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## Indonesia's textile and its products industry: Recent development and challenges

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### Keywords

Indonesia, textile, TPT, trade, competitiveness, cluster

### Abstract

*This paper examines the Indonesia's textiles and its products (TPT) industry. It will highlight industrialization and sectoral changes in Indonesia since 1968. The supply chain of TPT industry, from the upstream to downstream, will be discussed. In terms of trade, TPT products always on the top ten Indonesia's non-oil exports. It is followed by identification of major clusters in the Indonesia's TPT industry. Some key challenges in facing Indonesia's TPT industry, in particular new competitions from abroad, will be evaluated. A special emphasis is put on assessing Indonesia's competitiveness relative to its main competitor in the industry. The final sections discuss the impacts of the industry's growth performance on employment and assess future prospects of the industry.*

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### 1. Introduction

The Textile and Its Products industry (abbreviated as TPT industry in Indonesia) played an important role in the Indonesia's employment and non-oil export. The most recent data shows that there have been not less than 2,869 companies involved in the TPT industry, which can absorb and create employment as much as 1.4 million workers or 11% of the total workforce in the entire manufacturing industry. The TPT industry is also able to create export commodities valuing at US\$11.2 billions in the year 2010 (Kuncoro, 2011; API, 2011). The export performance of the TPT industry reaches up to 9% of Indonesia's total non-oil and gas exports. It is not surprising that this industry is considered as one of leading Indonesian non-oil exports and employment creation. TPT companies in Indonesia contributed to a total investment of Rp150.5 trillions. This figure slightly increases compared to 2,853 companies and total investment Rp146,1 trillion in the previous year.

Table 1 highlights the key role of Indonesia Textile, Fiber & Clothing in terms of number of companies, value of investment, and employment. The role of TPT industry showed a positive trend for Indonesia. In 2010 the number of companies engaged in the TPT industry for an increase of 2,869 companies or increase about 8.1% from 2005 which only 2,656 companies. Investment value also increased by 13.7% during the years 2005-2010. Similarly, the number of workers who experienced a trend increase of 18.9% at the same time.

Description	Unit	2005	2006	2007**	2008	2009	2010
Number Of Company	Unit	2,656	2,699	2,726	2,818	2,853	2,869
Value of Investment	Rp (Bn)	132,381	135,648	137,906	142,068	146,170	150,525
Men Power	People	1,176,773	1,191,326	1,234,250	1,289,400	1,337,497	1,399,856

TABLE 1 Indonesia Textile, Fiber & Clothing Highlight, 2005-2010

Source: API (2011)

This paper attempts to explore the recent development in the Indonesia's TPT industry. On the onset, this paper will highlight industrialization and sectoral changes in Indonesia. Next section will focus on the role of the TPT industry in Indonesia by exploring the upstream and downstream in the TPT industry. As the TPT exports always on the top ten Indonesia's non-oil exports, next section will focus on the textile and apparel trade. It is followed by identification of major clusters in the Indonesian TPT industry. The last section will summarize the key challenges in Indonesia's TPT sector.

## 2. Industrialization and sectoral changes

Industrialization in Indonesia has brought structural transformation. The pattern of economic growth seemed to be in line with common structural transformation pattern in many developed and developing countries. The transformation generally witnesses a steady decline of agricultural sector (called as primary sector) contribution to Gross Domestic Product (GDP) (Kuncoro, 2007). In the other hand, secondary and tertiary sector contributions indicate a continual increase.

Table 2 shows these tendencies between several key periods: 1968 (Repelita I), 1978 (Repelita II), 1988 (Repelita IV), 1993 (industry sector became the dominant sector), 1998 (economic crisis), 2000 (reformation era), 2004-now (Susilo Bambang Yudhoyono or SBY regime). In 1968, agriculture sector contributed about 51% of GDP, the highest relative to other sectors. Manufacturing industry, for example, only contributed 8.5%. The industrialization had not dominated the Indonesian economy until 1978. Agriculture sector's contribution in 1978 decreased 21.5% compared to that in 1968. However, declining role of agriculture sector had been compensated by increasing contribution in mining sector about 13.4%. In 1978, manufacturing industry contribution reached 10% of GDP, or rose 1.5% than that in 1968. Other sectors that had been experiencing increase in its contribution to GDP were service, finance, rental, and financial service, also transportation and communication sectors.

Sectors	1968	1978	1988	1993	1998	2000	2004	2005	2006	2007	2008	2009	2010	2011
Agriculture	51	30.5	24.1	17.9	17.4	15.6	15.4	14.5	14.1	11.8	14.1	15.29	15.3	13.5
Mining	4.2	17.6	12.1	9.6	8.3	12.1	8.6	9.4	9.1	8.6	8.4	10.54	11.2	8.1
Manufacturing industry	8.5	10.0	18.5	22.3	23.9	27.8	28.3	28.1	27.8	27.7	26.9	26.38	24.8	27.3
Others	36.3	41.9	45.2	50.3	50.3	44.6	47.7	48.1	48.8	51.8	52.9	47.7	48.7	51.1
GDP	100	100	100	100	100	100	100	100	100	100	100	100	100	100

TABLE 2 Sectoral Contribution to Indonesian GDP, 1968-2011 (%)

Note: Other sectors include the following: electricity, gas, and water sector; construction sector; trade, hotel, and restaurant sector; transportation and communication sector; finance, rental, and company service sector; and service sector.

Source: Calculated from BPS (2008, 2010b)

The predominant of agriculture sector in GDP formation has decreased and started to shift to manufacturing industry since 1993. In the period of 1988-1993, Indonesian economic structure experienced some significant changes, where contribution of manufacturing industry exceeded the agriculture contribution. The decreasing of agriculture commodity production in late 1993, especially rice, resulted in decreasing contribution to only 17.9% of Indonesian GDP. In the other hand, expansion in manufacturing industry resulted in the increasing of its contribution to 22.3% of GDP. Since 1993, agriculture sector's contribution never exceeded that of manufacturing industry. Table 2 explains that manufacturing industry has become the leading sector since 1993. In 1998, manufacturing industry contributed 23.9% to GDP. The number increased about 1.6% than that in 1993. During 2000 until 2011, contributions of the manufacturing industry remain stable between 24.3% and 28.3%. However, the role of manufacturing industry has steadily declined since 2000.

The Indonesian government quite effectively steered the national economy through 'storm' of the 2008 Global Financial Crisis (GFC) (Kuncoro, *et al.* 2009). From 2008, Indonesia's economic performance faired much better than economic contractions in the other economies in Asia. Less exposure to external shocks from the international trade and expansionary fiscal and monetary policies in particular allowed the economy weather the worst of the crisis and rebound during the first half of 2009 (IMF, 2009: 71-74). Among the ASEAN-5, the Indonesian economy has proved to be remarkably resilient, with output growing at 4.5% in 2009 compared with 1.75% for the ASEAN-5 as a whole, thanks to strong domestic demand. Indonesia's growth accelerated to 6.4% in 2011 and expected to 6.3% in 2013, reflecting a pickup in private investment. Table 3 shows that the ASEAN economies are projected to grow by 5.1% in 2012 and 5.5% in 2013. Going forward, growth is projected to pick up very gradually, and Asia should remain the global growth leader, expanding over 2 percentage points faster than the world average next year (IMF, 2012).

Countries	2009	2010	2011	2012*	2013*
Indonesia	4.5	6.1	6.4	6.0	6.3
Malaysia	-3.6	7.2	5.3	4.4	4.7
Singapore	-3.3	14.5	4.8	2.0	2.9
Thailand	-3.5	7.8	4.5	5.5	5.9
Phillipines	1.0	7.3	5.0	4.8	4.7
China	8.5	10.4	9.2	7.8	8.2
India	5.4	8.6	8.2	4.8	5.9
Emerging & developing economies	2.1	7.5	6.2	5.6	6.9
Advanced economies	-3.2	2.1	1.6	1.4	1.9

TABLE 3 Real GDP Growth of Indonesia, Asia, Developing and Developed Economies, 2009-2013 (year on year)

Source: IMF (2012)

The non-oil and gas industries hold a very significant role in terms of contribution towards Indonesia's GDP compared to the national oil & gas industry. Table 4 explains that the market share for the non-oil & gas industries always reaches 20% of the total GDP. Textile, leathers, and footwear industry also experienced a decrease in market share towards the GDP during 2006-2010. In the year 2010, the share of textile, leathers, and footwear industry was as

low as 1.93% as a result of decrease from the 2006 share of 2.70%. This indicates that a deindustrialization exists in the textile and its products (TPT), including garment, industry (Kuncoro, 2011; 2007).

Description	2006	2007	2008	2009	2010
1. Agriculture, Livestock, Forestry and Fishery	12.97	13.72	14.46	15.29	15.34
2. Mining and Excavating	10.98	11.15	10.92	10.54	11.15
3. Manufacture Industry	27.54	27.05	27.89	26.38	24.82
a. Oil & Gas Industry	5.15	4.61	4.89	3.81	3.27
b. Non-Oil & Gas Industry	22.38	22.43	23.00	22.57	21.55
1). Food, Water and Tobacco	6.37	6.68	6.99	7.49	7.24
2). Textile, Leathers and Footwear Industry	2.70	2.37	2.12	2.08	1.93
3). Wood Product and Forestry Industry	1.34	1.39	1.48	1.43	1.25
4). Paper and Printing	1.19	1.15	1.05	1.09	1.02
5). Fertilizer, Chemical and Rubber Industry	2.82	2.80	3.11	2.90	2.74
6). Cement and Mineral Excavating Industry	0.87	0.83	0.81	0.77	0.71
7). Iron Metal and Steel	0.62	0.58	0.59	0.48	0.42
8). Transportation and Parts	6.27	6.44	6.66	6.17	6.05
9). Other Goods	0.21	0.19	0.18	0.17	0.16
4. Electricity, Gas and Clean Water	0.91	0.88	0.82	0.83	0.78
5. Construction	7.52	7.72	8.48	9.89	10.29
6. Trade, Hotel and Restaurant	15.02	14.99	13.97	13.37	13.72
7. Transport and Telecommunication	6.93	6.69	6.31	6.28	6.50
8. Finance, Leasing and Service	8.06	7.73	7.43	7.20	7.21
9. Services	10.07	10.08	9.73	10.22	10.19
Product Domestic Bruto	100.00	100.00	100.00	100.00	100.00
Product Domestic Bruto Without Oil & Gas	88.85	89.46	89.41	91.68	92.23

**TABLE 4 Sectoral Contribution to GDP, Indonesia 2006-2010 (%)**

Source: Ministry of Industry (2011)

The contribution of the TPT industry towards the Indonesian GDP has been relatively low. In 2010, the contribution was only 1.9% of the Indonesia's GDP. This figure was relatively low compared to the year 2007, which was 2.7% of Indonesia's GDP. Table 5 describes the contribution of the TPT industry to the Indonesian GDP in details. However, in terms of employment and number of firms, this industry played a substantial role. As has been shown in Table 1, there are at least 2,600-2,900 TPT firms which absorbed 1.2-1.6 million workers over the period of 2005-2010. It stems from the fact that most of the firms in the industry are labour intensive and small-medium enterprises.

Second, the TPT industry consists of the upstream, midstream, and downstream (Kuncoro, 2011). In the upstream side, the industry produces natural fibers, synthetic fibers, rayon fibers, with the majority of them being capital-intensive, technology-intensive, although absorbing only very little workforce. In the middle stream, the TPT industry includes threads, curtain, blankets, car seats, tents, carpets, with the majority of the industry characterized as labor-intensive, and the majority of workers are female, with a technology that combines labor-intensiveness and capital-intensiveness. During the last 20 years, the garment export has never decreased. The industry is one of the biggest contributors towards the Indonesian reserves. Since the New Order, export gains from the garment industry have been very large. Until now, the market share of the garment industry around the world contributes up to 1.57% with average value of US\$3.9 per year. From the TPT industry total export value of 11.2 billion US dollars, not less than 6.5 billion US dollars or 58% is contributed by the garment. This means that the garment industry possesses a high rate of competitiveness.

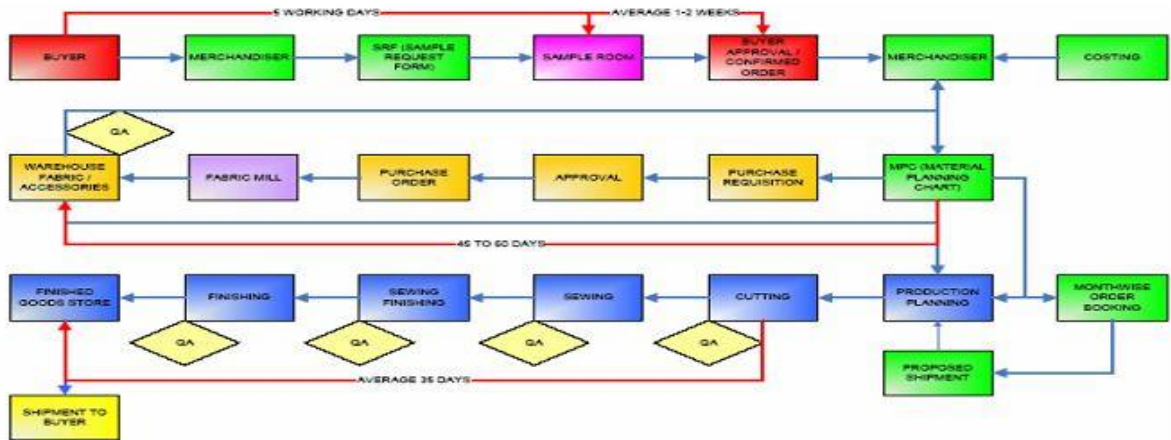


	2007	2008.r	2009**	2010**
Net-Export :	5.69	5.16	5.09	5.04
Domestic Sales *:	3.67	4.17	5.30	5.83
Investment :	2.26	0.44	0.40	0.48
<b>Total:</b>	<b>11.62</b>	<b>9.77</b>	<b>10.79</b>	<b>11.35</b>
<b>National GDP</b>	<b>431.02</b>	<b>513.03</b>	<b>546.53</b>	<b>590.25</b>
<b>Contribution of Textile &amp; Clothing (estimation)</b>	<b>2.7%</b>	<b>1.9%</b>	<b>2.0%</b>	<b>1.9%</b>

**TABLE 5 Textile & Clothing Contribution to Value GDP Formed (in Bn USD)**

Source: API (2011)

Figure 1 illuminates value chain and business process in the Indonesia’s garment industry. Business process in the industry is started from merchandisers, fabric mill, warehouse, production planning, cutting, sewing, finishing, and finished good stores to buyers.



**FIGURE 1 Value Chain and Business Process in Garment Industry**

Source: Astuti (2011)

The Indonesian TPT sector can be divided by two different subsectors (EKONID, 2001). One is traditional, the other one uses modern technology and knowledge. Traditional production provides textiles mainly for the domestic market and traditional ceremonies, which are made out of traditional raw materials. Many yarns and dyes are obtained from local tropical plants, often by processes unique to the archipelago. Although the methods used to obtain indigenous textile materials are often labor-intensive and therefore not viable in terms of modern economics, they have the advantage of being renewable, an important consideration in an increasingly resource-depleted world. In less than two decades, Indonesia has become an important source for modern textiles and textile products. This trade sector, one of the largest in East Asia, offers a large variety of products, from synthetic fibers to made-up textiles. The development of Indonesia’s textile industry has branched out into a large number of subsections, from synthetic fiber manufacturing, yarn, spinning, fabric forming and finishing, to manufacturing of made-up goods. This study concentrates on the second, the modern textile sector, which can be divided into four main sub-sectors: 1. Fiber, 2. Yarn, 3. Fabric, 4. Garment. Table 6 explains characteristics of TPT industry in Indonesia.

Figure 2 illustrates the interlinkages among upstream, downstream, and upstream activities in TPT industry. Upstream industry involves producers of inputs (cotton, acrylic,

rayon fiber, polyester) for non-woven manufacturing, spinning, and weaving industry. Outputs of midstream TPT industry are processed by garment and polyester manufacturers.

Industry Structure	Sector	Industrial Characteristics
UP STREAM	- Natural Fiber - Fiber Making (Man-Made Fiber)	- Capital-intensive & large-scale industry - Full automatic technology - Large number of small-scale employees but with big output - Very high energy absorption - Product: natural fiber, synthetic fiber, rayon fiber
MID STREAM	- Spinning - Weaving - Knitting - Dyeing/Printing/Finishing	- Semi-Capital & Investment-intensive - Modern technology & continuous growth - Workforce is larger than the upstream - High energy absorption - Product: thread, yarded fabric (woven & knitted), and finishing fabric
DOWN STREAM	- Garment - Other Textiles Product/Household	- Labor-intensive & mostly women - Growing technology & combined between capital-intensive and labor-intensive - High flexibility with various end-product consumers - Product: clothing, pillow sheet, curtains, blankets, car seats, tents, carpets, etc.

TABLE 6 Industrial Structure of TPT in Indonesia

Source: API (2011); Jamaluddin (2011)

### 3. Indonesian textile and apparel trade

Unskilled labor intensive (ULI) made the largest contribution to total manufactured exports during 1994-2003. The manufactured exports sector plays a large role in both the non-oil and total exports, which underscores the importance of manufactured exports industry in the Indonesian economy. Indonesia’s manufacturing exports can be categorized into five groups: Natural resources Intensive, (NRI), ULI, Physical capital intensive (PCI), human Capital Intensive (HCI), and Technology Intensive. The contribution of ULI to manufactured exports in 1994 was 45.3%, and declined to 36.5% in 2003. The advent of the economic crisis in Indonesia in 1998 caused a 12.3 % decrease in ULI exports. Nonetheless, on closer analysis, it is realized that the reduction in ULI exports was compensated for by an increase of 13.7 % and 29.4 % in HCI exports in 1997 and 1998, respectively. In 1999, the contribution of unskilled labor-intensive exports rose drastically to 42.7 percent.

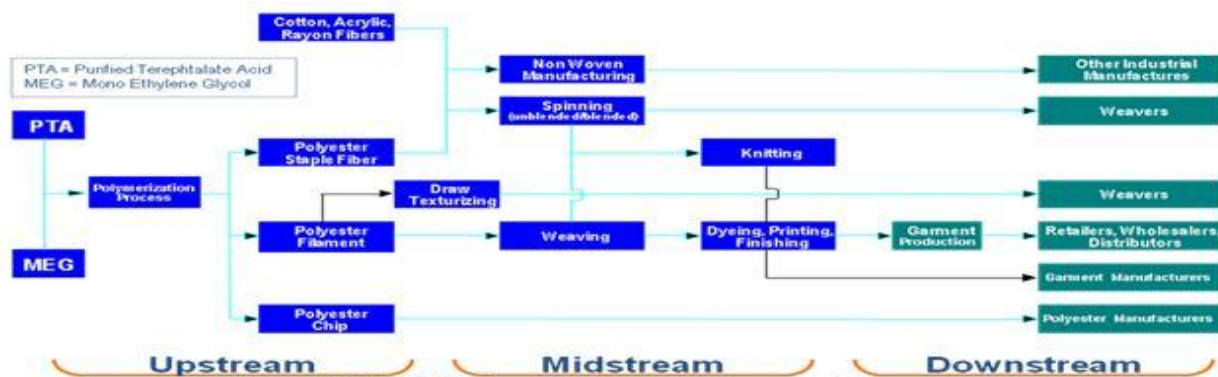
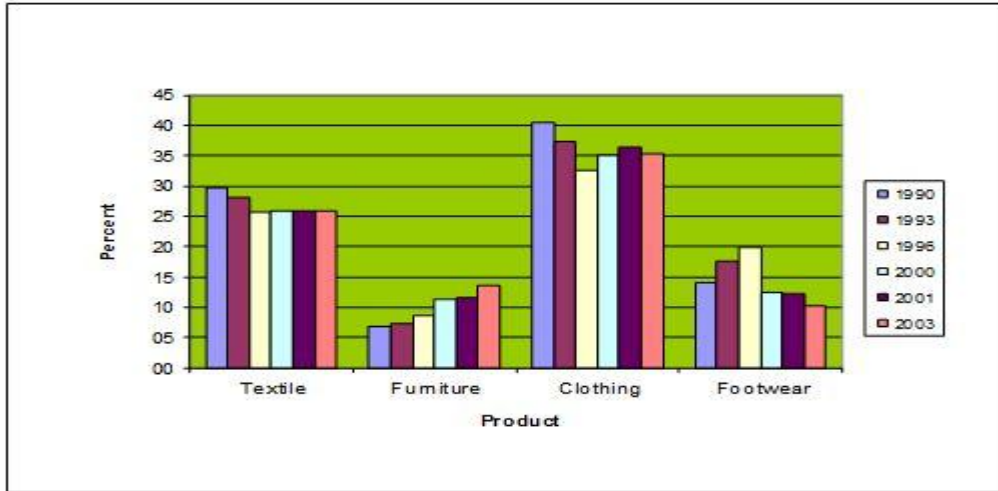


FIGURE 2 TPT Industry from Upstream to Downstream

Unskilled labor-intensive goods consist of textiles, furniture, garments, and shoes. Figure 3 shows during the 1990-2003 period garments have made the largest contribution to exports, followed by textiles, shoes, and furniture, in that order. Despite making the smallest contribution to exports, an in-depth analysis of the performance of furniture goods over the years shows upward trend. On the contrary, though the performance of shoes registered an upward trend in the 1990-1996 period, the sub sector begun declining since 2002-2003. The decline in shoe exports concurred with the number of shoe enterprises that closed their operations during the period.



**FIGURE 3 Various ULI Items: Indonesia, 1990-2003 (%)**

Note: NRI : SITC 53,63,66 (except 664, 665, 666)  
 ULI : SITC 65, 664, 665, 666, 81-85, 89 (except 896, 897)  
 PCI : SITC 51, 52, 67, 71, 72, 73, 75, 751  
 HCI : SITC 55, 62, 64, 69, 775, 78, 79, 885, 896, 897  
 TI : SITC 54, 56, 57, 59, 752, 789, 76, 77 (except 775), 87, 88 (except 885)

Source: Calculated from BPS, various years.

Export of Indonesian TPT industries had a significant decline in 2003 but it has recovered since 2004 in term of volume and value (Miranti, 2007). In 2006 the value and volume even surpassed of that in 2000 (Table 7). More than half of the value of export was contributed by garment industry with 55.7% followed by spinning industry with 18.9%, and weaving industry with 15.6%. Export destinations of Indonesian TPTs were dominantly to the US, European Union, and Japan. In 2006 export to the US covers 41.3% of the value followed by European Union with 16.5%, and Japan with 3.7%. The increase of export value at that time is also contributed by a significant increase of average price of TPTs which is US\$ 4.99/kg compared to US\$ 4.76/kg (2005).

The contribution of the TPT industry towards the total national export has always been decreasing since 2006. In 2006, the rate of contribution was 9.1%, however, in the year 2010 there was a drastic drop resulting in only 7.5%. This also holds for the TPT industry’s contribution towards the non-oil & gas products. Table 8 elaborates the contribution of TPT industry to non-oil & gas export.



Year	Volume (thousand kg)	Value (thousand USD)	Average Price (USD/kg)
2000	1,777,132	8,377,397	4.71
2001	1,721,312	7,678,422	4.46
2002	1,758,675	6,888,559	3.92
2003	1,555,920	7,052,181	4.53
2004	1,626,461	7,647,441	4.70
2005	1,796,800	8,555,000	4.76
2006	1,877,400	9,376,000	4.99
2007	1,898,000	10,004,000	5.27
2008	1,833,000	10,399,000	6.67
2009	1,760,000	9,262,000	5.26
2010	1,969,000	11,223,000	5.69

TABLE 7 Development of Indonesian TPT Exports, 2000-2010

Source: Miranti (2007), API (2010)

Billion US\$	2006	2007	2008*	2009	2010	Jan-Jun 2010	Jan-Jun 2011
Total National Export	103.5	118.0	139.6	116.5	157.8	72.5	97.3
Non Oil & Gas Product (Textile+Fiber) & Clothing	80.6	93.1	107.9	97.5	129.7	58.8	79.1
	9.4	10.0	10.4	9.3	11.2	5.5	6.9
%ShareTextile & Clothing Product to National Export (Oil & Gas + Non Oil & Gas)	9.1%	8.5%	7.4%	7.9%	7.1%	7.5%	7.1%
%ShareTextile & Clothing Product to Non Oil & Gas	11.7%	10.7%	9.6%	9.5%	8.7%	9.3%	8.7%

TABLE 8 Contribution of Indonesian Textile & Clothing Export to Non Oil & Gas Export, 2006-2011

Source: API (2011)

Out of the total contribution of the TPT industry towards the Indonesian export, the export destination sought after the industry is the United States, accounting for almost 37.6%, followed by the EU 18.9%. These results indicate that ASEAN countries are considered as an export destination that could still be developed and possesses a very high prospect in terms of developing Indonesia’s TPT industry export. Figure 4 shows the composition of export destinations for the Indonesian TPT industry.



Figure 4 Destinations of Indonesia’s TPT Exports, 2010

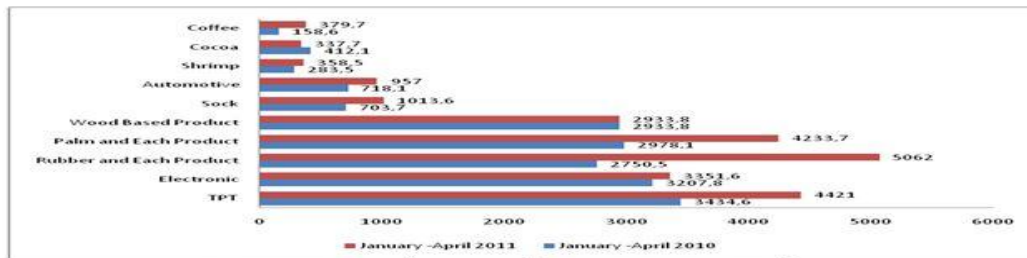


FIGURE 5 Development of Primary Export Products, Indonesia January 2010-April 2011

Source: Ministry of Trade (2011)

Although Indonesia regained its position, and its performance in the US market was generally favorable in 2005, its overall competitive position remains under threat. With respect to US apparel imports, for example, while the value of Indonesia’s apparel exports to the US



increased by 20% between 2004 and 2005, imports from China, India, and Bangladesh increased by 70%, 34%, 20%, respectively in the same period. The development of manufacturing exports textile products increased due to volume, which indicates an increase in output of manufacturing industry. Recent data show that the number of Indonesian export products of textile industry currently ranks second biggest export after the rubber and rubber products. This is consistent with government policy of encouraging downstream industry (Figure 5).

#### 4. Major clusters of TPT industries in Indonesia

Industrial clusters are located by applying a Geographic Information System (GIS). The GIS is a useful tool for identifying the locations of manufacturing industries, and where they tend to cluster (Kuncoro, 2002). It is a special type of information system, concerned with the representation and manipulation of a geographic reality. A GIS transforms data into information by integrating different data sets, applying focused analysis and providing output, in a manner that supports decision-making (Juppenlatz & Tian, 1996: chap.1). The inventory, analysis, mapping and modeling capabilities of GIS have an inevitably wide application in a range of disciplines, ranging from information technology to socioeconomic or population-related data (Martin, 1996: 4-5). We follow some typical procedures involved in creating and using GIS, namely: data acquisition, preliminary data processing, database construction, spatial search and analysis, and graphical display and interaction.

The geographical distribution of the Indonesian TPT industry is highly concentrated on the island of Java, and in particular in West Java. Almost 90% of the textile industry is located in Java, and 54.8% are concentrated in West Java alone; for the garment industry, high concentration is to be found in West Java and Jakarta (Chongbo, 2005). The industry's locations are mostly concentrated in West Java (57%), Central Java (14%), and Jakarta (17%). The rests are spread out from East Java, Bali, Sumatera, and Yogyakarta. In 2006 the total capacity of production reached 6.1 million tons with 69.8% utility and it consists of 2.4 million tons from spinning industry, 1.8 million tons from weaving, knitting, dying and finishing industries, 754 thousand tons from garment industry, and 101 thousand tons from other textile products. This capacity of production increased 1.7 tons from 5.86 tons in previous year. Table 10-11 shows the TPT industrial clusters in the five provinces of DKI Jakarta, West Java, Central Java, Yogyakarta and Banten in 2001-2007. West Java has the highest concentration of employment, value added and number of the largest companies. While the DIY has the lowest in terms of those indicators.

Provinces	Employment (Workers)		Value Added (Rp 000)		Number of Firms (Units)	
	2001	2007	2001	2007	2001	2007
DKI Jakarta	109.211	105.619	2.181.238.873	5.488.502.126	577	743
West Java	189.459	222.528	3.282.203.848	7.561.548.533	475	732
Central Java	77.674	87.531	1.423.750.769	2.042.586.415	346	811
DIY	4.523	10.370	61.910.936	339.688.381	32	32
Banten	45.208	46.224	1.024.697.567	4.514.230.885	71	99
TOTAL 5 PROVINCES	426.075	472.272	7.973.801.993	19.946.556.340	1.501	2.417
OTHERS	53.772	50.846	952.722.053	1.218.031.567	516	500
JABODETABEK	237.602	240.855	4.729.338.719	13.751.854.879	802	1.011
INDONESIA	479.847	523.118	8.926.524.046	21.164.587.907	2.017	2.917
TOTAL ALL INDUSTRY INDONESIA	4.385.923	4.624.937	269.629.898.821	598.399.645.156	21.396	27.998

TABLE 9 Main Clusters of TPT Industries, 2001-2007

Source: BPS (2002; 2008)

Where are the major geographic concentration of TPT industrial clusters in Java? Figure 6 shows a map of TPT industrial cluster when viewed from the employment. Young, single, women workers dominate this labor-intensive industry. The major location of TPT industry clustered heavily in the Capital City of Jakarta and its extended metropolitan regions (Bogor, Tangerang, Bekasi, Sukabumi), Bandung Extended Metropolitan regions (Bandung plus Purwakarta), Semarang-Ungaran corridor, and Pekalongan.

Provinces	Employment (% of total)		Value Added (% of total)		Number of Firms (% of total)	
	2001	2007	2001	2007	2001	2007
DKI Jakarta	22,8	20,2	24,4	25,9	28,6	25,5
West Java	39,5	42,5	36,8	35,7	23,5	25,1
Central Java	16,2	16,7	15,9	9,7	17,2	27,8
DIY	0,9	2,0	0,7	1,6	1,6	1,1
Banten	9,4	8,8	11,5	21,3	3,5	3,4
TOTAL 5 PROVINCES	88,8	90,3	89,3	94,2	74,4	82,9
OTHERS	11,2	9,7	10,7	5,8	25,6	17,1
JABODETABEK	49,5	46,0	53,0	65,0	39,8	34,7
INDONESIA	100	100	100	100	100	100

TABLE 10 Percentage of 5 Provinces in the Garment Industries By Employment, Value Added, and Number of Firms, 2001-2007

Source: BPS (2002; 2008)

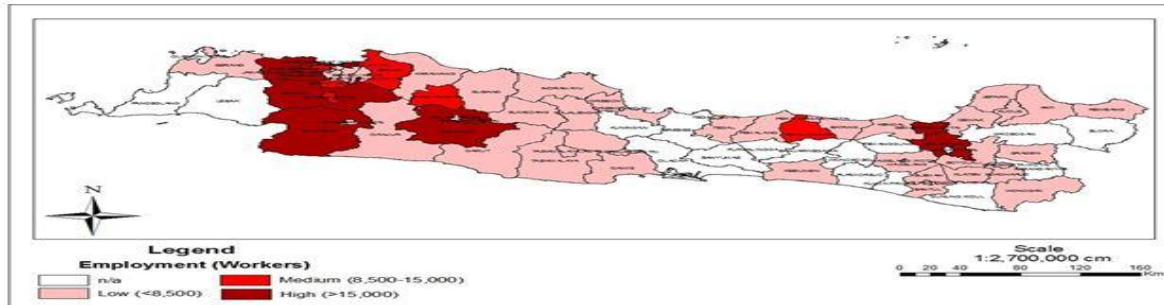


FIGURE 6 Major TPT Industrial Clusters By Employment Per District in 5 Provinces (DKI Jakarta, West Java, Central Java, Yogyakarta, Banten), 2007

### 5. Key challenges in Indonesia’s TPT sector

Indonesian Textile Association (API) (2007; 2011) defines that to improve the competitiveness of the TPT industry must do four steps. The fourth step are increasing productivity, restructuring, expansion, and adaptable to market structure change. Increasing competitiveness must be supported also by revitalize country competitiveness. Figure 7 shows some measures to improve the competitiveness of garment and textile industry.



Figure 7 Improving the Competitiveness of Garment Industry

Source: API (2007)

FIAS (2006) has identified some key challenges in Indonesia’s apparel sector as follows. First, low level of investment in the Indonesian textiles sector in recent years has resulted in declining technological profile and low productivity relative to key competing countries like India and China. Second, weaknesses in trade facilitation measures expose the industry to rent seeking activities that may significantly undermine future growth prospects in the industry. Third, although Indonesia’s energy costs are still very competitive at 4-6 cents/KwH, projected increases to 12-14 cents/KwH may result in about 5-6% increase in production costs of textiles, if more energy efficient processes are not put in place at the firm level. Fourth, delays in VAT refunds and imposition of advanced income taxes increase operational costs of doing business. These delays can add up to about 9-13% of net profit for a company with \$50 millions turnover business with a net profit of \$2.5 millions, at 10% interest rate on working capital. Fifth, need for stronger image and market development strategy. Sixth, high risk of export losses from trade diversion due to higher average tariffs on textile and apparel products relative to key competitors in the US and other markets. Seventh, high risk of export losses from trade diversion due to higher average tariffs on textile and apparel products relative to key competitors in the US and other markets (Table 11).

Preferential Suppliers	%%	Former Asian Quota Holders	Large	%%
Mexico	0.58	Taipei, China		19.41
Israel	0.94	Hong Kong, China		18.29
ATPDEA	1.14	Macao, China		17.52
Colombia	2.45	Korea, Rep. of		17.51
Jordan	2.71			
AGOA	4.72	<b>Small Asian Suppliers</b>		
CAFTA-DR	4.78	Mongolia		18.32
Egypt	7.89	Lao PDR		16.08
		Maldives Islands		8.10
		Nepal		15.41
<b>Competitive Asian Suppliers</b>		<b>Other Major Non-Preferential Suppliers</b>		
Indonesia	17.88	Turkey		15.72
Philippines	17.00	European Union		13.29
Viet Nam	16.97			
Bangladesh	16.37			
Cambodia	16.35			
Sri Lanka	16.08			
Pakistan	15.40			
India	14.88			
Thailand	13.17			
PRC	11.33			
Malaysia	9.92			

**Table 11 Comparison of Average Duties on Textile/Apparel Exports to the US Market (2005)**

Source: FIAS (2006)

Recently labour issue has become the primary concern for TPT industry. Labor productivity and rigid labor market and policies cause accelerated increases in labor costs, and undermine Indonesia’s low labor cost advantage – particularly for the TPT industry. Provincial minimum wages set by governors have increased sharply about 8.19% to 19.1% during 2008-2013. Labour costs comprise the second largest expenditure for labour-intensive manufacturing firms. Table 12 shows that labour costs accounted for about 13.3 and 17.4 percent of total costs for textile and garment industry respectively, relatively lower than other labour intensive manufacturing industry in Indonesia (23.6 percent). The annual increase in regional minimum wages is considered by many TPT firms as unrealistic since it increases cost of production significantly. The policies have created the incentive for firms to use contracted employees rather than new employee hires.



No	Cost	Textile	Garment	Footwear	Furniture	Electronics	Woods & Bamboo	Grand Average
1	Raw Material	63.3	55.5	46.2	44.4	53.6	54.2	51.5
2	Labour	13.3	17.4	25.3	34.5	16.5	24.0	23.6
3	Central Tax	2.0	2.8	5.3	3.9	5.6	4.2	4.3
4	Local Taxes/charges	2.0	2.2	3.2	3.2	6.0	4.0	3.8
5	Transport	3.3	3.1	5.4	2.7	2.5	3.8	3.6
6	Engine	5.6	3.3	2.5	2.2	4.4	2.5	3.0
7	Gasoline	3.8	2.7	1.5	3.0	2.8	2.5	2.5
8	Lobbying Cost	1.5	2.0	2.1	1.4	3.2	2.5	2.3
9	Telephone	1.4	1.6	1.8	2.5	1.9	2.2	2.0
10	Water	0.4	1.9	1.5	1.7	1.9	2.8	2.0
11	Others	3.7	8.1	11.4	2.9	4.6	3.9	5.9

**TABLE 12 Cost Structure of Labour-Intensive Manufacturing Industries in Indonesia**

Source: Compiled from field surveys

The other biggest challenge facing the TPT industry is old machineries. According to Ministry of Industry, about 80% of 8.38 million unit machineries in 2006 were more than 20 years old. Productivity declined to half. In the spinning industry around 64% of the machineries (5.02 million of 7.8 million spinning needles) are 20 years old where in the weaving industry around 82.1% (204 thousand of 248 thousand), in the knitting industry around 84%, in the finishing industry around 93% and in garment industry around 78%. With that condition, productivity of TPT industry is estimated to drop 50%. To restructure those old machineries, the industry needs Rp. 44.07 trillion comprising of Rp. 13.26 trillion for spinning industry, Rp. 8.07 trillion for fiber industry, Rp. 20.9 trillion for weaving, knitting and finishing industry, and Rp. 1.84 trillion for garment industry.

## 6. Conclusions

This paper has examined the nature, role, clusters, and challenges of the Indonesia's TPT industry. It has also highlighted industrialization and sectoral changes in Indonesia since 1968. The role of the TPT industry in Indonesia has been identified by examining the upstream and downstream in the TPT industry. The industry has played an important role in as its products are always on the top ten Indonesia's non-oil exports. Major clusters in the Indonesian TPT are concentrated geographically in 5 provinces in Java island. The last section of the paper has summarized some key challenges in Indonesia's TPT sector. In particular, it evaluates challenges facing Indonesia's TPT industry in the face of new competitions from abroad. A special emphasis is put on assessing Indonesia's competitiveness relative to its main competitor in the industry.

In the future, it is predicted that the consumption of TPT will be increasing each year, in line with the world population growth and the demand driven by lifestyle. For the export market, it is projected that until December 2011, the export value of the TPT industry will reach US\$ 12.5 billion, or in other words growing at the rate of 12.6%. For the domestic market, if there is no major change in the business climate as they were in the previous years, the domestic market will still be filled with TPT import products. Therefore it is predicted that in 2011 the

supply of garment contributed by the local garment industry will only reach 45%, or sales valued at 45 trillion Indonesian Rupiahs (Table 13).

Million US\$	2008		2009		2010 Est.		2010 Final		2011 Forecast.	
		%08/07		%09/08		%10/09		%10/09		%11/10
Textiles+Fiber	4,128	-1.0	3,603	-10.5	4,549	26.3	4,722	31.1	5,171	13.2
Clothing	6,016	7.5	5,659	1.1	6,674	17.9	6,500	14.9	7,389	11.0
(Textile+Fiber) & Clothing	10,399	3.9	9,262	-3.5	11,223	21.2	11,223	21.2	12,559	11.9

**TABLE 13 Export Value and Growth of TPT Industry, 2008-2011**

Source: API (2011)

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