



## Measuring Export Competitiveness of Yarn Commodities and Textile Industry of Central Java in World Market

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Permalink/DOI: <http://dx.doi.org/10.15294/jejak.v9i2.7629>

Received: Februari 2016; Accepted: March 2016; Published: September 2016

### Abstract

*Yarn commodities and textile industries are the main export commodities of Central Java. Nevertheless, there are still some problems to face. The purpose of this research is to analyze the market share and competitive advantages position of the yarn commodities and the textile industries of Central Java in the world market. The Acceleration Ratio (AR) and Trade Specialization Index (TSI) are used to analyze the export competitiveness of the yarn commodities and the textile industries. The results obtained indicates that AR of the export of yarn commodities and textile industries of Central Java is greater than 1 ( $AR > 1$ ). TSI of yarn commodities and textile industries in Central Java is 0.45 and has positive value. These results indicates that Central Java has a strong market share and tends to be a regional exporter of yarn and textile commodities in the world market.*

**Keywords:** Export competitiveness, yarn and textile commodities, acceleration ratio, trade specialization index

**How to Cite:** Ikasari, H., & Ngatindriatun, N. (2016). Measuring Export Competitiveness of Yarn Commodities and Textile Industry of Central Java in World Market. *JEJAK: Jurnal Ekonomi Dan Kebijakan*, 9(2), 261-276. doi:<http://dx.doi.org/10.15294/jejak.v9i2.7629>

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## INTRODUCTION

The foreign trade plays an important role in actuating the economy because it is not only the foreign exchange earner but also the employment provider. Besides, the foreign trade also has a multiplier effect in other sectors besides the agriculture, mining, industry, service, and finance. Considering the importance of foreign trade in the economy, the foreign trade activities become one of the backbone of the national economy (Department of Commerce, 2005).

The economic growth of Central Java Province after 1999 always grows positively, which is determined by a variety of macro indicators, including non-oil and gas exports that tend to increase. The government policies to encourage the exports, especially non-oil and gas exports strongly support the health of the economy of Central Java. One effort to reduce the sensitivity level of Central Java's economy on overseas economic turmoil is by steering the government policy on diversification of non-oil and gas exports (Rejekiingsih, 2012).

The foreign sector plays an important role in the economy of Central Java Province. In Table 1, it is seen that during 2006 to 2010 the value of exports and imports fluctuated. Similarly, the contribution of exports and

imports value on the total national of exports and imports also fluctuated. Although the value of exports and imports fluctuated, the economy of Central Java Province could be said to be an opened economy. Consequently, the changes or fluctuations in the world trade will affect economic activity in Central Java. The sensitivity of Central Java economy is still aggravated by the fact that the exports only consist of a group of goods, with the oil as the highest export earner (Rejekiingsih, 2012).

By sector, the export of industrial products is the biggest contributor of Central Java's non-oil and gas export revenues, especially for the yarn commodities and the textile industries. In Table 2, it is seen that the value of exports commodities of Central Java mostly increased from 2009 to 2010, except for the mining and quarrying commodities that decreased. Commodities that had the largest contribution on the total exports of Central Java were the yarn commodities and the textile industries amounted 40.7% in 2010. It can be said that the yarn commodities and the textile industries are the export concentration of Central Java Province.

TPT industry is the industry which role cannot be ignored. There are about 98,000 units of small and medium enterprises (SME) that pursue this industry.

**Table 1.** The Percentage of Exports and Imports value in Central Java on Indonesian Total Exports and Imports in Year 2006-2010 (Million US \$).

Year	Export Value			Import Value		
	Indonesia	Central Java	%	Indonesia	Central Java	%
2006	100,798.6	3,114.7	3.09	61,065.5	6,266.5	10.26
2007	114,100.9	3,469.7	3.04	74,473.4	7,006.8	9.41
2008	137,020.4	3,272.2	2.39	129,197.0	9,292.1	7.19
2009	116,510.0	3,066.5	2.63	96,829.2	6,331.0	6.54
2010	157,779.1	3,868.6	2.45	135,663.3	9,645.1	7.11

Source: Central Bureau of Statistics

The data shows that SME-TPT is able to provide 490,000 employments with the production value of 14.7 billions and the exports of US\$ 900 millions. The large-scale industry in this business is generally the labor intensive and relies on the cheap labors. The total employment of TPT industry is estimated to reach 3.2 millions. In short, TPT industry has an important role in absorbing the labors, creating the added value, and generating the foreign exchange. It is not exaggerating to mention TPT industry as the belle of non-oil and gas exports and the employment provider in Indonesia (Kuncoro, 2007).

In order to build a strong and high competitiveness yarn and textile industry, there are many challenges or problems that

must be faced. The first problem, Central Java's exports are concentrated on certain export markets, namely the United States that is vulnerable to the economic turmoil and the global financial. The second problem, the invasion of imports from China. Similar products from China set much lower price with the same quality. In the development of the past few years, the yarn and textile industries experience slower exports growth than the main competitor countries like China.

The above shows that the yarn and textile industries of Indonesia in general and Central Java in particular should have higher competitiveness in order to be able to compete with similar industries from the competitor countries like China.

**Table 2.** The Value and Percentage of Export Commodities Group of Central Java in Year 2009-2010 (US \$)

No	Comodity	2009		2010		Changes
		Value	%	Value	%	%
01	Husbandry	88.279.980	2,88	94.511.740	2,44	7,06
02	Farming and Forestry	101.779.406	3,32	108.298.282	2,80	6,40
03	Mining and Quarrying	33.980.469	1,11	8.662.674	0,22	-74,51
04	Food, beverage, and tobacco industry	82.424.937	2,69	95.556.610	2,47	15,93
05	Yarn and textile industry	1.163.164.754	37,93	1.572.524.432	40,7	35,19
06	Wood, cork and straw	432.998.973	14,12	529.819.261	13,7	22,36
07	Paper industry	29.733.454	0,97	42.869.900	1,11	44,18
08	Leather and bark industry	11.635.234	0,38	14.633.909	0,38	25,77
09	Chemical, plastic and rubber industry	142.230.482	4,64	184.659.747	4,77	29,83
11	Refined fuel oil	181.162.818	5,91	194.549.112	5,03	7,39
12	Private equipments	18.579.211	0,61	19.682.864	0,51	5,94
13	Mineral and rock industry	64.415.039	2,10	67.246.292	1,74	4,40
14	Metal industry	18.402.170	0,60	24.225.733	0,63	31,65
15	Machinery, electricity and electronic industry	103.689.304	3,38	132.634.988	3,43	27,92
16	Vehicle dan spare part	302.814	0,01	1.003.314	0,03	231,33
17	Other industry	593.680.487	19,36	777.712.683	20	31
	TOTAL	3.066.459.532	100	3.868.591.541	100	26,16

Source: Central Bureau of Statistics

It is more difficult for the TPT products to enter the world market due to the declining competitiveness, especially with the emergence of the new competitor countries using the new technology, so that the value of Indonesian exports tends to be stagnant (about USD 7-8 MM/ year), while the market share of Indonesia is only about 2% of the world market share (BKPM, 2011).

The competitiveness of TPT industry can be seen from various aspects those are the competitiveness based on the price and the competitiveness based on the quality. In the price competitiveness, Indonesian's TPT is lost because of the increase in cost structure. The increase in cost structure faced by TPT industry, among others are, the increase in provincial minimum wage (UMP), the increase in fuel prices due to the policy of reducing subsidized fuel, the increase in electricity basic tariff. The UMP increase would be felt by TPT industry, especially the garment industry since it is the labor-intensive industries (BKPM, 2011).

Competitiveness is the ability of a commodity to enter the foreign market and the ability to survive in the market, in the sense that if a product has the competitiveness, the product is exactly what many consumers demanded (Tambunan, 2011). Based on Martin (Widodo, 1991 in Rejekiingsih, 2012), two indicators that can be used as a measurement of competitiveness are profit and market share. Great profit level indicates that the industry is capable of creating efficiency and effectiveness in the production process that is seen in the increase of production capacity. High production capacity can meet the demand of its market share, expand the market share, and increase the profits. With the condition of maximum

benefit and comprehensive coverage of market share, the industry is able to outperform its competitors and demonstrate the ability of pretty good competitiveness.

According to Michael Porter, in the era of global competition nowadays, a nation or a country that has competitive advantage of nation may compete in the international market when it has four determining factors, among others: endowment (supporting) factor or factor conditions, demand conditions, relating and supporting industries and firm strategy structure and rivalry (Ekananda, 2015).

Endowment (supporting) factor is the condition of production factors such as skilled labors or infrastructure needs to compete in the industry. Porter distinguished between the basic factors (H-O theory) and advanced factors (infrastructure of a country). Disadvantages gift of nature have led the nations to invest in the creation of advanced factors, such as education, labor force, free port and advanced communication system, to allow their industries to compete globally (Ekananda, 2015).

Demand condition is the demand for the products and services in the country. Porter stressed that home demand plays a role in improving the quality of competitive advantage. The companies are most sensitive to the needs of their immediate customers. Porter argued that it is the national company's competitive advantage if their domestic consumers are advance and demand, forcing the company to have high standard on the product quality and to produce innovative models (Ekananda, 2015).

Relating and supporting industries (supplier) is the presence of suppliers and similar industries that are internationally very

competitive. The advantages of investing in the factors of advanced production by the related and supporting industries can pour out into an industry, thus helping them to achieve a strong and competitive position internationally (Ekananda, 2015).

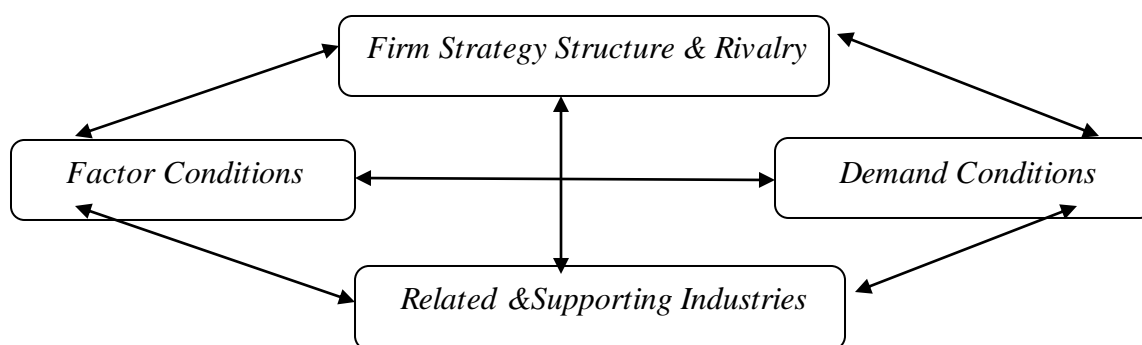
Firm strategy structure and rivalry (strategy, structure and rivalry of companies). The governance conditions shape how the companies are created, organized, managed and understand the conditions of domestic competition. Porter also stipulated that the governance may influence each componen of the diamond (Ekananda, 2015). The Diamond-Porter scheme can be seen in Figure 1. (Ekananda, 2015).

Judging from the existence of the advantages in competitiveness, the advantages competitiveness of a commodity are classified into two kinds those are natural advantage/absolute advantage and developed advantage (*acquired advantage*). At this time the natural advantages or absolute advantages possessed by a country for one of its commodity do not directly cause these commodities dominate the world market share because the number of producers is not only one country, but there are some countries that also produce these

commodities with the same natural advantages conditions. To be able to compete in the world market, a commodity must have other advantages besides the natural advantages that is competitive advantage. The competitive advantage of a commodity is an advantage that can be developed, so this advantage should be created to be able to have it.

Comparative advantage is a central concept in the international trade theory, which states that a country or region should specialize in the production and export the goods and services that can be produced at the cost relatively more efficient than other goods and services; and import the goods and services that do not have comparative advantage.

This theory was first proposed by David Ricardo in 1817 as a basis for improving the economic welfare of the population through international trade. The theory of comparative advantage generally supports the specialization of production in a country based on the intensive utilization on the basis of production factors which is relatively dominant owned included the accumulation of physical capital and research (Salvatore, 2014).



Source: Ekananda, 2015.

Figure 1. Diamond-Porter Scheme.

According to David Ricardo (Hady, 2009), the trade can be done by the countries that do not have an absolute advantage in both commodities traded by conducting product specialization in which its absolute loss is smaller or having comparative advantages. This is known as the Law of Comparative Advantage. Comparative advantage is divided into cost comparative advantage (labor efficiency) and production comparative advantage (labor productivity). According to the cost comparative advantage (labor efficiency) theory, a country will get a benefit from the international trade if conducting a specialization in the production and exporting goods where the country can have more efficient production and importing goods where the country is relatively less productive or not efficient. Based on the production comparative advantage (labor productivity) analysis, it can be said that a country will get a benefit from the international trade if conducting a specialization in the production and exporting goods where the country produces more productively and importing goods where the country produces relatively little or not productive. In other words, the cost comparative advantage emphasizes that the comparative advantage will be achieved if a country produces a product that requires less amount of labor hours than other countries resulting in production efficiency. The production comparative advantage emphasizes that the comparative advantage will be achieved if a labor in one country can produce more goods / services compared to other countries so that does not require more labors. Thus trading profits are earned if a country conducting a specialization on goods that have cost comparative advantage and production advantage or by exporting goods that its comparative advantage is high and

importing goods that its comparative advantage is low.

In the export of a country, either the whole or part, the values are the goods and services produced in the country. There are many factors that will determine a country's ability to export the goods produced and basically the export interests in a country are always different from other countries. In some countries, the exports are very important, which covers a significant portion of the national income. But in some other countries, its role is relatively little (Sukirno, 2013).

A country can export its goods production to another country if the goods are needed by other countries and they cannot produce the goods or the production cannot meet the domestic needs. Another factor is the ability of the country to issue the goods that can compete in foreign markets. It means that the quality and price of the goods exported must be at least as good as those sold in the foreign markets. The taste of the people abroad on the goods exported abroad is very important for its role in determining a country's exports. In general, it can be said that the more types of goods that have such privileges produced by a country, the more exports that can be conducted (Sukirno, 2004).

There are some researches that discuss the competitiveness of a commodity, among others, Yi and Shin (2014), Sarwono and Pratama (2014), Mirela (2013), Rejekiningsih (2012), Kellman and Shachumurove (2012), Lubis and Nuryanti (2011), Oktaviani et.al (2008), Suprihatini (2005), Veronika (2008), Turukay (2010). Suprihatini's research (2005) is about the export competitiveness of the Indonesian tea in the world tea market by using the Constant Market Share (CMS). Oktaviani et.al (2008) studied the integration

of trade and the dynamics of Indonesian exports to the Middle East (Case Study: Turkey, Tunisia and Morocco) using IIT and CMS. Veronika (2008) investigated the performance of the Indonesian batik export by using RCA and ISP. Turukay (2010) examined the export competitiveness of Indonesian copra in the world market by using RCA, AR, ISP and trend analysis. Lubis and Nuryanti (2011) examined the impact of CAFTA and cocoa trade policy in the domestic market and China. While Rejekiningsih (2012) discussed the export concentration of Central Java province by using the Revealed Comparative Advantage (RCA) Index, Constant Market Share (CMSA), and Net Export Share (NXS). Kellman and Shachumurove (2012) examined Montenegrin Trade specialization index by using Trade Specialization Index (TSI). Mirela (2013) conducted a research on Evaluation of the Romanian Agricultural Products Specialization In The Intra-Sectoral Foreign Trade by using RCA and TSI. Sarwono and Pratama (2014) examined the factors affecting the competitiveness of Indonesian soybean from 1983 to 2013 by using the Ordinary Least Square.

Based on the background and the formulation of the problem above, the objectives to be achieved in this research are to analyze the advantages of the market share and the competitiveness position of the yarn commodity and textile industry of Central Java in the world market.

## RESEARCH METHODS

The data used in this research is secondary data obtained from the Central Bureau of Statistics of Central Java Province. The secondary data used are data of export and import values of yarn commodities and textile

industry with Harmonized System (HS) code of Central Java Province in 2006-2011.

The classification of the textile industry and textile products (TPT) is based on the trading using The Harmonized Commodity Description and Coding System abbreviated HS (Harmonized System) that is the result of the Custom Cooperation Council of all GATT members.

The analysis tools used are the Acceleration Ratio (AR) and Trade Specialization Index (TSI). The Acceleration Ratio (AR) indicates whether a country can seize the overseas markets (in the sense of being able to defeat the competitor countries) or its position in the export market or the domestic market is getting weak. The Acceleration Ratio is the ratio of acceleration or ratio of increasing speed. The use of acceleration ratio index or the ratio of increasing speed is to indicate whether a country can seize export market (in the sense of being able to defeat the competitor countries), or its position in the export market or in the domestic market is getting weak. Mathematically, AR index can be calculated as follows (Tambunan, 2004).

$$AR = \frac{(\text{trend}X_{ij}) + 100}{(\text{trend}M_{ij}) + 100} \quad (1)$$

In which:

$X_{ij}$  : The commodity's export value of  $i$  country /  $j$  region

$M_{ij}$  : The commodity's import value of  $i$  country /  $j$  region

If the value is close to or greater than 1, it means that Central Java can seize export markets for the yarn and textiles commodities, smaller than 1 or close to 0 means the position of Central Java is weak; and if it is smaller than 0 or close to -1, it means that there are other countries that

capture the export market share of yarn and textile commodities of Central Java.

Trade Specialization Index is used to analyze the position or the development stage of a product. This TSI can describe whether for a type of product, Indonesia tends to be an exporter or importer country. Mathematically, it can be formulated as follows: (Tambunan, 2004)

$$TSI = (X_{ij} - M_{ij}) / (X_{ij} + M_{ij}) \quad (2)$$

In which:

$X_{ij}$  = The commodities' export value of  $i$  country /  $j$  region

$M_{ij}$  = The commodities' import value of  $i$  country /  $j$  region

TSI index values between is  $-1$  and  $+1$ . If the value is positive (above  $0$  to  $1$ ), then the yarns and textiles commodities are said to have strong competitiveness or Central Java tends to be the exporter of yarn and textile, on the other hand if the index value is negative (below  $0$  to  $-1$ ), it means that the competitiveness of the yarns and textiles commodities of Central Java is low or Central Java tends to be the importer country.

The TSI index can also be used to identify the growth rate of a commodity in a trade which is divided into five stages, as follows:

1. Recognition stage ( $-1 < TSI < -0.5$ )

When an industry (forerunner) in a country (call it A) exports new products and industry of recent migrant (latecomer) in country B imports these products.

2. Import substitution stage ( $-0.5 < TSI < 0$ )

At this stage, the industry in country B shows the very low competitiveness because the production level is not high enough to achieve its economic scale. The industry exports the products with less

good quality and the domestic production is still smaller than domestic demand. In other words, for these commodities at this stage country B imports more than exports.

3. Export expansion (growth) stage ( $0 < TSI < +0.8$ )

Industry in country B conducts large-scale production and starts to increase its exports. In the domestic market, the bidding for these commodities is greater than the demand.

4. Independence (maturity) stage ( $0.81 < TSI < 1$ )

At this stage, the product is already at the stage of standardization regarding the technology contained. At this stage, country B is the net exporter.

5. Re-import ( $1 > TSI < 0$ )

At this stage, the industry in country B losses in competing in the domestic market with the industry of country A, and its production in the country is less than domestic demand.

## RESULTS AND DISCUSSION

Broadly speaking, TPT industry includes three sections (a) the upstream sector, (b) the intermediate sector and (c) the downstream sector (BKPM, 2011):

a. Upstream Sector

Included in the fibers and yarns industries are:

- Natural fibers industry, which produces the natural fibers such as cotton, silk, hemp, wool etc,
- Staple artificial fibers industry, which processes PX, PTA, MEG and wood pulp into short fibers such as polyester, nylon, rayon etc,
- Filament yarn industry, which processes PX, PTA, MEG and wood pulp



into filament yarns such as polyester, nylon, rayon etc,

- Spinning industry, which produces the yarns from the raw material such as
- artificial fibers or natural fibers or the mixture of both
- Yarn dyeing industry to give color effect on the yarn.

The upstream sector is a relatively capital intensive industry; high technology content ; large-scale and uses automatic machinery and the added value is the greatest.

#### b. Intermediate industry

Included in the intermediate industry is an industry that produces cloth, among others are:

- Weaving industry, which processes yarn into raw woven fabric (*grey fabric*),
- Knitting industry, which processes the yarn into raw knit fabric (*grey fabric*),
- Dyeing industry, which processes the raw fabric into semi-finished cloth by giving the color pattern effect on the cloth,
- Printing industry, which processes the raw fabric into semi-finished cloth by giving the color pattern effect on the cloth,
- Refinement (*finishing*) industry, which processes semi-finished cloth into finished cloth (*finish fabric*),
- Non-Moven industry, which processes the fiber or yarn into cloth either by the process of weaving or knitting

The nature of the semi industry in capital, intermediate, and modern technology continues to grow and the number of their employees is greater than the upstream industry sectors. This segment is also solid capital but absorb more labors than the upstream sector. The printing segment

emphasizes the aspect of creativity while dyeing segment management of waste management that requires large amount of cost is needed.

#### c. Downstream industry

Included in the downstream industry is an industry that produces finished textile goods of people consumption, among others are:

- The apparel (*garment*) industry, which processes finished fabric into garments both knit and woven fabrics,
- Embroideri industry, which gives motive or pattern effect on finished fabric or finished textile goods,
- Other textile products industry, which processes finished fabric into other textile products other than garment

Apparel manufacturing industry (*garment*) includes the process of cutting, sewing, washing, and finishing that produces the ready-mode garment. This sector absorbs the most labors so the nature of the industry is labor intensive.

Java remains the priority of TPT industry development because of the support infrastructure, the availability of energy and the availability of skilled labor. On Java island, TPT industry in fact has formed industrial clusters ranging from upstream, intermediate and downstream agglomerate in a particular area as seen in the South Bandung, Cimahi, Pekalongan, South Semarang, Solo Raya and Tangerang.

Banten, Central Java and East Java are prioritized for the development of supporting industries such as artificial fiber industry. To develop the artificial fiber industry needs sufficient water, quite extensive location, quite a lot of energy and waste disposal facilities.

The development of dyeing, printing and finishing (textiles intermediate) industries are directed to the area of Banten, West Java, Central Java and Yogyakarta. For the development of this industry needs enough water, quite extensive location, supporting energy and waste disposal facilities.

From regional perspective, in recent years there is a trend of relocation of TPT industry from the western part of Java to Central Java. Central Java region that becomes the focus of TPT industry development, among others are Semarang, Sukoharjo and Sragen. Central Java becomes the choice for the relocation of TPT industry from the western part of Java for several reasons, among others (BKPM, 2011):

- Infrastructure in Central Java is still good
- Local government policy. Investment policies in Bandung, especially in TPT sector is considered not conducive since the industry is considered disturbing the surrounding community.
- The awareness of the bureaucrats on the importance of investment services in the region help accelerate the realization of the investment.
- The implementation of regional autonomy in Central Java, especially in Sragen, Karanganyar and Sukoharjo which become the center of TPT industry is good enough in which the local government is very supportive for the new investment. For example, in Sragen, investment licenses only takes 3 days.
- Surakarta government policy that supports the development of TPT industry in Central Java:
  1. Exemption levy permit for small, medium, and large industries.

2. The use of domestic production, especially for employees of the Government of Surakarta, three days in a week of working time.

- The differences in provincial minimum wage levels reaches about 30%. Because the level of industrialization in West Java is more advanced than in Central Java.
- Problems of working culture: in West Java, the position of the labor union is so dominant that often hamper the effectiveness of the company. While the position of labor union in Central Java has not been so significant that is supported by more diligent character of the labors.

In terms of products, TPT industry in Central Java is more specialized in the segment of medium low in which their products are more simple that rely on the middle market

share. To anticipate the growing need for human resources ready to work for the garment industry in Central Java, the Government of Central Java Province in 2008 founded the Center for Human Resources Development and IKM Product based on Central Java Governor Regulation No. 37 year 2008 dated June 20, 2008. The center currently managed by the Department of Industry and Trade (Disperindag) of Central Java has already scored thousands of ready to work labors.

During this time the garment industry sector in Central Java has provided substantial contribution, which is about 14% of the local revenue (PAD). The garment industry in Central Java which conducts relocation or expansion businesses to Central Java requires ready to work human resources. Textile and apparel industries are priority of industrial sector in Central Java province. Data from Disperindag Central Java showed that in 2009

in textile industry sector there were 718 business units that were able to absorb 154,964 workers and produced an output of Rp 30.531 billions. While the apparel sector in the same year there were 913 business units that absorb 95,236 workers and produced an output of Rp 9.35 billions.

The development of Central Java exports both oil and gas and non-oil and gas can be seen in Table 3 below. Based on Table 3, Central Java total export value in 2007 amounted to 3,469.65 million USD, consisted of non-oil and gas exports amounted to 3,122.46 million USD with the role of 89.99 percent on the total value of exports and the rest of 347.19 million USD from exports oil and gas. When compared to the total value of Central Java exports in 2006 that reached 3,114.75 million USD, an increase of 354.90 million USD is seen, or increase 11.39%.

**Table 3.** Oil and Gas and Non-Oil and Gas Exports of Central Java 2006-2011 (million US\$)

Year	Eksport Value (million US\$)	
	Oil and Gas	Non Oil and Gas
2006	215.47	2,899.27
2007	347.19	3,122.46
2008	111.88	3,185.38
2009	181.16	2,885.30
2010	194.55	3,674.04
2011	431.93	4,691.52

Source: Central Bureau of Statistics

While oil and gas exports increased 131.72 million USD, or increase 61.13%. The total value of Central Java exports in 2008 was recorded 3,297.25 million USD, consisted of non-oil and gas exports amounted to 3,185.38 million USD with the role of 96.61% to the total value of exports and the rest of 111.88 million USD from exports of oil and gas. When compared to the total export value of

Central Java in 2007 reaching 3,469.65 million USD, reflecting the drop of 172.40 million USD or a decrease of 5.23%. In such circumstances, the export value of non oil and gas increased by about 62.91 million USD, or increase about 1.98%. While the oil and gas exports decreased to 235.31 million USD or decreased 210.33%.

The total export value of Central Java in 2009 was 3,066.46 million USD, consisted of non-oil and gas exports amounted to 2,885.30 million USD with the role of 94.09% to the total value of exports and the rest of 181.16 million USD from the exports of oil and gas. When compared to the total export value of Central Java in 2008 that reached 3,297.25 million USD, a decrease of 7.00% is seen. In such circumstances, the export value of non oil and gas increased by about 38.25%, while oil and gas exports decreased 10.40%.

The total exports value of Central Java in 2011 amounted to 4,691.52 million USD, consisted of non-oil and gas exports amounted to 4,259.59 million USD with the role of 90.79% to the total value of exports and the rest of 431.93 million USD from the exports of oil and gas. When compared to the total export value of Central Java in 2010 that reached 3,868.59 million USD, an increase of 21.27% is seen. In such circumstances, the export value of non oil and gas increased by about 15.94%, while oil and gas exports increased 122.02%.

The development of Central Java import both oil and gas and non-oil and gas can be seen in Table 4 below.

Based on Table 4, the value of Central Java imports in 2007 amounted to 7,006.79 million USD, increased 11.81% from 2006. The value consisted of oil and gas commodities amounted to 5,502.04 million USD and the remaining non-oil and gas amounted to

1,504.75 million USD. Both of these commodities increased respectively by 5.13% and 45.67% from the previous year.

**Table 4.** The Imports of Oil and Gas and Non-Oil and Gas of Central Java 2006-2011 (million US\$).

Year	Ekspor Value (Million US\$)	
	Oil and Gas	Non Oil and Gas
2006	5,233.54	1,033.00
2007	5,502.04	1,504.75
2008	6,838.45	2,453.61
2009	3,861.85	2,469.19
2010	5,573.41	4,071.64
2011	8,558.99	4,468.07

Source: Central Bureau of Statistics

The value of Central Java imports in 2009 amounted to 6,331.04 million USD, decreased 31.87% from 2008. The value consists of oil and gas commodities amounted to 3,861.85 million USD and the remaining non-oil and gas amounted to 2,469.19 million USD. Oil and gas commodities decreased in the value of imports amounted to 43.53%, while non-oil and gas increased 0.64% from the previous year.

The imports value of Central Java in 2011 amounted to 13,027.06 million USD, increased 35.06% from 2010. The value consisted of oil and gas commodities amounted to 8,558.99 million USD and the remaining non-oil and gas amounted to 4,468.07 million USD. Oil and gas commodities increased the value of imports amounted to 53.57%, while non-oil and gas increased 9.74% from the previous year.

Here is the development of yarn and textile industry commodities exports of Central Java from year 2006 to 2011. Based on Table 5, it is seen that the exports value of yarn and textile industry commodities

fluctuated. The highest export value was in 2011, which amounted to US\$ 1.864.521.024.

**Table 5.** The Export Value and Percentage of Yarn and Textile Industry Commodities of Central Java Year 2006-2011 (US \$)

Year	Value	%
2006	1,193,905,055	38.33
2007	1,309,419,321	37.74
2008	1,211,182,599	36.74
2009	1,163,164,754	37.93
2010	1,572,524,432	40.65
2011	1,864,521,024	39.74

Source: Central Bureau of Statistics

While in 2009, the exports value of yarn and textile commodities decreased due to the global economic crisis that hit the United States and Europe. Similarly, the contribution of yarn and textile industry commodities exports to total exports fluctuated. The highest contribution of exports was in 2010, amounted to 40.65%.

Based on the commodity groups of the yarn and textile industry based on HS 2 digit code, the goods and not knitted clothing accessory commodity has the largest export value compared to the others (Table 6). While based on the export main destination country, U.S takes over approximately 40 percent share of Central Java textile export (shown in Table 7).

Below is the import development of yarn and textile industry commodities of Central Java from year 2006 to 2011. Based on Table 8, the greatest imports value was in 2011, which amounted to 1.025.69 million USD. Based on the commodity group of yarns and textile industries, cotton commodity was the most imported commodity (Table 9).

**Table 6.** Central Java Export According to Code HS 2 Digit 2007-2011 (USD)

Code HS 2 Digit	Notes	2011	2010	2009	2008	2007
50	Silk	8,261	21,606	233	2,952	443
51	Wool, animal's feather, yarn, horse feather and woven cloth	1,800,959	2,383,403	212,694	578,428	6,800
52	Cotton	153,297,543	148,246,045	108,059,212	152,006,367	189,324,235
53	Textile and other natural fibers	187,772	53,920	60,337	91,352	158,245
54	Artificial filament	187,127,722	171,963,578	164,545,839	146,947,338	167,564,869
55	Artificial dotted fibers	520,560,837	433,948,551	258,126,615	284,777,813	330,642,040
56	Wadding, non wovens felt, special yarns or spun	1,262,076	20,494	21,851	274,795	2,177,046
57	Carpets and other coverings textile	152,439	538	47,456	89,307	40,637
58	Special woven fabrics, embroidery tapestry and lace	835,578	1,914,259	1,671,506	2,101,295	1,460,584
59	Coated textile fabrics, suitable for industry	1,250,456	266,251	125,529	544,403	2,390,871
60	Knitted and crocheted fabrics	370,321	103,363	220,170	254,779	299,385
61	Goods and not knitted clothing accessories	180,816,079	137,738,116	132,576,908	136,447,645	127,037,911
62	Goods and not knitted clothing accessories	723,303,653	607,358,125	450,279,272	413,173,890	406,719,076
63	Other finished textile goods, finished textile	95,333,751	70,895,418	47,419,954	73,893,962	81,597,179

Source: Central Bureau of Statistics

**Table 7.** The Export Main Destination Countries of Yarn and Textile Industry Commodities of Central Java Year 2006 - 2011 (US\$ Million).

Year	The Main Destination Country	Value (US\$ Million)	% Toward Group
2007	United States	410.75	31.37
2008	United States	374.09	30.89
2009	United States	372.28	32.01
2010	United States	545.88	34.71
2011	United States	602.93	32.34

Source: Central Bureau of Statistics

**Table 8.** The Import Value and Percentage of Yarn and Textile Industry Commodities of Central Java Year 2006-2011 (US\$ Million).

Year	Value	%
2006	166.93	2.66
2007	322.98	4.61
2008	618.30	6.65
2009	492.75	7.78
2010	741.59	7.69
2011	1025.69	7.87

Source: Central Bureau of Statistics, 2006-2011.

**Table 9.** Central Java Imports According to the Code HS 2 Digit 2007-2011 (USD).

Code HS 2 Digit	Notes	2011	2010	2009	2008	2007
50	Silk	2,150,494	44,583	2,107,733	5,877,606	184,282
51	Wool, animal's feather, yarn, horse feather and woven cloth	3,175,010	864,069	802,833	535,288	128,991
52	Cotton	550,846,440	401,212,005	270,466,124	412,566,239	283,404,651
53	Textile and other natural fibers	1,220,665	1,109,871	1,554,652	3,418,723	65,498
54	Artificial filament	58,517,834	41,134,427	31,691,183	35,377,247	3,042,253
55	Artificial dotted fibers	231,231,519	130,956,461	82,758,099	72,338,801	21,571,465
56	Wadding, non wovens felt, special yarns or spun	12,732,778	8,950,283	2,471,395	4,423,180	1,193,379
57	Carpets and other coverings textile	31,418	647,791	78,754	229,579	175,533
58	Special woven fabrics, embroidery tapestry and lace	12,029,744	9,218,672	8,158,108	8,212,873	587,582
59	Coated textile fabrics, suitable for industry	21,196,769	16,548,186	11,159,129	11,175,225	1,284,098
60	Knitted and crocheted fabrics	85,935,927	76,791,850	70,986,430	59,050,038	6,319,070
61	Goods and not knitted clothing accessories	19,029,150	18,703,319	5,470,426	1,062,685	866,546
62	Goods and not knitted clothing accessories	25,635,796	34,146,310	5,668,048	3,399,821	1,266,561
63	Other finished textile goods, finished textile	1,955,480	1,275,167	1,282,118	2,976,581	2,998,175

Source: Central Bureau of Statistic

While based on the main imports origin country, China is the country that the most

importing the yarns and textile industries commodities to Central Java (Table 10).

**Table 10.** The Main Import Origin Country of Yarn and Textile Industry Commodities of Central Java Year 2006 - 2011 (Million US\$).

Year	The Main Destination Country	Value (Million USD)	% Toward Group
2007	United States	91.722	28.40
2008	United States	122.71	19.85
2009	China	135.75	27.55
2010	China	247.21	33.34
2011	China	353.68	34.48

Source: Central Bureau of Statistics

Based on table 11, it indicates that AR exports commodity of yarn and textile industry of Central Java was greater than 1 ( $AR > 1$ ), it indicates that yarns and textiles commodities of Central Java had strong export market share. AR value of yarns and textiles commodities that are greater than one and positive, it illustrated the difference in the exports and imports the growth rate of yarn and textile products of Central Java in the world market, namely the exports growth rate of yarn and textile of Central Java was greater than the growth rate of imports.

**Table 11.** Acceleration Ratio of Yarn and Textile Industry Export Commodities of Central Java 2006 - 2011.

Year	AR
2006	3.25
2007	2.65
2008	2.34
2009	2.16
2010	2.04
2011	1.95

Source: Data processed

Despite having AR greater than one ( $AR > 1$ ), but AR index was getting decrease and decrease. This is because the textile products get competitor in textile imports from other countries, especially China (it can be seen in Table 10).

Since 2006 - 2011, the average Trade Specialization Index (TSI) of yarns and textiles commodities of Central Java was 0.45 and the value was positive, it means that the yarns and textiles commodities of Central Java had strong competitiveness in the export trade of the yarn and textiles commodities in the world market, or Central Java tends to be exporting areas.

Overall, it can be said that TSI of the yarn and textile industry commodity of Central Java was the stage III or stage of exports expansion (growth). This stage means that the industries in Central Java performed production on a large scale and began to increase their exports. In the domestic market, the bidding for these commodities are greater than the demand.

**Table 12.** Trade Specialization Index of Export Commodities of Yarn and Textile Industry of Central Java 2006 - 2011.

Year	ISP
2006	0.57
2007	0.77
2008	0.32
2009	0.40
2010	0.35
2011	0.29
Mean	0.45

Source: Data processed

## CONCLUSION

The Acceleration Ratio of the yarn and textile industry export commodities of Central Java is greater than 1 ( $AR > 1$ ). The Trade Specialization Index (TSI) of the yarn and textile commodities of Central Java is 0.45 and the value is positive. The results of AR and TSI indicate that Central Java has strong export market share and the industry of yarns and textiles commodities of Central Java is at the stage of export expansion (growth).

The yarns and textile industry Commodities of Central Java are concentrated on few commodities, such as: goods and not knitted clothing accessories, dotted artificial fibers, cotton, artificial filaments, goods and knitted garment equipments.

Advice that can be given is that the entrepreneurs in the textile area in Central Java should try to open the new markets besides the United States. Furthermore, the government should give the policy in favor of the employers of yarns and textiles commodities from the upstream, intermediate and downstream sectors.

The limitation of this study is the short research period. For further research, it is recommended that years of research should be added and the researchers can use other measurements to assess the exports competitiveness of yarn and textile industry commodities of Central Java, such as Constant Market Share (CMS), Intra-industry Trade (IIT), Concentration Ratio (CR), etc. Besides, the more in-depth research of each sectors in the textile industry (upstream, intermediate and downstream) needs to be done.

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