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The Status Quo of Taiwan's Textile Industry

(I) Supply and Demand of the Textile Industry

(i) Current Developments

When we look back at the development of Taiwan's textile industry since it started in 1945, the preliminary stage of development was mainly focused on cotton yarn and woven fabrics. After the development of the overall economic construction plan, Taiwan's textile industry adhered to import substitution policies and started to encourage the imports of machinery and raw materials to increase production in order to satisfy the domestic demands of Taiwan's cotton textiles and to further boost foreign exports. In the export expansion stage from 1961 to 1970, the industry started to produce its own synthetic fiber to satisfy the increased demand for raw materials in the textile industry. Textile goods also expanded from cotton products to synthetic fiber products, and during the fast development of the 1960's, the foundation for Taiwan's synthetic fiber industry was firmly established. In the 1970's, apparel and clothing accessories became the main products exported by Taiwan's textile industry, giving the industry an indicative export status. To this day, Taiwan's textile industry has a complete upstream, midstream, and downstream production and supply chain system from raw materials to the final production (see Figure 4). Based on an excellent synthetic fiber industry, it has developed into a matured and successful industry with synthetic fiber as its main raw material (see Table 1).

Table 1: Taiwan's Textile Industry Development Stages

Industry Development	Textile Industry Development	Main Textile Industry Stage Representative
Economic Rebuilding (1945~1950)	Recovery (1945~1950)	Cotton Textiles

Essential Goods Industry Development (1951~1960)	Development (1951~1960)	Cotton Textiles
Light Industry Development (1961~1970)	Export Expansion (1961~1970)	Synthetic Fibers
Heavy Industry Development (1971~1980)	Growth (1971~1980)	Apparel
Strategic Industry Development (1981~1990)	Maturity (1981~1990)	Apparel
Development of High Tech and Industry Structure Adjustment (1991~)	Conversion (1991~)	Synthetic Fiber Textiles and High Tech Textiles

Source: TTRI, 56.(2006.)

(ii) Output Value

In accordance with the data from the Department of Statistics, MOEA, Taiwan's textile industry had a total output of about NT$350.6 billion from January to September 2007, representing an increase of 1.5% compared with the same period in 2006. The synthetic fiber industry had an output value of NT$113.56 billion, or 32.4% of the output of the textile industry as a whole, which represented an increase of 0.15% over the same period in 2006. The output of the textile industry (yarn and fabric) had a value of NT$207.08 billion, and this accounted for the largest share of the textile industry as a whole (59.1%), and represented an increase of 3.99% compared with the same period in 2006. The output of the apparel and accessory industry had a value of NT$29.97 billion, which was down by 8.55% over the same period in 2006. (See Table 2)

Table 2. Output Value of Taiwan's Textile Industry

Unit: NT$1 million

Year	Synthetic fiber industry	Spinning and weaving industry	Apparel and accessory industry	Total (% increase in value)
2001	113,476	318,998	73,040	505,514(-)
2002	123,609	307,959	65,830	497,399(35.86)
2003	141,051	290,432	63,123	494,606(32.88)
2004	163,528	305,983	59,241	528,752(32.52)
2005	153,629	269,838	48,761	472,228(34.09)

2006	151,263	262,939	43,611	457,813(-)
2007 (projected)	155,045	266,883	41,259	463,187(35.00)
2008 (projected)	156,500	270,000	40,000	466,500(36.00)
Jan.–Sept. 2007	113,560	207,078	29,974	350,611
Comparison of same periods in 2006/07	0.15%	3.99%	-8.55%	1.50%

Source: Department of Statistics, MOEA, adapted by TTRI ITIS Project, Nov. 2007

From Table 3, it can be observed that the increased output of Taiwan's synthetic fiber industry was mainly attributable to growth in domestic sales. While exports fell by 7.27% from January to September 2007, compared with the same period in the previous year, domestic sales grew 6.02% during the same period, while inventories dropped. The 3.99% increase in output value by the mid-stream segment of the weaving industry was primarily due to the growth in exports (5.41% increase). It can be seen that through the more specialized division of labor by the upstream synthetic fiber and mid-stream spinning and weaving industry segments, Taiwan's textile industry has maintained strong competitiveness in exports. Due to the rise in the output of the synthetic fiber industry and growing domestic sales ,Taiwan’s synthetic fiber market appears to be growing, which is chiefly attributable to the exports of textiles and woven products.

Table 3. Textile Exports and Domestic Sales for Taiwan

Unit: NT$1 million

Period	Synthetic fiber industry		Spinning and weaving industry		Apparel and accessory industry	
	Domestic sales	Exports	Domestic sales	Exports	Domestic sales	Exports
Jan – Sept 2006	46,638	44,783	120,317	73,782	16,183	23,121
Jan – Sept 2007	49,447	41,529	122,354	77,777	14,917	21,978
Amount of increase/decrease	2,809	-3254	2,037	3,995	-1,266	-1,143
% change	6.02%	-7.27%	1.69%	5.41%	-7.82%	-4.94%

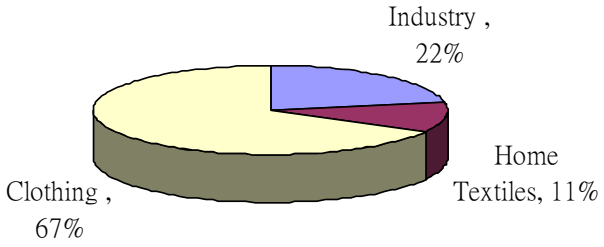
Source: Department of Statistics, MOEA, adapted by TTRI ITIS Project, Nov. 2007

Note: Because the Department of Statistics, MOEA conducts its surveys using questionnaires and an estimation matrix as opposed to what the Customs normally uses (declared value of goods during customs clearance), the export values in this table differ from those reported by Customs.

(iii) Domestic Demand

The 2007 survey results showed that the proportion of apparel, home, and industrial textiles of Taiwan's textile industry structure changed from 69:13:18 in 2004 to 67:11:22 in 2006 (see Figure 5). In other words, apparel and home textiles each dropped by 2% while industrial textiles rose by 4%. The meaning behind this data shows that while the government's guiding policies have had a considerable effect, companies themselves are willing to invest their resources in developing towards industrial textiles. In terms of exports, in 2006, the export value and quantity for industrial textiles were clearly higher than in 2004, indicating that Taiwan's industrial textiles definitely have a competitive edge in the international market.

Figure 4. Structural Analysis of Synthetic Fiber Use in 2006



Source: Compiled by TTRI ITIS Project, Nov. 2007

If we define domestic demand by adding imports and subtracting exports from production, Table 5 shows that the domestic demand peaked in 2004 at NT$200.2 billion and has been decreasing since then. It is estimated that the domestic demand increased slightly in 2007. In addition, exports accounted for 82.6% of output value, which was a slightly lower percentage than in 2006.

Table 4. Size of Taiwan's Textile Industry Market

Unit: NT$100 million

Year	Output value	Import Value	Export Value	Domestic market demand	Exports as portion of output (%)
2000	5,775	903	4,730	1,948	81.9
2001	5,050	796	4,256	1,589	84.3
2002	4,966	855	4,191	1,630	84.4
2003	4,952	1031	4,152	1,831	83.8
2004	5,294	902	4,193	2,002	79.2
2005	4,680	840	3,787	1,733	80.9
2006	4,578	890	3,828	1,640	83.6
2007	4,632	891	3,828	1,695	82.6

Source: Department of Statistics, MOEA; Office of Statistics, Directorate General of Customs, MOF; Textile Industry Research Institute ITIS Project, November 2007

(II) Gap in Industry Supply Chain, Investment Niche and Prospective Foreign Investors

In the 1970's, apparel and clothing accessories became the main products exported by Taiwan's textile industry, giving Taiwan's textile industry an indicative export status. To this day, Taiwan's textile industry has a complete upstream, midstream, and downstream production and supply chain system from raw materials to final production (see Figure 4). Based on an excellent synthetic fiber industry, it has developed into a matured and successful textile industry with synthetic fiber as its main raw material.

Figure 5. The Supply Chain of Textiles

In addition, the USA will also focus on the production of nylon short fibers and carpet filament fibers, and reduce the production of textile filament fibers. Statistics show that the USA's textile filament fiber output was 72,000 tons in 2001, but it reduced to 36,000 tons in 2006. It is expected to continue to decrease to 26,000 tons in 2011, while the production capacity is expected to decline by 31%.

Table 5. Global Main Production Area of Synthetic Fiber in 2006

Unit：1,000 tons

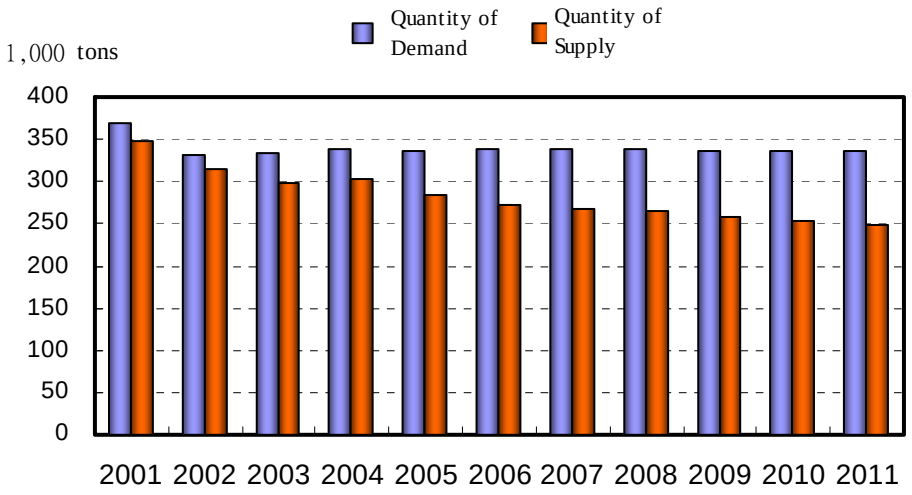
Area	Polyester Filament Fiber	Polyester Staple Fiber	Nylon Fiber	Acrylic Fiber	Synthetic Fiber	Cellulose Fiber	Chemical Fiber	Share%
Japan	270	213	123	243	925	66	991	2.6
	-4.2	-0.2	-0.7	-7.1	-3.1	-0.9	-3.0	
South Korea	735	515	165	48	1,513	6	1,519	4.1
	-15.1	-1.4	-5.7	-49.2	-11.4	0.2	-114.4	
Taiwan	1,185	613	415	149	2,383	132	2,516	6.7
	-7.1	-16.3	-0.3	6.9	-7.8	15.6	-6.8	
China	9,913	6,133	852	839	17,882	1,435	19,317	51.6
	11.3	11.4	18.3	7.1	11.3	20.3	12.0	
ASEAN	1,256	906	129	81	2,382	330	2,712	7.2
	-1.3	-5.0	6.2	4.2	-2.2	2.2	-1.7	
India	1,175	745	90	104	2,114	307	2,421	6.5
	13.0	21.2	7.5	-6.3	14.3	3.9	12.9	
U.S.A.	407	835	1,056	4	2,416	27	2,443	6.5
	-10.0	-8.9	-2.4	-93.8	-8.1	-42.3	-8.7	
West European	617	538	544	735	2,487	449	2,937	7.8
	-9.5	-0.6	-1.3	-0.2	-3.0	5.7	-1.7	
Global Total	16,194	11,483	3,928	2,507	34,581	2,872	37,454	100.0
	4.9	3.9	1.7	-5.1	3.3	10.4	3.8	

Source： JCFA, Japan Chemical Fibers Association, 2007

Nylon 6.6 textile filament fibers are suitable for products with greater ductility functions, which are usually represented by athletic wear. With the constant expansion of the global market scale in athletic wear, it is estimated that the demand for nylon 6.6 textile filament fiber will not show a reduction trend in the future. It is expected that in the next few years, supply will not be able to meet the demand. Statistics show that the 2006 global excess of

demand was 65,000 tons, and it is predicted that in 2011, the excess demand will reach 87,000 tons (see Figure 6).

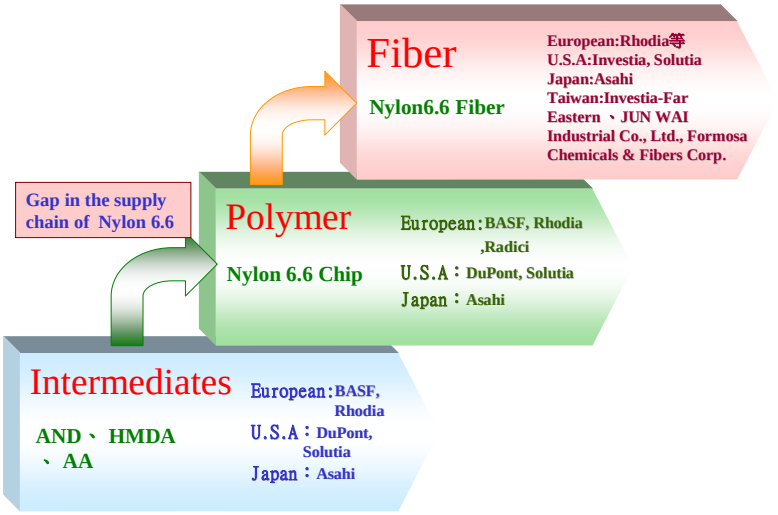
Figure 6. Global Supply and Demand of Textile Filament Fiber of Nylon 6.6



Source: CMAI (2007); Compiled by TTRI ITIS Project, Nov. 2007

CMAI data shows that the main production region for nylon 6.6 is Western Europe, and this product's output reached 141,000 tons in 2001. However, by 2006, it had already decreased to 103,000 tons, and it is estimated that by 2011, the output will continue to plunge to 95,000 tons, and at the same time, production capacity will also decline by 7.7%. This is because Western European companies are keen on the opportunity of safety airbags and have proactively increased the production of industrial filament fibers, while reducing the production of textile filament fibers.

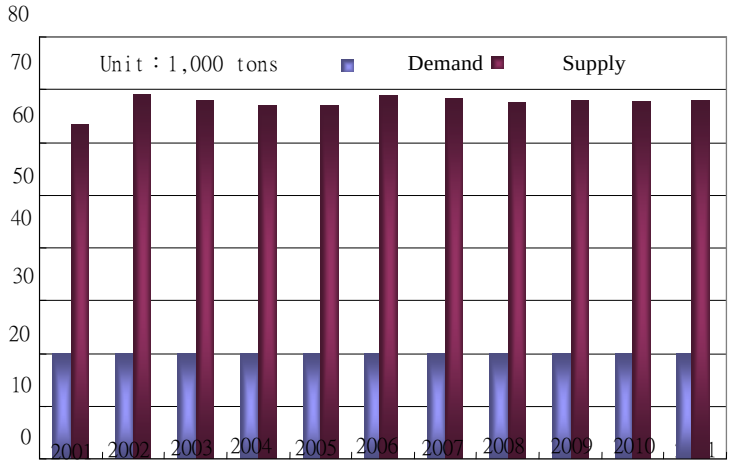
Figure 7. The Supply Chain of Nylon 6.6



(III) **Major Suppliers in Taiwan**

Although Taiwan is a major producer of textile filament fibers, most domestic companies produce Nylon 6. There are several Taiwanese companies that produce Nylon 6.6, including Invista-Far Eastern Co., JUN WAI Industrial Co., Ltd., and Formosa Chemicals & Fiber Corp. due to the key materials in the up-stream supply chain led by DuPont, Solutia, Rhodia, BASF, and Asahi (see Figure 7). However, in the future, insufficient output is foreseen mainly because Taiwan is a major global provider of functional fabrics. Currently, 70% of the suppliers of the world famous athletic brands come from Taiwan, so in the nylon 6.6 value chain, Taiwan mainly produces the final fabric. However, for the fiber end, the domestic output of Nylon 6.6 is very limited, staying at 20,000 tons in the last few years (see Figure 8), As a result, the output of Nylon 6.6 does not meet the domestic demand.

Figure 8. Supply and Demand of Nylon 6.6 Textile Filament Fiber in Taiwan



Source: CMAI (2007); Compiled by TTRI ITIS Project, Nov. 2007