60 per cent to 50 per cent and maintain the tariff for garments at the 60 per cent level.

These recommendations are inevitably the basic minimum requirements which both the public and private sectors must proceed to ensure that a successful transition to a better calibre performance. In some case, e.g. the improvement of human skill and human capital development, the international organizations such as UNDP and UNIDO are proven capable suppliers.

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Table 1 : SOME BASIC INDICATORS OF THE TEXTILE INDUSTRY

(Million of baht)

	1975	1978	1980	1983
GDP (1972 prices)	203,514	261,097	292,852	342,878[e]
Growth	-	8.7	5.9	5.4
Manufacturing sector (1972 prices)	36,787	52,521	60,597	71,947[e]
Growth	-	12.6	7.4	5.9
Share in GDP	18.1	20.1	20.7	21.0
Textiles subsector (1972 prices)	7,752	11,757	14,405	18,227[e]
Growth	-	14.9	10.7	8.2
Share in manufacturing sector	21.1	22.4	23.8	25.3
Manufactured imports	44,952	71,936	104,565	160,541[p]
Imports of textiles	3,376	4,189	5,875	8,196[p]
Growth	-	7.5	18.4	11.7
Share in manufactured imports	7.5	5.7	5.6	5.1
Manufactured exports	6,570	17,626	35,148	45,589[p]
Exports of textiles	1,698	6,923	9,969	14,439
Growth	-	52.1	20.0	13.1
Share in manufactured exports	30.0	39.3	28.4	31.7
Manufacturing employees	1,355,770	1,477,500	1,789,000	1,741,900 /a
Employees in textile industry	213,330	262,937	315,677	342,883 /a
Growth	-	7.2	9.6	2.8
Share in manufacturing employees	15.7	17.8	17.6	19.7

/a in 1981

Source : NESDB, BOI, MOI, Thai Textile Manufacturing Association, and Customs Department.

Table 2 : VALUE ADDED, OUTPUT, IMPORT AND EXPORT (BY I/O CODE)

(Million of baht)

I/O code	Value added		Output		Import		Export		Self-sufficient Ratio	
	1975	1980	1975	1980	1975	1980	1975	1980	1975	1980
067 Spinning	2,001.3	5,522.2 (22.5)	7,020.5	19,657.4 (22.9)	602.3	941.7 (9.4)	334.2	1,328.8 (31.8)	0.96	1.02
068 Weaving	2,346.9	6,491.7 (22.6)	7,665.5	21,481.9 (22.9)	897.8	2,156.7 (19.2)	807.2	3,657.5 (35.3)	0.99	1.08
069 Textile bleaching and Finishing	341.0	774.7 (17.8)	818.0	2,151.3 (21.3)	0	0 (0)	0	0 (0)	1.00	1.00
070 Made-up textile goods	858.4	1,403.8 (10.3)	2,646.2	4,286.8 (10.1)	186.2	388.3 (15.8)	58.6	351.4 (43.1)	0.95	0.99
071 Knitting	2,151.3	4,537.5 (16.1)	5,416.6	11,584.6 (16.4)	352.6	330.1 (-1.3)	55.6	1,057.8 (80.2)	0.95	1.07
072 Wearing apparel	2,961.9	7,053.2 (18.9)	8,639.0	23,603.7 (22.3)	51.5	23.5 (-14.3)	922.9	4,022.0 (34.2)	1.11	1.20
Total	10,660.8	25,783.1 (19.3)	32,205.8	82,765.7 (20.8)	2,090.4	3,840.3 (12.9)	2,178.5	10,417.5 (36.7)	1.00	1.09
% of Manufacturing	13.5	14.4	13.4	14.7	4.3	2.8	6.6	9.2		

Note : Figures in parentheses are compound growth rates

Source : NESDB

Table 3 : CAPACITY UTILIZATION AND OUTPUT

	Capacity Utilization (%)				Output			
	1979	1980	1981	1982	1979	1980	1981	1982
Man-made fibre (ton)	87.7	90.9	103.7	80.1	99.0	103.2	117.7	101.8
Yarn (ton)	90.2	94.3	87.0	80.0	236.9	263.9	230.2	233.3
Fabric (mil.yard^2)								
- Weaving	85.5	90.0	84.6	75.0	1,462.6	1,620.5	1,600.9	1,651.4
- Knitting	59.8	58.9	60.4	n.a.	376.8	412.1	399.6	431.4
Garment (mil.pcs.)	63.3	60-76.7	70-93.3	90.0	95.0	115.0	138.0	202.5

Source : Bank of Thailand

Table 4 : TEXTILE IMPORT-EXPORT STATISTICS

Q : Ton, 1,000 yard^2, 1,000 pcs
V : Million of baht

		1979		1980		1981		1982		1983	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Cotton (ton)	Import	92,115	2,843.1	73,273	2,531.0	75,783	3,179.0	56,464	2,029.0	108,226	3,604.5
	Export	808	27.8	7,924	306.2	5,649	186.2	13,470	429.3	2,845	85.3
Cotton yarn (ton)	Import	306	24.6	439	29.6	903	65.2	278	32.2	737	60.9
	Export	788	105.7	821	73.0	506	57.1	1,764	127.6	1,337	119.1
Cotton fabrics	Import	14,539	270.8	17,190	472.0	18,152	414.4	16,740	466.2	27,063	756.9
(1,000 yard^2)	Export	109,598	1,349.7	117,294	1,319.5	95,563	1,119.0	152,390	1,504.0	136,139	1,304.4
Man-made fibre	Import	14,164	458.4	12,085	481.5	15,959	726.5	24,499	903.1	19,880	783.7
(ton)	Export	2,483	53.1	3,348	95.0	2,729	88.3	5,881	195.0	6,415	166.1
Man-made yarn	Import	5,147	402.4	4,810	378.5	7,918	576.6	7,482	587.3	10,104	768.2
(ton)	Export	14,794	739.4	20,965	964.8	20,432	1,077.1	13,358	1,337.4	16,906	851.3
Man-made fabrics	Import	61,199	1,044.2	108,938	1,647.1	95,034	1,935.3	77,586	1,423.2	108,496	1,771.4
(1,000 yard^2)	Export	287,676	2,989.3	220,421	2,295.1	292,535	3,172.6	327,586	3,283.5	287,442	3,038.8
Knitted fabrics	Import	11,638	178.4	15,098	309.0	16,391	334.2	17,185	429.7	21,791	513.8
(1,000 yard^2)	Export	18	0.5	101	2.0	483	9.0	161	2.1	9	1.0
Garment	Import	315	20.2	695	26.1	861	28.0	1,137	39.2	0.6	33.1
(mil.pcs)	Export	92,183	3,365.9	109,760	4,913.5	137,820	6,988.7	145,186	7,981.5	168.7	8,865.8
Total	Import		5,242.1		5,875.0		7,259.3		5,909.9		8,292.5
	Export		8,631.5		9,969.0		12,698.0		14,899.7		14,431.9
	Balance		3,389.4		4,094.1		5,438.7		8,989.8		6,139.4

Source : Thai Textile Manufacturing Association

Table 5: STRUCTURE OF IMPORTS OF TEXTILE GOODS - 1982.

CHAPTER	DESCRIPTION	CIF VALUE MILLION BAHT
50	Silk cocoon	2
	Raw silk	128
	Silk yarn	172
	Other	1
	TOTAL CHAPTER	303
51	Polyester yarn	134
	Nylon yarn	87
	Other synthetic yarn	23
	Rayon yarn	62
	Other regenerated fibers yarns	10
	Synthetic monofilaments	25
	Regenerated fibers filaments	3
	Yarns for retail sales	20
	Crepe polyester fabrics	47
	Drills, twill and satin poly. fabrics	22
	Voile polyester fabrics	20
	Oxford polyester fabrics	2
	Other polyester woven fabrics	596
	Tyre cord synthetic fabrics	2
	Other woven synthetic fabrics	36
	Regenerated fibers fabrics	40
	Fabrics of synthetic fibers less than 85%	50
	Other	24
	TOTAL CHAPTER	1,479
52	Metallized textiles	7
	TOTAL CHAPTER	7
53	Wool fiber cordei, worked in bulk or tops	27
	Woollen yarn more than 85%	87
	Woollen yarn less than 85%	37

	Worsted yarn less than 85%	4
	Wool fabrics	9
	Others	4
	TOTAL CHAPTER	168
54	Flax and ramie fiber, yarn and fabrics	19
	TOTAL CHAPTER	19
55	Cotton fiber	2,024
	Cotton yarns	32
	Terry towelling	2
	Surgical absorbent cotton	17
	Cotton shirting more than 85 %	10
	Cotton sheeting more than 85 %	18
	Cotton poplin	36
	Cotton drill and twill	51
	Cotton denim	10
	Cotton flannel	47
	Cotton canvas	11
	Other cotton fabrics	69
	Printed and fancy cotton fabrics	11
	Blended cotton fabrics less than 85 %	81
	Other	21
	TOTAL CHAPTER	2,440
56	Polymide	19
	Polyester fibers	317
	Acrilic fibers	224
	Other synthetic fibers	102
	Regenerated fibers	122
	Continuous synthetic filament tow for staple production	109
	Continuous regenerated filament tow for staple production	25
	Waste of synthetic fiber	13
	Yarn of synthetic fiber	152

	Mixed synthetic/cotton yarn	29
	Synthetic yarn mixed with other fiber	20
	Yarn of regenerated fibers mixed with other fiber	15
	Synthetic fabrics more than 85%	30
	Synthetic fabrics less than 85% mixed with cotton	246
	Synthetic fabrics blends less than 85%	16
	Others	28
	TOTAL CHAPTER	1,478
57	Other vegetable textile materials	
	TOTAL CHAPTER	260
58	Carpet, chenille, lace and embroidery	
	TOTAL CHAPTER	162
59	Wadding goods, flock, mill nets and others	11
	Felt and bonded fabrics	46
	Twine, cordages and ropes	31
	Fishing nets of nylon	38
	Plastic coated fabrics	51
	Rubberized fabrics	710
	Other coated fibrics	78
	Elastic fabrics, trimings, hoses	63
	Textile fabrics and articles used in machinery or plants	94
	Others	17
	TOTAL CHAPTER	1,133
60	Knit and crochet goods	
	TOTAL CHAPTER	496
61	Apparel and clothing	
	TOTAL CHAPTER	25

62	Other textile articles	
	TOTAL CHAPTER	91
63	Old clothes and rags	
	TOTAL CHAPTER	3
	TOTAL TEXTILES IMPORTS	8,064
	TOTAL COUNTRY IMPORTS	196,616
	TEXTILES IMPORTS/COUNTRY IMPORTS	4.1 %

Source: Foreign Trade Statistics of Thailand,
Department of Customs

Table 6 :DOMESTIC DEMAND AND OUTPUT OF TEXTILE INDUSTRY

	1979		1980		1981		1982	
	Output	Demand	Output	Demand	Output	Demand	Output	Demand
Cotton (ton)	35,510	126,240	57,724	123,712	64,150	128,516	42,993	131,320
Man-made fibre (ton)	104,016	104,016	103,159	114,060	114,488	128,463	99,323	115,164
Cotton yarn (ton)	96,430	92,489	96,151	96,243	97,271	100,936	101,213	107,559
Man-made yarn (ton)	122,648	103,291	127,334	109,542	132,892	120,420	132,096	132,069
Total yarn	219,078	195,780	223,485	205,785	230,163	221,356	233,282	239,628
Cotton fabrics								
- Weaving (mil.yard^2)	734		761		791		853	
- Knitting (mil.yard^2)	73		78		81		83	
Man-made fabrics		1,388		1,578		1,739		1,670
- Weaving (mil.yard^2)	654		672		810		798	
- Knitting (mil.yard^2)	251		279		319		348	
Total fabrics	1,712	1,388	1,790	1,578	2,001	1,739	2,083	1,670
Garments (mil.pcs.)	112	20.1	156	46.7	179	43.6	n.a.	n.a.

Source : Thai Textile Manufacturing Association

Table 7: PRODUCT QUOTA NOT FULFILLED IN 1983

Category	Group	Utilization %	Quota available
	To USA		
319	Duck	60.6	6 million sq.yd.
320	Woven fabrics NES	18.9	10 million sq.yd.
363	Terry towels	48.0 [a]	2 million pcs.
365	Other cotton manufact.	9.3 [a]	2 million lb.
	To EEC		
20+30	Cotton fabrics	39.1	8,000 tons
8	Men's woven shirts	48.6	17 million pcs.
24	Women night dresses	51.3	15 million pcs.
	Available USA		
319	Duck 2.4 million sq.yd. x 200 g.		= 480 tons
320	Woven fabrics NES 8.0 million sq.yd. x 120 g.		= 960 tons
363	Terry towels 1,090,000 pieces x 300 g.		= 312 tons
	Available EEC		
20+30	Cotton fabrics		5,280 tons
8	Men's shirts		220 tons
24	Women night dresses		300 tons

[a] In 1982

Source : Export Promotion Division, Department of Foreign Trade, Ministry of Commerce

Table 8: EXPORT OF TEXTILE PRODUCTS UNDER THAILAND-CANADA TEXTILE AGREEMENT, 1981-83

Item	Description	Unit	Restraint level			Rate of Utilization		
			1981	1982	1983	1981	1982	1983
1	Outerwear	1,000 pcs	55	60	64	45.9	20.0	117.8
2	Shirts with tailored collars	"	371	400	424	42.5	32.9	30.9
3	Shirts, blouses, T-shirts, Sweatshirts	"	424	600	636	50.7	54.7	104.4
4	Pants, overalls, shorts	"	-	-	470	-	-	97.1
5	Dress, skirts, shorts sets	"	712	-	770	32.4	-	91.0
6	Jackets	"	-	-	600	-	-	88.6
7	Work gloves	1,000 prs	954	1,100	1,166	21.3	27.3	43.8

Source : Department of Foreign Trade.

Table 9 : EXPORT OF TEXTILE PRODUCTS UNDER THAILAND-FINLAND TEXTILE AGREEMENT, 1981-83

Category	Description	Unit	Restraint level			Rate of Utilization		
			1981	1982	1983	1981	1982	1983
15	Men's and women's shirts of cotton and man-made fibres	1,000 pcs	30.6	30.9	37.5	26.4	72.1	21.5
16	Brassiers, ready made	"	88.4	91.2	100	102.9	53.7	47.0

Source : Department of Foreign Trade

Table 10: EXPORT OF TEXTILE PRODUCTS UNDER THAILAND-NORWAY TEXTILE AGREEMENT, 1981-83

Category	Description	Unit	Restraint level		Rate of Utilization	
			1981	1982	1981	1982
1/2	Knitted undergarment, shirts, blouses, T-shirts	1,000 pcs.	103	99	102.9	106.3
3	Knitted jackets, jumper, sweaters, cardigans and pullovers	tons	50	48	106.4	96.3
4	Woven jackets, anorake, parkas, ski-jackets, quilted jackets, one-piece ski suits and the like	1,000 pcs.	21.7	20.9	106.4	96.1
5	Woven slacks, jeans, trousers and ski pants (except shorts)	1,000 pcs.	111	107	104.3	88.1
7	Woven blouses, shirts-blouses and jumbers	"	81	78	104.8	100.5
8	Woven shirts	"	265	265	99.0	94.6
17	Woven dress, house coats, frocks and gowns	"	26	22	74.0	115.1

Note : In 1983, there are not restriant level because of expiry of agreement
New agreement has been started in July 1984

Source : Department of Foreign Trade

Table 11: EXPORT OF TEXTILE PRODUCTS UNDER THAILAND-SWEDEN TEXTILE AGREEMENT, 1981-83

Group	Description	Unit	Restraint level			Rate of Utilization		
			1980/81	1981/82	1982/83	1980/81	1981/82	1982/83
2	Shirts	1,000 pcs	738	752	767	102.5	89.2	82.7
5	Knitted sweater, pullovers, slipovers, jumpers and cardigans, etc.	"	655	668	681	100.7	102.6	96.5
6	Overcoats and jacket	"	141	143	145	102.9	98.2	95.9
8	Trousers other than shorts	"	484	488	492	97.8	92.1	100.2
9	Castumes, dresses and shirts	"	91	91.5	92	89.4	95.7	103.8
10	Blouses	"	276	280	283	97.7	99.1	104.3
14	Towels	tons	97	99	101	100.4	88.1	100.0
1st group								
	Clothin , Other than listed above-travelling rug blankets and bed linen	"	84	85.3	86.6	103.11	94.9	92.2
sub level								
	Stocking, etc.	1,000 prs.	-	-	254	-	-	33.1

Source : Department of Foreign Trade

Table 12 : EXPORT OF TEXTILE PRODUCTS UNDER THAILAND-US TEXTILE AGREEMENT, 1981-83

Category	Description	Unit	Restraint level			Rate of Utilization		
			1981	1982	1983	1981	1982	1983
	Group I							
313	Sheeting	1,000 syd.	10,000	10,000	11,600	75.5	83.0	105.6
314	Poplin and broadcloth	"	7,000	7,000	8,500	122.2	65.7	116.0
315	Printcloth	"	5,860	-	17,000	126.6	-	118.0
317	Twill and sateen	"	5,600	5,600	5,800	35.7	34.4	106.4
319	Duck	"	5,000	5,000	6,000	94.2	68.2	60.6
320	Woven fabrics	"	8,000	1,500	9,900	269.7	369.6	19.0
604	Non con., non cell	lbs.	-	-	700	-	-	24.2
604(1)	Sub. spun yarn of acrylic tsusa	"	487,805	487,805	406,504	81.3	108.4	38.8
613	Spun non cell, woven	1,000 syd.	9,500	9,500	13,750	154.2	75.2	66.0
	Group II							
331	Gloves	1,000 prs.	128	412	439	0.5	131.1	80.6
334/335	Coats, M & B/coats, W.G.I.	1,000 doz	50	54	57	92.6	88.2	109.0
338/339	Shirts, blouses (knit)	"	541	584	622	93.1	98.4	100.2

Table 12 : Continued

Category	Description	Unit	Restraint level			Rate of Utilization		
			1981	1982	1983	1981	1982	1983
340	Shirts (not knit) M & B	1,000 doz.	96	103	110	99.9	96.8	104.2
341	Blouses (not knit) W,G,I	"	102	109	116	110.3	80.4	105.2
347/348	Trousers, M & B/trousers, W,G,I	"	172	184	196	105.6	49.7	120.1
445/446	Sweater, M & B/sweater, W,G,I	"	14.5	14.7	15	92.9	52.7	121.2
634/635	Other coats, M & B/coats, W,G,I	"	352	376	401	50.9	85.7	111.0
638	Knit shirts, M & B	"	114	122	130	71.8	54.2	85.0
639	Knit shirts & blouses W,G,I	"	1,200	1,284	1,335	44.4	41.2	88.5
641	Blouses (not knit)	"	152	163	173	110.1	61.4	105.8
645/646	Sweaters, M & B/sweater, W,G,I	"	69	74	79	106.2	71.3	114.1
647/648	Trousers, M & B/trousers, W,G,I	"	393	420	447	110.6	83.0	100.3

Source : Department of Foreign Trade

Table 13 : EXPORT OF TEXTILE PRODUCTS UNDER THAILAND-EEC TEXTILE AGREEMENT , 1981-1983

Category	Description	Unit	Restraint level			Rate of Utilisation		
			1981	1982	1983	1981	1982	1983
2,2a,3,	Cotton fabrics and fabric of discontinuous							
3a	synthetic fabrics	tons	14,621	14,812	15,600	64.6	101.3	91.0
2,2a	Of which other than grey or bleached	"	3,965	4,018	8,776	39.8	40.2	94.1
2a,3a	Cotton fabrics	"	8,280	8,333	4,100	53.2	91.7	34.1
2a	Of which other than grey or bleached	"	2,235	2,251	2,265	22.0	16.0	19.2
4	Knitted shirts, T-shirts singles	1,000 pcs.	8,475	8,814	9,200	91.9	75.3	70.2
5	Jurseys, pullovers and the like	"	5,825	6,175	6,800	99.3	85.2	78.7
6	Men's and women's woven trousers	"	1,205	1,254	1,500	73.8	83.4	92.2
7	Women's woven and knitted blouses	"	1,940	1,970	2,150	78.7	75.9	71.9
8	Men's woven shirt	"	1,761	1,788	1,815	56.4	41.5	48.6
10	Knitted gloves	1,000 prs.	530	3,023	4,142	100.8	91.6	89.0
12	Knitted socks and stocking	"	-	1,100	8,283	-	56.7	82.1
15B	Woven overcoats, rain coats, women,							
	girl, and infant	1,000 pcs.	-	-	205	-	-	76.0
16	Men's and boy's woven suits	"	-	-	111	-	-	144.1

Table 13 : Continued

Category	Description	Unit	Restraint level			Rate of Utilization		
			1981	1982	1983	1981	1982	1983
21	Parkas, anoraks, windcheater and the like woven	1,000 pcs.	2,900	2,9 9	3,050	90.8	98.2	73.7
22	Discontinuous synthetic	tons	1,083	1,148	1,300	48.2	46.6	38.0
24	Women's, girl's, infant's knitted or crochet pyjamas and night dress	1,000 pcs.	1,545	1,616	1,700	76.9	58.0	51.3
26	Woven and knitted dress	"	1,850	1,961	2,200	83.3	85.3	72.4
27	Shirts	"	360	382	481	87.4	81.9	30.3
37	Woven fabrics of regenerated textile fibre	tons	2,450	2,450	2,600	76.9	73.2	34.4
73	Tracks suits of knitted or crocheted fabrics not elastic or rubberized	1,000 pcs.	591	732	1,400	43.7	35.5	36.3
74	Women's knitted suits	"	-	275	310	-	125.2	69.3
83	Other knitted outerwear	tons	-	175	186	-	93.4	59.3

Source : Department of Foreign Trade

Table 14: THAILAND-US TEXTILE AGREEMENT ABOUT QUANTITATIVE LIMITS FROM 1983-87
(Carryover 11%, Carryforward 6%, Swing 7%)

CAT.	DESCRIPTION	UNIT	1983	1984	1985	1986	1987	GROWTH %
313	SHEETING	SYD	11,600,000	12,296,000	13,033,760	13,815,786	14,644,733	6
314	BROADCLOTH	"	8,600,000	9,010,000	9,550,600	10,123,636	10,731,054	6
315	PRINTCLOTH	"	17,000,000	18,020,000	19,101,200	20,247,272	21,462,108	6
317	SHIRTINGS	"	5,800,000	6,148,000	6,516,880	6,907,893	7,322,366	6
319	DUCK	"	6,000,000	6,360,000	6,741,600	7,146,096	7,574,862	6
320	OTHER FABRICS N.K.	"	9,900,000	10,494,000	11,123,640	11,791,088	12,498,522	6
613	SPUN NONCELLULOSIC N.K.	"	13,750,000	14,575,000	15,449,500	16,376,470	17,359,058	6
604	SPUN NONCELLULOSIC	LBS	700,000	742,000	786,520	833,711	883,734	6
604-B		LBS	406,504	430,894	456,748	484,153	513,202	6
APPAREL GROUP LIMIT SYE		SYE	73,987,880	78,427,153	83,132,782	88,120,749	93,407,994	6
331	GLOVES	dpr	438,743	465,068	492,972	522,550	553,903	6
334/335	COATS M & B W & G & I	DOZ	57,462	60,910	64,564	68,438	72,544	6
338/339	KNIT SHIRTS, SWEATERS	"	622,382	659,725	699,308	741,267	785,743	6
340	SHIRTS N.K.	"	109,768	116,354	123,335	130,735	138,580	6
341	BLOUSES N.K.	"	115,892	122,846	130,216	138,029	146,311	6
347/348	TROUSERS M, B,W,G, & I	"	196,067	207,831	220,301	233,519	247,530	6
634/635	COATS, M,B, W,G, AND I	"	401,285	425,362	450,884	477,937	506,613	6
638	KNIT SHIRTS	"	130,467	138,295	146,593	155,388	164,712	6
639	KNIT SHIRTS AND BLOUSES	"	1,335,056	1,375,108	1,416,361	1,458,852	1,502,617	3
641	BLOUSES N.K.	"	173,297	183,695	[illegible],717	206,400	218,783	6
645/646	SWEATERS M, B, W, G,& I	"	79,002	83,742	88,767	94,093	99,738	6
647/648	TROUSERS, SLACKS M,B, G, & I	"	447,452	474,299	502,757	532,922	564,898	6
445/446	SWEATERS,M, B, G, & I	"	15,000	15,150	15,302	15,455	15,609	1

Source: Department of Foreign Trade

Table 15: THAILAND-EEC TEXTILE AGREEMENT ABOUT QUANTITATIVE LIMITS FROM 1983-1986
(Carryover 5%, Carryforward 5%, Swing 5%)

CATEGORY	DESCRIPTION	UNITS	1983	1984	1985	1986	GROWTH %
2.	Cotton fabrics Fabrics of discontinuous synthetic fibres of which other grey or bleached	tonnes	15.600	15.756	15.914	16.073	1
4.	Knitted shirts, singleis, T-shirts, weaters-shirts	1000pcs	9,200	9,476	9,760	10,053	3
5.	Jerseys, pull-overs	1000pcs	6,800	7,072	7,355	7,649	4
6.	Men's and women's woven trousers and men's shorts and breeches	1000pcs	1,500	1,560	1,622	1,687	4
7.	Women's woven and knitted blouses	1000pcs	2,150	2,215	2,281	2,349	3
8.	Men's woven shirts	1000pcs	1,815	1,851	1,888	1,926	2
10.	Knitted gloves	1000pcs	4,762	5,048	5,351	5,672	6
12.	Socks	1000pcs	8,200	8,520	8,860	9,224	4
21.	Anoraks	1000pcs	3,050	3,172	3,299	3,431	4
22.	Yarn of synthetic textile fibres	Tonnes	1,300	1,365	1,433	1,505	5
24.	Pyjamas	1000pcs	1,700	1,768	1,839	1,912	4
26.	Dresses	1000pcs	2,200	2,228	2,380	2,475	4
73.	Track Suits	1000pcs	1,400	1,442	1,485	1,530	3

Source: Department of Foreign Trade

Table 16: EEC/THAILAND AGREEMENT ON TRADE IN TEXTILE PRODUCTS BY COUNTRIES

(Quantitative limits from 1 January to 31 December 1983)

Cat.	Description	Unit	EC	DE	FR	IT	BL	GB	IE	DK	GR
2*	Woven fabrics of cotton or synthetic fibres	Tons	15600	5295	975	4875	1431	1728	138	1128	30
	sublimit for cotton	Tons	8775	3506	370	2243	746	871	54	956	21
2a*	Within Cat.2 (line 1) woven fabrics of cotton or synthetic fibres other than bleached or unbleached	Tons	4100	1369	130	733	462	696	59	646	5
	sublimit for cotton other than unbleached or bleached	Tons	2265	872	47	299	274	228	3	537	5
4	Shirts, T-shirts etc., knitted or crocheted	'000 P	9200	2100	2725	475	708	2753	34	387	18
5	Jerseys, pullovers etc., knitted or crocheted	'000 P	6800	2164	484	394	777	2414	88	460	19
6	Men's and women's woven trousers, men's shorts and breeches	'000 P	1500	584	132	103	252	209	4	205	11
7	Women's woven and knitted blouses	'000 P	2150	959	191	301	262	249	10	168	10
8	Men's woven shirts	'000 P	1815	435	95	343	260	143	12	517	10
10	Knitted or crocheted gloves impregnated or coated and knitted gloves	'000Prs	4762	1964	440	100	1025	1123	25	36	49
12	Stockings, under stockings, socks, ankle - socks sockettes and the like	'000Prs	8200	4040	1142	791	586	1252	47	250	92
21	Parkas, anoraks, windcheaters etc., woven	'000 P	3050	832	770	265	359	647	20	139	16
22	Yarns of discontinueds synthetic fibres not for retail sale	Tons	1300	372	90	463	117	224	5	13	16

Cat.	Description	Unit	EC	DE	FR	IT	BL	GB	IE	DK	GR
24	Women's girls' and infants' (other than babies') Knitted or crocheted pyjamas	'000 P	1700	1047	173	64	201	128	7	61	14
26	Women's girls' & infants' (other than babies') woven and knitted or crocheted dresses	'000 P	2200	705	265	231	445	319	13	207	15
27	Women's, girls' & infants' (other than babies') woven and knitted or crocheted skirts, including divided skirts	'000 P						306		107	
37	Woven fabrics of regenerated textile fibres	Tons				2600					
73	Track suits of knitted or crocheted fabric, not elastic or rubberized	'000 P	1400	254	97	179	309	343	22	172	24
74	Women's, girls' and infants' (other than babies') Knitted or crocheted suits and costumes	'000 P						292			
83	Outer garments knitted or crocheted	Tons						186			

Note: The quantities for categories 2 and 2a include fabrics of categories 3 and 3a respectively

Source: Department of Foreign Trade

Table 17: THAILAND-FINLAND TEXTILE AGREEMENT ABOUT QUANTITATIVE LIMITS FROM 1982-85

CAT.	DESCRIPTION	UNIT	1983	1984	1985	GROWTH %	CARRYOVER/ CARRYFORWARD %	SWING
15.	MEN'S AND BOYS' SHIRTS OF COTTON AND MAN-MADE FIBRES	PCS.	37,500	37,875	38,254	1	10 (5)	6
16	BRASSIERS	PCS.	100,000	102,000	104,040	2	"	"
4,5	JUMPERS, SWEATERS							
8.	JACKETS(MEN & BOY)							
9.	TROUSERS(MEN&BOY)							
10.	COATS & JACKETS (WOMEN & GIRLS)		ADMINISTRATIVE CONTROL					
13.	BLOUSES							
14.	TROUSERS (WOMEN & GIRLS)							

Source: Department of Foreign Trade

Table 18 : THAILAND-CANADA TEXTILE AGREEMENT ABOUT QUANTITATIVE LIMITS FROM 1983-86
(Carryover 11%, Carryforward 6%, Swing 6%)

Item	Description	1983	Growth
1	WINTER OUTERWEAR	63,600	6%
2	SHIRTS WITH TAILORED COLLARS	424,000	6%
3	SHIRTS, BLOUSES, T-SHIRTS & SWEATSHIRTS	636,000	6%
4	TROUSERS, SHORTS, OVERALLS & COVERALLS	498,200	6%
5	DRESSES, SKIRTS, SUITS COORDINATES & OUTERWEAR SETS	770,000	6%
6	JACKETS	636,000	6%
7	WORK GLOVES	1,235,960	6%
8	HOSIEVY	2,080,000	6%

Source: Department of Foreign Trade

Table 19: THAILAND-AUSTRIA TEXTILE AGREEMENT ABOUT QUANTITATIVE LIMITS FROM 1984-1986

Thailand-Austria textile agreement is in the form of administrative control on woven blouses of man-made fibres or of cottons (CCCN NO. EX 61.02). This agreement has been started from 1 July 1984 to 30 June 1985 and will be continued to June 1986, except the agreement is abolished.

Table 20: THAILAND-SWEDEN TEXTILE AGREEMENT ABOUT QUANTITATIVE LIMITS FROM 1983-87
(Carryover, Carryforward and Swing 3%)

GROUP NO.	DESCRIPTION	UNIT	1-11-83 TO 31-10-84	1-11-84 TO 31-10-85	1-11-85 TO 31-10-86	1-11-86 TO 31-10-87	GROWTH
2.	SHIRTS	P.CS.	769,552	771,860	774,176	776,499	0.3
5.	SWEATERS, PULLOVERS, JUMPERS (INCLUDING T - SHIRTS)	"	688,724	696,299	703,959	711,702	1.1
6.	OVERCOATS AND JACKETS	"	145,946	146,676	147,409	148,146	0.5
8.	TROUSERS, OTHER THAN SHORTS	"	493,425	494,412	495,401	496,391	0.2
9.	COSTUMES(INCLUDING TWO OR THREE PIECES OF LADIES COSTUMES)	"	93,640	95,717	97,631	99,584	2
10.	BLOUSES	"	286,285	289,147	292,039	294,959	1
14.	TOWELS AND SIMILAR ARTICLES	Kgs.	101,101	101,202	101,303	101,405	0.1
REST GROUP	STOCKING, SOCKS ANKLE SOCKS AND THE LIKE						
	UNDERWEAR (INCLUDING T-SHIRTS OTHER THAN SHIRT OF (GROUP 2)						
	OUTER GARMENTS, KNITTED OR CROCHETED OTHER THAN SWEATERS, PULL OVERS(GROUP 5) OVERCOATS(GROUP 6)	Kgs.	87,909	89,228	90,566	91,925	1.5
	OUTER GARMENTS, NOT KNITTED OR CROCHETED WOMEN'S GIRLS'OTHER THAN OVERCOATS AND JACKETS (GROUP 6) TROUSETS OTHER THAN SHORTS (GROUP 8)						
	BRASSIERES						

SURVEILLANCE SYSTEM

Source: Department of Foreign Trade

Table 21: THAILAND-NORWAY TEXTILE AGREEMENT ABOUT QUANTITATIVE LIMITS FROM 1984-87
(Carryover 10%, Carryforward 5%)

CAT.	DESCRIPTION	UNIT	1-7-84 TO 31-12-84	1985	1986	1987	GROWTH %
1.	JACKETS BLAZERS (MEN'S, BOYS' WOMEN'S, GIRLS') SPORT JACKETS	PCS.	10,562	21,229	21,335	21,441	0.5
2.	TROUSERS, SLACKS, JEANS OF WOVEN MATERIAL (MEN'S, BOYS', WOMEN'S, GIRLS)	"	53,590	107,286	107,393	107,501	0.1
3/4	KNITTED/CROCHETED T-SHIRTS BLOUSES OF ALL KINDS KNITTED/CROCHETTED MEN'S-BOY'S, WOMEN'S, GIRLS INFANTS OTHER THAN T-SHIRTS BLOUSES, NIGHTWEAR	"	50,231	100,964	101,469	101,976	0.5
5.	MEN'S AND BOYS' SHIRTS OF ALL KINDS (WOVEN MATERIAL)	"	132,500	265,265	265,530	265,796	0.1
6.	OUTER GARMENTS KNITTED OR CROCHETED PULLOVERS, SWEATERS, JUMPERS AND JACKETS	Kgs.	24,472	49,188	49,434	49,681	0.5
8.	OUTER GARMENTS OF WOVEN MATERIAL, WOMEN'S GIRLS BLOUSES, SHIRTS AND THE LIKE	PCS	39,605	79,606	80,004	80,404	0.5
10.	WOMEN'S AND GIRLS' DRESSES, HOUSECOATS (WOVEN MATERIAL)	"	11,750	24,088	24,690	25,307	2.5
11.	SKIRTS OF WOVEN MATERIAL	"	15,000	30,750	31,519	32,307	2.5
12.	COSTUMES, DRESSES, SUITS, SKIRTS (KNITTED OR CROCHETED)	"	33,500	68,675	70,392	72,152	2.5
13.	GLOVES MITTS (NOT KNITTED OR CROCHETED)	Kgs.	3,930	8,057	3,258	8,464	2.5
18.	NIGHT WEAR, KNITTED OR CROCHETED	PCS	17,500	35,875	36,772	37,691	2.5
7.	BED LINEN		0.5% OF PRECEDING YEAR TOTAL IMPORTS INTO NORWAY				
9.	STOCKING, SOCKS KNITTED OR CROCHETED		1.5% OF PRECEDING YEAR TOTAL IMPORTS INTO NORWAY				
14.	OUTER GARMENTS OF WOVEN MATERIAL FOR INFANT						
15.	OVERCOATS CAPES AND COATS (MEN'S BOYS' WOMEN'S GIRLS') OF WOVEN MATERIAL						
16.	KNITTED OR CROCHETED PANTY HOSE						
17.	GLOVES MITTS (KNITTED OR CROCHETED)						
19.	GAITERS AND SPATS (SHORT OR LONG)						
20.	OUTER GARMENTS OF WOVEN MATERIAL IMPREGNATED WITH OIL, RUBBER PLASTIC MATERIAL AND THE LIKE						
21.	UNDER GARMENTS OF WOVEN MATERIAL, WOMEN'S AND GIRLS' WEAR (EXCEPT NIGHT WEAR)						

Source: Department of Foreign Trade

Table 22: TEXTILE STATISTICS OF THAILAND

YEAR / ITEM		2513 1970	2514 1971	2515 1972	2516 1973	2517 1974	2518 1975	2519 1976	2520 1977	2521 1978	2522 1979	2523 1980	2524 1981	2525 1982
EQUIPMENT IN USE														
Spinning	spdls	373,284	538,958	639,720	773,404	838,060	1,094,652	1,112,248	1,129,144	1,168,596	1,300,844	1,320,844	1,566,326	1,600,176
Weaving	looms	31,081	36,282	38,837	44,020	50,899	53,405	54,293	53,923	53,743	54,802	57,511	58,180	57,338
Knitting	sets	3,695	4,222	6,002	8,403	11,937	16,925	21,828	22,774	23,596	26,206	29,907	31,555	32,631
PRODUCTION														
Cotton Fiber	ton	31,743	17,577	32,104	16,985	9,427	18,752	9,359	19,512	30,552	35,510	57,724	64,150	42,993
Cotton Yarn	"	49,365	56,788	58,280	67,008	66,902	70,502	73,003	94,270	83,312	96,430	96,151	97,271	101,213
Cotton Woven	1,000 sq. yds.	365,454	450,207	481,311	539,937	529,383	559,407	626,683	685,660	713,136	733,989	761,043	790,742	853,230
Cotton Knit	ton	3,034	3,271	3,598	4,921	5,540	6,974	7,851	9,056	10,002	11,130	11,758	12,246	12,670
(")	1,000 sq. yds.	(20,024)	(21,589)	(23,747)	(12,679)	(36,564)	(46,028)	(51,817)	(59,770)	(66,013)	(73,458)	(77,603)	(80,824)	(82,962)
Man-made Fiber	ton	1,197	11,685	15,588	28,171	28,552	39,106	55,567	78,173	97,827	104,016	112,903	113,098	97,780
M.M.F. Yarn	"	7,481	22,739	34,652	47,076	47,497	61,620	75,332	91,515	115,345	122,648	127,334	132,892	132,069
M.M.F. Woven	1,000 sq. yds.	77,424	145,408	208,464	287,028	277,992	337,500	430,078	446,391	598,741	654,071	672,320	810,150	798,160
M.M.F. Knit	ton	3,715	5,489	6,275	10,570	14,198	23,090	28,706	31,211	31,580	34,397	38,899	43,851	43,552
(")	1,000 sq. yds.	(37,150)	(54,290)	(62,250)	(105,700)	(141,980)	(230,900)	(287,060)	(312,110)	(315,800)	(343,970)	(388,990)	(438,510)	(435,520)
Total Woven	1,000 sq. yds.	442,878	595,615	689,775	826,965	807,375	896,907	1,056,761	1,131,951	1,311,877	1,388,060	1,433,363	1,600,892	1,651,390
Total Knit	"	57,174	76,479	85,997	118,379	178,544	276,928	338,877	371,880	381,813	417,428	466,593	519,334	518,482
G. Total Fabric	"	500,052	672,094	775,772	945,344	985,919	1,173,835	1,395,638	1,503,831	1,693,690	1,805,488	1,899,956	2,120,226	2,169,872
CONSUMPTION														
Cotton Woven	1,000 sq. yds.	418,069	416,948	401,702	420,380	451,681	450,058	477,068	495,569	525,518	551,237	549,829	609,010	627,309
Cotton Knit	"	20,196	18,935	27,407	42,299	48,009	53,884	60,292	64,605	73,785	83,044	86,952	81,017	85,381
M.M.F. Woven	"	151,401	164,336	175,284	180,711	205,132	211,141	221,103	235,967	256,177	281,143	369,579	338,032	331,987
M.M.F. Knit	"	37,501	46,012	77,381	124,287	140,390	163,937	166,266	188,695	206,173	223,730	237,596	289,290	321,...
Total Woven	"	569,470	581,284	576,986	601,091	656,813	661,199	698,171	731,536	781,695	832,380	919,408	947,042	959,296
Total Knit	"	57,697	64,947	104,788	166,586	188,399	217,821	226,558	253,300	279,958	306,774	324,548	370,307	406,795
G. Total Fabric	"	627,167	646,231	681,774	767,677	845,212	879,020	924,729	984,836	1,061,653	1,139,154	1,243,956	1,317,349	1,366,091
Per Capita	Yds.	17.2	17.2	17.7	19.3	20.7	21.0	21.5	22.4	23.5	24.7	26.4	27.3	27.7

Source: Research Division, the Thai Textile Manufacturing Association

Table 23: UNIT COST IN CLOTHING PRODUCTION

Country	Labour share in total clothing production cost, per cent	Wage in clothing production, US$/month 1980	Unit cost
Japan	30-40		
Hong Kong	30-40	189	470-630
Thailand	13	51.0	392
Malaysia	27	46.5	172
Indonesia	10	28.4	284

Source: Calculated from Suehiro (1980)

Table 24: RENTS TO FOUR ASIAN EXPORTERS, 1981-82
(1982 prices)
(Million of US$)

Importing Country	1981					1982					1981-82
	Hong Kong	Thailand	Indonesia	Malaysia	Total	Hong Kong	Thailand	Indonesia	Malaysia	Total	Total
Austria	n.a.	n.a.	n.a.	n.a.	n.a.	0.28	n.a.	n.a.	n.a.	0.28	n.a.
Denmark	3.99	0.63	0.29	0.19	5.10	3.06	0.37	0.02	0.10	3.55	8.65
Finland	n.a.	n.a.	n.a.	n.a.	n.a.	0.12	0.01	0.01	0.02	0.16	n.a.
France	3.56	2.10	1.25	2.75	9.66	2.20	1.72	0.17	0.85	4.94	14.60
Germany	81.95	4.54	1.44	1.89	89.82	11.69	0.54	0.17	0.23	12.63	102.45
Italy	n.a.	n.a.	n.a.	n.a.	n.a.	0.12	0.02	0.00	0.00	0.14	n.a.
Sweden	27.41	2.90	2.55	1.95	34.81	19.66	2.12	0.90	1.40	24.08	58.98
U.K.	77.64	2.23	0.73	0.92	81.52	23.22	1.18	0.57	0.75	25.72	107.24
Benelux	8.97	0.98	0.57	0.65	11.17	1.31	0.21	0.17	0.29	1.98	13.15
Total Europe	203.52	13.38	6.83	8.35	232.08	61.66	6.17	2.01	3.64	73.48	305.56
U.S.A.	200.92	5.75	7.45	4.82	218.94	100.97	2.84	4.85	3.14	111.80	330.74
Total Europe and U.S.A.	404.44	19.13	14.28	13.17	451.02	162.63	9.01	6.86	6.78	185.37	636.30

Table 25: SUMMARY OF POSSIBLE ACTIONS BY US FIRMS OR THE US GOVERNMENT AGAINST SUBSIDIZED TRADE

Case 1

Petitioner: US firm

Respondent: A firm or industry in a country that is not entitled to MFN treatment, either as a code signatory or under a bilateral agreement

Practice subject to complaint	Location of trade impact	Elements of petitioner's case	Respondent's affirmative defenses	Remedy	Legal base (forum)
Any subsidy	US market	To show the existence of a subsidy within the meaning of US law	To show a narrow range of permitted offsets	CVD or price or quantity "undertakings" to offset injury	US CVD law (ITA)
Export subsidy or incentive with equivalent effect	US market or third-country market	(1) To show the existence of an export subsidy or other incentive having the equivalent effect (2) That substantially reduces petitioner's sales of a competitive product		Ad hoc	Section 301 (USTR)
Domestic subsidy	Subsidizing country market	(1) To show that the subsidy is an unjustifiable or unreasonable import restriction (2) That impairs the value of a trade commitment or (3) That burdens, restricts, or discriminates against US commerce		Ad hoc	Section 301 (USTR)

Table 25 Continued (2)

Case 2

Petitioner: US firm

Respondent: A firm or industry in a country that is entitled to MFN treatment, either as a code signatory or under a bilater agreement

Practice subject to complaint	Location of trade impact	Elements of petitioner's case	Respondent's affirmative defenses	Remedy	Legal base (forum
Any subsidy	US market	(1) To show the existence of a subsidy (2) That causes material injury or threat thereof	To show a narrow range of permitted offsets	CVD or price or quantity "undertakings" to offset injury	US CVD law (ITA and USITC)
Export subsidy or an incentive with equivalent effect	US market or third-country market	(1) To show the existence of an export subsidy or other incentive having the equivalent effect (2) That substantially reduces petitioner's sales of a competitive product	To show that the subsidy is consistent with GATT and code commitments	Ad hoc	Section 301 (USTR)
Domestic subsidy	Subsidizing country market	(1) To show the existence of a subsidy (2) That causes material injury or the threat thereof	To show that the subsidy is consistent with GATT and code commitments	Ad hoc	Section 301 (USTR)

Case 3

Petitioner: US government

Respondent: A GATT country that is not a code signatory, is not otherwise entitled to MFN treatment, and has only subscril to Article XVI:A

Practice subject to complaint	Location of trade impact	Elements of petitioner's case	Respondent's affirmative defenses	Remedy	Legal base (for
Any subsidy	Any market	(1) To show the existence of a subsidy (2) That increases respondent's exports or decreases its imports		Respondent must notify the subsidy	GATT Art. XVI:A (GATT)
Any subsidy—nullification or impairment	Subsidizing country market	(1) To show the existence of a subsidy (2) That nullifies or impairs bargained for benefits, for example, a bound tariff		Authorization of withdrawal of concessions	GATT Art. XXIII (GATT)
Any subsidy—serious prejudice	Any market	(1) To show the existence of a subsidy (2) That seriously harms the United States		Consultation as to limiting the subsidy	GATT Art. XVI:A (GATT)
Buy-national performance requirement	Subsidizing country market	(1) To show the existence of a subsidy (2) That amounts to a mixing requirement or a quantitative restraint		Authorization of withdrawal of concession	GATT Arts. III and XXIII (GATT)

Table 25 Continued (3)

Case 4

Petitioner: US government

Respondent: A GATT country that is not a code signatory but has subscribed to both Article XVI:A and Article XVI:B

Practice subject to complaint	Location of trade impact	Elements of petitioner's case	Respondent's affirmative defenses	Remedy	Legal base (foru
An export subsidy, other than on primary products	US market or third-country market	(1) To show the existence of an export subsidy (2) That results in dual pricing	To show that the subsidy has no adverse trade effect	Authorization of withdrawal of concessions	GATT Arts. X' and XXIII (GATT)
An export subsidy on a primary product	US market or third-country market	(1) To show the existence of a subsidy (2) That increases the respondent's exports (3) In a way that captures "more than an equitable share" of world markets by comparison with a "previous representative period"		Authorization of withdrawal of concessions	GATT Arts. X' and XXIII (GATT)

Note: These actions are cumulative with those in case 3.

Case 5

Petitioner: US government

Respondent: A country that is a signatory to the GATT Subsidies Code

Practice subject to complaint	Location of trade impact	Elements of petitioner's case	Respondent's affirmative defenses	Remedy	Legal base (foru
Export subsidies given by a developed country signatory on nonprimary products	US market or third-country market	(1) To show existence of a subsidy (2) In the case of an export subsidy, other than those enumerated in items (a) to (k), to show dual pricing[a]	Rebut the presumption of adverse effects	Consultations and authorization of ad hoc countermeasures	Code Arts. 9 and 18 (GATT Subsidies Committee)
Export subsidy given by a developing country signatory on nonprimary products	US market or third-country market	(1) To show existence of a subsidy (2) That causes adverse trade or production effects and (3) In the case of an export subsidy, other than those enumerated in items (a) to (k), to show dual pricing[a]		Consultations and authorization of ad hoc countermeasures	Code Arts. 9 and 18 (GATT Subsidies Committee)
Export subsidy on certain primary products	US market or third-country market	(1) To demonstrate that the respondent is acquiring "more than an equitable share" of world export trade by		Consultations and authorization of ad hoc countermeasures	Code Arts. 10 and 18 (GATT Subsidies Committee)

Table 25 Continued (4)

Practice subject to complaint	Location of trade impact	Elements of petitioner's case	Respondent's affirmative defenses	Remedy	Legal base (forum
		comparison with a "previous representative period" or (2) To show that the respondent is pricing below the prices offered by other countries			
Domestic subsidy—nullification or impairment	Any market	(1) To show that the subsidy "adversely affect[s] the conditions of normal competition" and exerts "possible adverse effects on trade" and (2) To show a loss of expected GATT or code benefits		Consultations and authorization of ad hoc countermeasures	Code Arts. 11 and 18 (GATT Subsidies Committee)
Domestic subsidy—serious prejudice	Any market	To show that the trade impact of the subsidy seriously harms the United States		Consultations and authorization of ad hoc countermeasures	Code Arts. 11 and 18 (GATT Subsidies Committee)
Domestic subsidy—material injury or threat thereof	Any market	(1) To show actual or potential harm to the complaining industry (2) That results from subsidized imports		Consultations and authorization of ad hoc countermeasures	Code Arts. 11 and 18 (GATT Subsidies Committee)

Note: These actions are cumulative with those in cases 3 and 4.
a. It is arguable whether a showing of dual pricing is required.

Case 6

Petitioner: US government or US firm

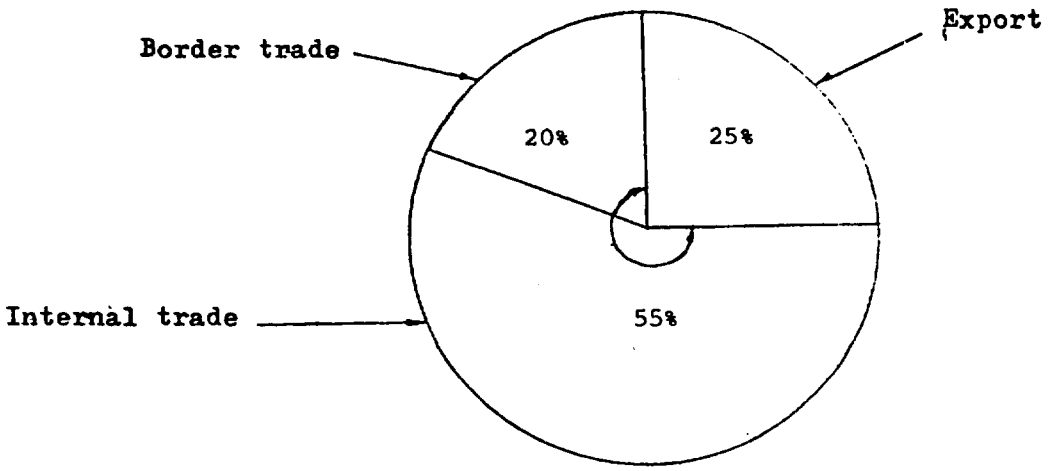
Respondent: A participant country in the OECD Arrangements on Guidelines for Official Export Credits

Practice subject to complaint	Location of trade impact	Elements of petitioner's case	Respondent's affirmative defenses	Remedy	Legal base (forum
An official export credit	Third-country market	A derogation (notified by respondent country) from the interest rate, term, or other guidelines of the Arrangement		US Export-Import Bank may match the derogating credit	US Export-Import Bank Act and OECD Arrangement (US Export-Import Bank)
An official export credit	US market	A derogation from the Arrangement		On authorization of US Treasury, US Export-Import Bank may match the derogating credit	US Export-Import Bank Act (US Treasury and Export-Import Bank)

Note: These actions are cumulative with the export subsidy actions in case 5.
Also see glossary for agency acronyms and explanation of terminology (for example, "affirmative defenses").

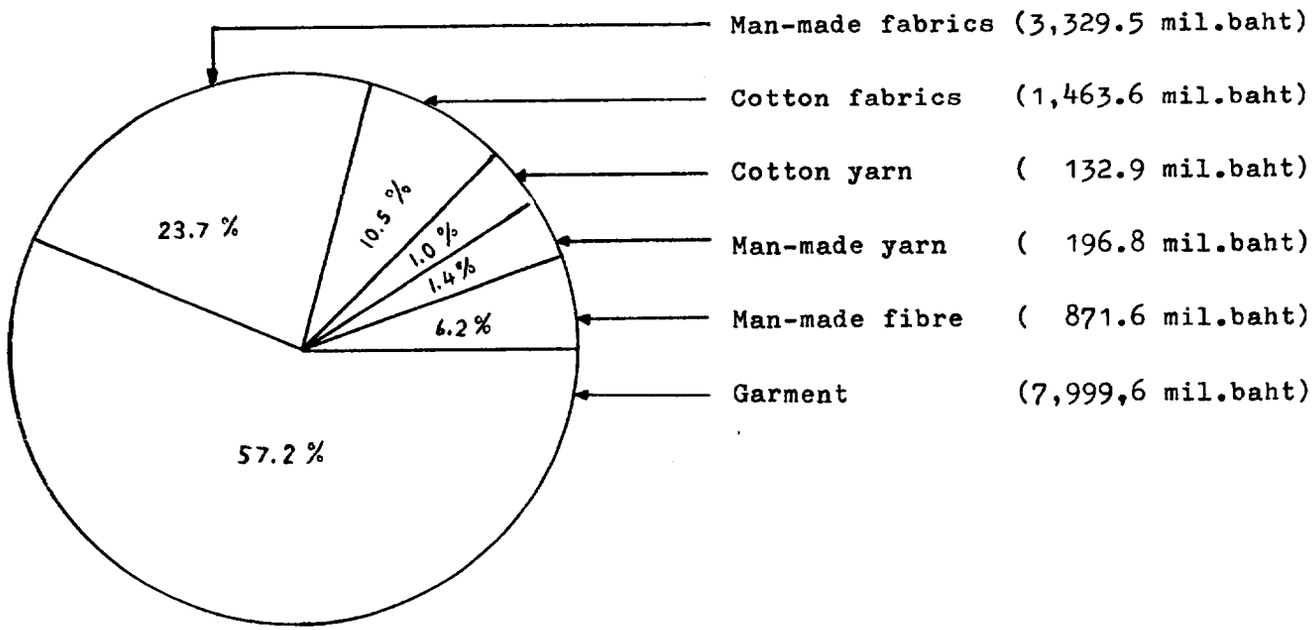
List of Figures

Figure 1 : MARKET STRUCTURE OF TEXTILE INDUSTRY, 1982.



Share of domestic trade is 75 percent which divided into border trade (20%) and internal trade (55%)

Figure 2: STRUCTURE OF EXPORT BY PRODUCTS IN 1982



Total export of textile products in 1982 = 13,994 mil.baht.

APPENDICES

APPENDIX I

Domestic Textile Quota System

It may seem strange to state that most people know a great deal of the quota allotted to Thailand by the EEC and the U.S.A., at the same time, very few would acknowledge the domestic quota system for textiles. Lately, there have been discussions of overhauling the system. Before we proceed to discuss the alternative system, it is necessary to lucidate the finer points of the present system.

The Thai Quota System

The Thai quota system is actually the voluntary export restraints (VERs) or the orderly marketing arrangements (OMAs), where the Ministry of Commerce acts on behalf of the importing countries to control the flows of textile products. Two quota systems are applied, one for "yarns and fabrics" and the other for "ready-made garments."/1 It is the latter which we describe below:

a) Transferability The basic rule set by the Department of Foreign Trade is that quotas are allocated free of charge and not allowed to be traded. However, there are two qualifications.

/1 See, Carl Hamilton, "Voluntary Export Restraint on Clothing from Asia: Price Effects, Rent Incomes and Trade Formation," mimeograph. 1984.

Firstly, two types of firm can hold quotas, i.e. producers and BOI-promoted international trading companies. The trading companies receive 20 per cent of the residual quota volume (see below) and they can in practice sell the right to export to firms which wish to export through the trading companies. Secondly, there is a complex system of barter of commodities within each country or EEC agreement requiring the consent of the authorities (substitutability in export commodity mix). However, this option is used by producers only as a last resort. Illegal "informal" exchanges of license between firms have been known to exist, but this exchange is risky.

b) Allocation criteria for existing quota volume

Existing volumes are distributed free of charge according to past performance. The trading companies are excluded from this rule. This is called the "principal" or "basic" quota and is distributed at the beginning of the year. In addition, there is a pool from which a potential exporter can apply; this is the 'residual' quota. If an exporter fails to export at least 90 per cent of last year's "principal" quota he will as a penalty be

temporarily barred from participation in the monthly allocation of free "residual" quotas. The ban from the residual quota is between one and four months.

c) Allocation criteria for increases and "residual" quota volumes Free "residual" quotas can be applied for once a month. Three groups of potential exporters can apply: producers with or without "principal" quotas already and "international trading companies" which are automatically quaranteed twenty per cent of the "residual" quota volume. The remaining eighty per cent is allocated to firms (with or without principal quotas) according to four priorities: (i) utilization of raw-materials, (ii) price per unit, (iii) value-added, and (iv) time duration between order and delivery dates.

A producer who exports through trading companies can claim the past performance right to export in the following year. This is of course reflected in the price for exporting through an international trading company. The penalties involved for failing to export under the 'residual' quota are stiffer than regarding 'principal' quota volumes.

d) Exits When a firm decides to quit the free quota system, uncommitted volumes must be surrendered to the authorities.

VERs and OMAs are just synonymous with trade barriers. They have caused mixed reactions among producers from this part of the world. Major exporting countries such as Hong Kong, Korea and Taiwan feel that the VERs/OMAs have restricted their export outflows (earnings) and cause disruption in the trade and investment at home. The other ASEAN countries such as Thailand, Malaysia, Indonesia, take a different stand on the VERs. They (i.e. authorities) are willing to negotiate for quotas with the EEC and the U.S.A. while the protest seems to be quiet. There are, of course, reasons to justify this behavioural pattern. Firstly, the ASEAN countries are not ready to collide with the EEC or the US since it is as much a political issue as a trade issue. Secondly, while they may have supported the move by big exporters such as Hong Kong, they have a cost advantage in terms of unit cost. Suehiro (1980) calculated unit costs in clothing production for 5 countries, shown in Table 23. /1 From this table, it can be readily observed that the wage rate for Hong Kong labour in clothing production was US$ 189 per month. This wage rate is 3 times that of Thai worker's pay and Malaysian worker's pay, and 8 times that of Indonesian worker's pay. Hong Kong labour could have been very productive because the unit cost ranged between US$ 470 to US$ 630. At the same time, the unit costs of Thai, Malaysian and Indonesian are all below US$ 392.

/1 Suehiro, A."Comparative Advantage of Manufacturing Industries in Asian countries," CAM Series No. 16, IDE. Tokyo. 1980.

Hence in comparing the cost per unit the 3 ASEAN countries can easily compete with the products of the Crown Colony. Realizing of course that Hong Kong's expertise and quality products are superior to theirs, they only have to wait for the importers to chase after them. Consequently, the VERs work against major exporters and in favour of small exporters like Thailand and Sri Lanka.

Hamilton (1984) hypothesized that the VERs also contribute rents to exporting countries. He proceeded to prove that with his model and field data and we have reproduced the results in Table 22. Hamilton's model is based on the partial equilibrium analysis of rents gained due to the protection of domestic markets of EEC and the U.S.A. As usual, the tariff (or in this case, quota) will raise the domestic price in importing countries equal to F.O.B. plus tariff equivalent. If the importer does not have to pay the full amount of license fee to the authorities, in the usual tariff case, probably he will be accrued by the importer's rent. However, in the case of VERs, the rents are shared by both exporters and importers.

Table 24 shows only the lower bounds of rents accrued to exporters. Hamilton has omitted some products of low volumes from his calculations. In 1981, Thailand gained at least US$ 13.38 million (1982 prices) in terms of rents from the EEC and US$ 5.75 million (1982 prices) from the U.S.A. In 1982, the rents from the EEC and the U.S.A. declined sharply blue to greater restrictions cross the board; US$ 6.17 million of rents came from the EEC and US$ 2.84 million came from the U.S.A.

Therefore, with the VERs Thailand gained US$ 19.13 million in 1981 and US$ 9.01 million in 1982 respectively.

Having described the benefits of VERs for Thailand under the present quota system, it is timely to discuss the justification for a change of the system. The proponents which with to change the domestic system claim that the prevailing system acts as entry barrier to new exporters. This change is justifiable when the new exporter has never been awarded with any 'principal' or 'residual' quota. The Ministry of Commerce, holds a view that the prevailing system will not urge producers to produce the non-quota items and there might be a tacit agreement among big established producers to bar new entry. The opponents of the change are, naturally, the veteran exporters. They in fact are afraid that the authorities might force them to transfer quotas for a fee. Several textile exporting countries have adopted the transferable quota system such as Hong Kong. In order to lay out some facts, it is worthwhile to examine the Hong Kong system.

The Hong Kong's Quota System

A recent work by T.B. Lin and C.W. Liu (1984) explained the VER system in Hong Kong quite lucidly. /1 The Trade Department of Hong Kong operates a textile export control system whose broad objectives are as follows:

/1 T.B. Lin and C.W. Liu, "Effect and Operation of the VER System in Hong Kong", mimeograph. 1984.

(a) to ensure that Hong Kong discharges fully its obligations arising from the bilateral agreements and the Multi-Fibre Arrangements (MFA);

(b) to ensure that Hong Kong derives optimum benefits from the rights it has secured under the agreements; and

(c) to provide accurate and up-to-date information on the pattern and destination of Hong Kong's exports and re-export of textiles.

Background Information about the System

Before going into the details concerning the operation of the system, it is desirable to note the following information which will serve as basis for the subsequent discussion.

Export Licenses

According to the Import and Export Ordinance and its subsidiary regulations (Chapter 60 of the laws of Hong Kong), all textile exports from Hong Kong must be covered by valid export licences issued by the Director of Trade. There are two kinds of export licences for textile products. One is called quota licence issued to cover those textile products of which the maximum export levels are limited. The other is called non-quota licence. It is issued for the products that no limits are set but exports are regulated under an export authorisation system for surveillance purpose. It can also be used to cover the restricted

textile products but the balance of quotas are available for application under free quota schemes. As the system is aimed at controlling the arrangements for the restrained products, our discussion will be concentrated on the former type of export licences.

Definition of Textile

Under the Ordinance, textiles are defined as any products made of natural or artificial fibre, or of any combination of natural and artificial fibres, in the form of yarns, fabrics, garments or other manufactured articles. In other words, it covers not only cotton, non-cotton and man-made fibre yarns, fabrics, made-up articles and related products (SITC 65), but also similar items under clothing, except for clothing (SITC 841). Normally, all these products fall into the division 65 and 84 of the Hong Kong Imports and Exports Classification List.

Export Permits

In some circumstances, the Department will issue export permits other than quotas. If a category covers two or more products and a sub-limit has been set for one of these products, an export permit arrangement is employed to ensure that the sub-limit is not exceeded. A company applying for an export licence covering a consignment of goods must be in possession of the requisite permit in addition to the necessary quota for that category. Therefore, permits are not additional quota allocations but only serve to limit the use of such quotas.

Certificates of Origin

Lastly, all quotas and permits must only be used to cover exports of textiles of Hong Kong origin. Goods claiming Hong Kong origin must have undergone terminal manufacturing processes in Hong Kong. These are processes specified in the Department's certification circulars, and generally refer to manufacturing processes which permanently and substantially change the shape, nature, form and utility of the raw materials used.

Allocation of Quotas

Quotas are allocated according to the basic principle of past performance; that is, they go to those companies which have demonstrated their ability to export the particular products to the markets concerned. This means that quotas have to be earned, and will be lost unless they re-earned by export performance. The past performance principle of allocation not only ensures continuity to the trade but also contributes towards the optimum utilization of the restraint limits. In applying this principle, a distinction is made between newly restrained categories and categories in a subsequent restraint period.

For New Restraints

When a product is newly brought under restraint, quotas are allocated to companies on the basis of their performance during a reference period. This reference period is

usually the 12-month period which reflects the most recent ascertainable shipment performance prior to the introduction to restraint. In exceptional circumstances, a different 12-month period could be used instead.

After verification of their export performance, the level of past performance qualified for quota allocation is compared with the restraint limit. If the former is equal to or less than the latter, allocations are made up to the level of such performance. Any balance remaining will be put into a pool and made available to all comers under free quota schemes. Whereas the reverse is true, allocations are scaled down on a proportionate basis.

For Subsequent Restraint Periods

When a restraint agreement is re[illegible] or when a restraint agreement provides for more than one restraint periods, quotas are allocated according to the following rules:

(i) a company which used less than 95 per cent of its quota holding in a particular category in the preceding restraint period will be offered an allocation equal to the amount it used;

(ii) if the company used 95 per cent or more of its quota holding, the Department will offer him an allocation equal to 100 per cent of its holding in that category;

(iii) if the company satisfied condition (b) above and did not transfer out on a temporary or permanent basis any of its quota in that category, an additional amount equivalent to the growth factor for that category will be offered to the company.

The prima facie objective of these arrangements is to channel quota allocation into the hands of actual users or those who are most likely to use them to the fullest extent. But a good past performance can mean nothing with respect to the current performance. In order to facilitate better utilization of quotas, the Department allows transfer of quotas after allocation has been made.

Transfer of Quotas

The rationales of the quota transfer are as follow:

(i) To facilitate optimum utilization of all granted quotas by providing flexibility to the system;

(ii) To provide channels for companies to obtain sufficient quotas in case they have non or insufficient; and

(iii) To encourage the flow of quotas from those who are not able to use anymore to those who are.

Classification of Transfer

There are two types of transfers, classified as Type A and B. Type B transfer is on permanent basis in which the transferee obtains the use of the quota for current year and, based on his performance against the transferred quantity, receives a quota allocation in the subsequent year. On the other hand, type A is on temporary basis. The transferee obtains the use of the transferred quota for current year, but the performance against these quota is attributed to the transferor. There are two kinds of temporary transfer, named straight forward transfers and swing transfers; the latter being a combination of a type A transfer and a swing which will be discussed in the following section.

The most controversial feature of the quota system is the allocation against temporary transfers. The arrangement enables a quota-holder to earn an allocation despite of the lack of performance in the past. Strictly speaking, it is an exception to the basic principle of past performance in allocating quotas. the reason why they are still in use is that according to the Textile Advisory Board (TAB) the advantages outweigh the disadvantages. And they fulfi_l two out of the three objectives of the transfer system.

Persistent Temporary Transferor

In order to prevent excess transfer, such allocation is circumscribed by the persistent transferor rule. Based on the rule, the allocation of quota in the subsequent

period is affected by the extent of the company's transfer-out.

A company which has not transfer-out, on a temporary basis, more than 50 per cent of its total quota holdings in a particular category for two consecutive textile years will be considered as a persistent temporary transferor. And the quota allocation of the company will be liable to a reduction in the third year. If a company qualifies for allocation in more than one category in that group for the market concerned, the reduction will be effected in the following manner:

(i) it will be distributed among those categories in the groups with net transfers-out, in proportion to the average net transfers-out in the two years concerned; or

(ii) where (i) is not applicable, the reductions will be distributed among all categories in that group in which the company holds quotas, in proportion to the amounts of quotas held in those categories.

Persistent Temporary Transferee

Opposite to persistent temporary transferor is persistent temporary transferee. A company which has net transfer-in, on a temporary basis, more than 50 per cent of its total quota holdings in a particular category for two consecutive years, will be considered as a persistent temporary transferee.

And the company will be eligible for a bonus allocation in the third year not exceeding in average annual net transfer-in quantity during the two years in question.

Allocations to eligible persistent temporary transferees will be derived from quotas recovered from persistent transferors plus any balance from the restraint limits after allocations to qualified quota-holders and free quota performers. If the total entitlements exceed the quantities available, allocations will be scaled down proportionately. Any quotas remaining after allocations to persistent temporary transferees under this rule are added to the free quota pool.

Flexibility Provisions and Surrender of Quotas

Subject to conditions in Hong Kong's Bilateral Agreements with importing countries, flexibility provisions are made to improve quota utilization. These provisions include swing, carryover and carryforward (anticipation).

Swing

Swing may be defined as an exchange involving the surrender of quota in one category or sub-category in return for an equivalent quantity of quota in another category or sub-category. Swing schemes are normally operated in two phases. Under Phase I, a quota holder may increase his holding in any category, up to the swing percentage specified, provided that he surrenders to the Department the same amount of quota in another category. In Phase II, the margin by which each category may be

increased is converted from a percentage into an absolute quantity. All companies may participate in exchanging them with quotas from other categories. If the quantity available is less than the total quantity applied for, it will be apportioned among the applications on a proportionate basis. Otherwise, all applications will be approved in full. Any balances remaining from above are made available for all applications on a day-to-day basis.

Carryover

Carryover provides for a portion of a restraint limit, if not fully used during one textile year, to be retained for use in the immediately following textile year. The portion is restricted by a specific percentage of the restraint limit for the latter year. All carryover quantities are added to the pool of free quotas which can be applied by all comers.

Carryforward (Anticipation)

Carryforward or anticipation enables Hong Kong to borrow, for the sake of current use, a portion of the restraint limits from the immediately following textile year. This flexibility is made available to all companies which currently hold quotas in that category. All shipments against the anticipated quotas are debited to the companies' allocations in the subsequent year. Like the swing schemes, these schemes are operated in two phases. Under Phase I, all quota holders may borrow by category up to the percentage specified or to the level of verified shipment performance at that time, whichever the

less. In Phase II, the margin by which each category may be increased is converted from a percentage into an absolute quantity. All quota holders may anticipate up to their actual levels of verified shipment performance. If available, all applications will be approved in full. Otherwise, the amount offered will be apportioned among the applicants on a proportionate basis.

Free Quota Schemes

Lastly, we come to the free quota schemes. The schemes provide opportunities for new comers to obtain quota to export the restrained products. They are also designed to move gradually the quotas into the hands of exporters which are able to utilize them. In other words, they are introduced to ensure optimum utilization of quotas for Hong Kong as a whole.

Sources of Free Quotas

Free quotas can be derived from a lot of sources. They are:

(i) balance of quotas remaining after allocations to qualified companies on the basis of past performance;

(ii) quotas allocated to but not accepted by the qualified companies;

(iii) quotas recovered from persistent temporary transferors and not allocated to persistent temporary transferees;

(iv) quotas forfeited from companies by way of administrative action against non-compliance with quota allocation and utilization conditions;

(v) surrendered quotas;

(vi) carryover; and

(vii) quotas remaining unutilized after the final licensing date of a textile year.

Classifications of the Free Quota Schemes

There are three types of free quota schemes, namely, Cold Category Free Quota Scheme, Main Free Quota Scheme and Year-end Special Shipment Scheme. The first scheme is used to distribute quotas in those categories substantially under-utilized in the preceding year. The second one is to dispose the unallocated balance and quotas returned to and forfeited by the Department. The last one, operated in the last month of a textile year after the final licensing date, is to dispose of all quotas unutilized up to then. All free quotas are made available to various applicants under these three schemes.

Operation of the Free Quota Schemes

The operation of the schemes is exactly the same as the Swing Scheme. All applications received during a specified period are considered together in Phase I. The Department will approve them in full if it is available or on a proportionate basis if it is not. The remaining quantity, which can be applied under Phase I, is opened for application on a day-by-day basis.

Restrictions under Free Quota Schemes

Under the free quota schemes, a lot of restrictions are imposed on the usage of the approved free quotas as well as their holders. Firstly, all allocated free quotas are not transferable, unless the holder returns to the Department the same quantity of free quota issued to him. Besides, no company would be allowed to participate in Phase I of the schemes in a particular category if he has net transferred out, on a temporary or permanent basis, 10 per cent or more of his holding in that category. Furthermore, manufacturers applying for free quotas in garment categories cannot exceed their declared monthly manufacturing capacities, and exporters are not allowed to pool the capacities under one manufacturer on a pro-rata basis. Finally, no company can apply for a quantity greater than that available in the category concerned. Any application violating the above conditions will be rejected by the Department.

Enforcement and Sanction

Besides the stated functions, the Department also conducts manifest checks/licence verification and physical checks in conjunction with the Customs and Excise Department. Companies found in breaching of any condition will be put under prosecution. In addition, the Department may impose administrative actions against these companies including withdrawal of the balance of quota not used at the time, nullification of past performance in applying future allocations debarment from participation in any control schemes, forfeiture

or permanent surrender of quotas, and suspension of all export licensing facilities.

The Hong Kong system, though with some loopholes, is a superior system to the Thai system in the following manner:

1) it provides a chance for new exporters to obtain the quota from transferor to export his products, and use it as a past performance record for the following year.
2) it encourages the full utilization of quota and the expansion of non-quota items.
3) it encourages the domestic industry to produce close to a full capacity.
4) it permits the transfer of quotas which encourage the transferor to transfer out openly at the 'price' to be established in the market.

These merits are sufficient for the proponents of alternative system to view the Hong Kong system as a good alternative. The opponents' fear of the transferable quotas is that they may be forced to transfer quotas below the 'price' at which secret transfers are taking place. In addition, if and when the transferability is accepted, the market share inside Thailand can be disturbed by new zealous exporters. They also fear of the rent extractions from the authorities since they themselves will have exposed the 'true' price of the quota to the officials. It, however, appears that the benefits outweigh the loses; and the

loss is concentrated within selected few companies. The decision to proceed with the transferable quota is a better choice for the country's textile industry.

APPENDIX II

Financial Requirement

- By increasing the width of cotton fabrics to 60 inches, total sales value will increase to 28,966 million baht (incrementeal increases in market price x sales volume = 2.16 x 13,410,000)
- Based on the company past sales record, the company will generally provide 1 month credit term for its customer. Thus, the additional working capital required to meet the above requirement is 2.5 million baht per month.
- The company receives 3 months credit term on purchasing raw material and thus there is no need to increase its working capital.
- The book value of the old sizing machine is estimated to be 3 million baht and this machine will last for 5 more years. Therefore, the depreciation per year is equal 300,000 baht (a depreciation of 10 per cent per year) assuming that the plant cannot sell this machine in the market and thus there is no salvage cost associated with the calculation of the working capital. Therefore, total additional investment for this project is 37.5 million baht.

APPENDIX III

Impact on Cost

The average cost of producing a yard of 47-49 inches cotton fabric is 6.32 baht. By increasing the width of the fabric to 60 inches, an additional of 20 per cent of raw material is needed. Thus, the additional cost of raw material per yard for producing 60 inches fabric is 1.26 baht. It is also projected that the price of raw material will increase by 6 per cent per year. This can be seen from the following table:

PAST PRICE OF RAW COTTON (1978-1983)

	1978	1979	1980	1981	1982	1983
C.I.F. price						
Weighted average	12.96	13.19	15.33	18.85	16.02	14.70
U.S.A.	13.48	12.72	15.38	19.73	14.00	12.94
USSR	10.59	10.25	11.58	12.97	12.22	13.62
Pakistan	11.21	11.13	13.89	16.74	-	13.31
Turkey	11.95	14.44	15.33	18.21	14.01	13.68
India	-	11.80	15.30	16.13	-	15.44
etc.						
Market price (Ex-Factory)						
Weighted Average	n.a.	n.a.	14.27	15.60	14.29	16.36
Company's Price						
Weighted Average	12.32	13.83	15.52	17.47	15.62	16.96
Growth	----------6%----------					

Sources: Customs Department, Ministry of Finance

APPENDIX IV

Market Price

According to the company past sales records, it selling price for 47-49 inches cotton fabrics is broken down as follows:

Product	Domestic Price	Export Price
Cotton fabric	10.5 baht/yard	11 baht/yard

Since its total output is marketed at 40 per cent for local and 60 per cent for export, the average price for this product is 10.80 baht per yard (0.6 x 11 + 0.4 x 10.5 = 10.8). By increasing the width of fabric to 60 inches, the company will have to adjust its market price upward by 20 per cent and thus the market price for a yard of 60 inches cotton fabric is 12.96 baht (1.20 x 10.80). In this respect, the difference between producing 60 inches instead of producing 17.49 inches fabric (in terms of market price) is 2.16 baht per yard. It is also projected that the market price will grow at an annual rate of 4 per cent.