



Linkages, Multiplier Effects of Textile and Clothing Industry in Java from Global Trade Perspective: Inter-Regional Input-Output Analysis

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Abstract. This study analyzes the strategic role of the textile and clothing industry in Java through sectoral linkages and multiplier effects analysis, considering strategic risks within the context of global trade. This study uses Indonesia's Inter-Regional Input-Output (IRIO) table data according to 6 islands and 52 industries in 2016, sourced from Statistic Indonesia. The results indicate that the textile and clothing industry in Java has a backward linkage of 0.51. The multiplier output value of 1.92 indicates that every 1 million rupiah increase in final demand for this industry will drive the growth of output across all sectors by 1.92 million rupiah. Meanwhile, the labor multiplier value of 0.070 reflects the labor-intensive role of this sector and its significant potential in job creation. This condition is particularly vulnerable to changes in global trade policy, fluctuations in the price of imported raw materials, and protectionist policies in major export destination countries. For this reason, mitigation strategies are needed to maintain the sectors' stability in the face of uncertain global dynamics.

Keywords: Global Trade, Inter Regional Input-Output, Multiplier Effect, Sectoral Linkages, Textile and Clothing Industry.

1 Introduction

The textile and clothing industry is a key sector that makes a significant contribution to national economic growth. In fact, it stands as one of the 10 leading industrial commodities in Indonesia [1]. As shown in Figure 1, the textile and clothing industry contributed 0.99% to the national GDP in 2024. Furthermore, the manufacturing industry as a whole contributed 18.98% to the GDP, the highest percentage among all business sectors [2].

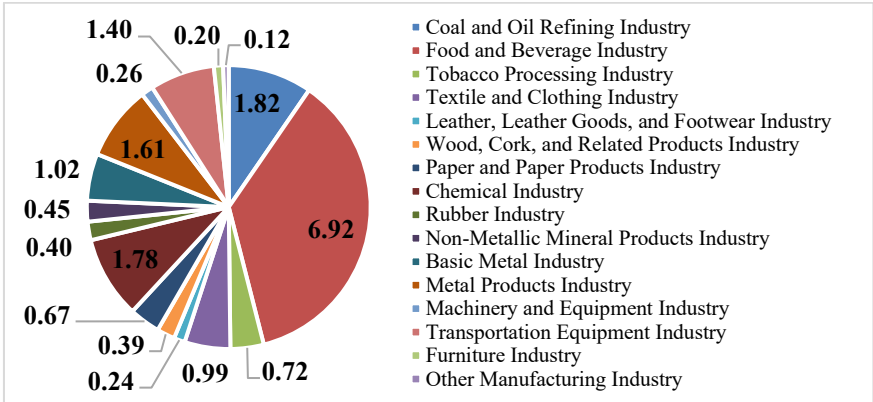


Fig. 1. Distribution of the percentage of Indonesia's GDP at current prices by business field in the manufacturing industry sub-sector in 2024 (percent) [2]

The textile and clothing industry is a major contributor to the country's foreign exchange earnings. Indonesian textile exports experienced a decline due to the COVID-19 pandemic, from US\$7,034.3 million (331,100 tons) to US\$5,799.2 million (284,600 tons) in 2020. Despite this, Indonesia remains one of the world's top 10 textile and clothing exporters [3].

The demand for Indonesia's textile and clothing industry is relatively high, thus actively absorbing labor and expanding the national export market [1] [4] [5]. By 2024, the textile and clothing sector's workforce is projected to reach 3.9 million people, accounting for nearly 20% of the total manufacturing workforce [6]. The manufacturing industry is the third-largest sector, employing 20 million people, or almost 14% of the total national workforce [7].

Indonesian textile exports contribute substantially to the United States market, with export values significantly different from those to other countries. From 2019 to 2023, the US still held the highest export value, totaling US\$18,539.3 million. The highest value was in 2022, reaching US\$4,431.3 million, or 169,900 tons [3]. This situation suggests that Indonesian textile exports are heavily reliant on the US market [8]. Examining issues in the textile and clothing industry is crucial for the sustainability and optimization of its contribution to the Indonesian economy globally.

The majority of Indonesia's textile and clothing industry activity is concentrated on the island of Java. More than 80% of national textile and textile product companies are located on Java, with West Java leading the way, with 1,700 companies in 2014 [9]. The textile and clothing industry serves as a leading sector in several provinces, including Banten, West Java, Central Java, and East Java [10]. This concentration makes Java a center for textile and clothing production and export, making the region vulnerable to external disruptions, including protectionist policies.

Considering the overall economic structure, Java accounts for 80% of Indonesia's economic activity [10]. Java's contribution to Indonesia's GDP has been the leading one for the past six years. The respective contributions of each island in 2024 were: Sumatra 22.12%; Java 40.31%; Bali and Nusa Tenggara 2.81%; Kalimantan 8.24%; Sulawesi

7.12%; and Papua and the Maluku Islands 2.68%. From 2019 to 2022, Java's contribution to Indonesia's GDP decreased from 41.34% to 39.84% and then increased again in 2023 to 40.29% [11].

Java also significantly contributes to the national economy through its high export value. In 2023, Java's export value decreased from US\$101.2 billion to US\$93 billion. It then began to increase again in 2024 to US\$101.1 billion [12] [13]. Despite this, Java's export value remained higher than that of other regions over the past three years. Textile and clothing exports are a leading sector contributing significantly to Java's exports, with the United States being one of its primary destinations.

Textile export data from Java to the United States reflects a dominant share. Four provinces dominated apparel exports to the US in 2023: West Java (US\$1,922.4 million), Central Java (US\$1,947.3 million), DI Yogyakarta (US\$84 million), and Banten (US\$108 million). In terms of percentage share of total primary commodity exports in each province, the textile and clothing industry in West Java contributed 30.83%, Central Java 52.09%, DI Yogyakarta 44.48%, Banten 6.78%, and East Java and Jakarta each contributed less than 8.5% [10]. Indonesia's textile and apparel export market, particularly in Java, remains highly dependent on the United States.

As of July 31, 2025, the United States government announced a new reciprocal tariff rate against Indonesia of 19% [14]. This policy could reduce export demand, resulting in a decline in textile and clothing production in Java [15] [16] [17] [18]. This decline in production could also impact other sectors related to the textile and clothing industry [19] [20]. If this industry experiences a shock, it has the potential to create a multiplier effect for all sectors, as well as for the sector itself [21]. Analysis of linkages and multiplier impacts is crucial for identifying the changes in sectoral output and employment during shocks in the textile and clothing industry in Java.

The Inter-Regional Input-Output (IRIO) approach is used in this study to comprehensively analyze inter-sectoral linkages and multiplier impacts, particularly in Java, the center of the textile and clothing industry in Indonesia. The IRIO approach allows analysis that not only encompasses sectors within a single region but also examines the relationships between sectors within a region and other regions through inter-regional trade mechanisms [22]. This approach is crucial because export production activities necessarily require the involvement of sectors in other regions, both as input providers and output recipients.

2 Literature Review

2.1 General Equilibrium Theory

General equilibrium theory was proposed by Leon Walras in the mid-19th century, around 1874. General equilibrium theory is an economic study that examines how supply and demand interact simultaneously in various markets [23]. This theory can describe changes from an initial equilibrium to a new equilibrium in the response to an external shock.

The general equilibrium model serves as a bridge between microeconomic and macroeconomic models, allowing for simultaneous analysis of the impact of policies [23].

During the 1930s and 1950s, the general equilibrium model developed rapidly into applied general equilibrium models, one of which is the Input-Output (IO) model proposed by Leontief in the 1930s. The applied general equilibrium model is not a theoretical application of the general equilibrium model; rather, applied general equilibrium model data, such as the IO model, were often used to support general equilibrium models after the 1950s [24].

2.2 Inter-Regional Input-Output

Inter-Regional Input-Output (IRIO) is a quantitative analysis method used to understand the economic relationships arising from the flow of goods and services between sectors and regions. The IRIO table is an extension of the Input-Output (IO) table first developed by Isard in 1951 and Chenery in 1953 [25]. The IRIO table itself contains two types of transactions, namely intra-regional and inter-regional. Intra-regional transactions are the exchange of goods and services between sectors within a single region, while inter-regional transactions are the exchange of goods and services between sectors located in different regions [26].

2.3 Textile and Clothing Industry

The textile and clothing industry is one of the oldest manufacturing sectors in the world, playing a crucial role in the global economy and driving industrialization in many developing countries [27]. The main characteristic of the textile and clothing industry is its labor-intensive nature, meaning it absorbs a significant amount of labor [28]. The textile and clothing industry plays a role in increasing non-oil and gas exports, foreign exchange earnings, public income, absorbing labor, and creating jobs in Indonesia [4]. This gives the textile and clothing industry a crucial position in the national economic structure.

3 Method

3.1 Data and Source of Data

This study uses secondary data in the form of an Inter-Regional Input-Output table of Indonesia domestic transactions based on producer prices according to 6 islands and 52 sectors in 2016 [29] and the number of laborers by 6 island groups and 52 sectors in 2024 [7] [2] [30]. The research data were obtained from the Statistics Indonesia. Data processing in this study uses Microsoft Excel.

3.2 Analysis Method

The analytical method used in this study is a quantitative one, employing Inter-Regional Input-Output (IRIO) analysis. This analysis is used to determine the inter-relationships between sectors and regions, as well as the multiplier impact of output and labor. The following is a further explanation of this analytical tool.

Inter-Regional Input-Output Analysis

The Inter-Regional Input-Output (IRIO) table is a development of the Input-Output (IO) table. The IRIO table is used to analyze transactions or trade in goods and services across multiple regions, while the IO table focuses on a single region [22]. Table 1 illustrates the Inter-Regional Input-Output table [22].

Table 1. Inter-Regional Input-Output (IRIO) table framework.

Description	Region S			Region R		Final Demand	Total Output
	1	2	3	1	2		
Region S	1	Z_{11}^{SS}	Z_{12}^{SS}	Z_{13}^{SS}	Z_{11}^{SR}	Z_{12}^{SR}	Y_1^S
	2	Z_{21}^{SS}	Z_{22}^{SS}	Z_{23}^{SS}	Z_{21}^{SR}	Z_{22}^{SR}	Y_2^S
	3	Z_{31}^{SS}	Z_{32}^{SS}	Z_{33}^{SS}	Z_{31}^{SR}	Z_{32}^{SR}	Y_3^S
Region R	1	Z_{11}^{RS}	Z_{12}^{RS}	Z_{13}^{RS}	Z_{11}^{RR}	Z_{12}^{RR}	Y_1^R
	2	Z_{21}^{RS}	Z_{22}^{RS}	Z_{23}^{RS}	Z_{21}^{RR}	Z_{22}^{RR}	Y_2^R
Total Input		V_1^S	V_2^S	V_3^S	V_1^R	V_2^R	

Linkage Analysis

Linkage analysis is used to measure the extent to which economic sectors interact and depend on each other [31]. Linkage analysis is divided into two categories: (1) forward linkage and (2) backward linkage [21]. The classical Input-Output model developed by Leontief is demand-driven, where intersectoral relationships are modeled based on responses to changes in final demand. Forward linkages are more appropriately analyzed using the Ghosh model because it is supply-driven [32]. Therefore, this study focuses on identifying sectoral backward linkages.

Direct Backward Linkage

$$B(d)_j = \sum_{i=1}^n a_{ij} \quad (1)$$

Direct and Indirect Backward Linkages

$$B(d + i)_j = \sum_{i=1}^n \alpha_{ij} \quad (2)$$

Where a_{ij} is input or technical coefficient matrix and α_{ij} is open Leontief inverse coefficient matrix [21].

Dispersion Effect Analysis

The Dispersion Effect Analysis is a method for normalizing linkage analysis [22]. There are two types of Dispersion Effect Analysis, namely (1) Index of Power Dispersion (IPD) and (2) Index of Sensitivity Dispersion (ISD). This research only focuses on IPD.

IPD for region S sector j

$$IPD_j^S = p \times \frac{B_j^S}{\sum_{j=1}^n B_j^S + \sum_{j=1}^n B_j^R} \quad (3)$$

IPD for region R sector j

$$IPD_j^R = p \times \frac{B_j^R}{\sum_{j=1}^n B_j^S + \sum_{j=1}^n B_j^R} \quad (4)$$

Where B is backward linkage and p is matrix size.

If $IPD_j^S > 1$, then sector j of region S has a strong ability to attract production growth in its upstream sector. Then $IPD_j^S < 1$, then sector j of region S has a weak ability to attract production growth in its upstream sector [22].

Multiplier Effect Analysis

This analysis is used to determine the sensitivity of output and labor to changes in final demand in a sector [33]. This analysis can identify which sectors have a broad impact on the economy, thus providing a map for sectoral poli-cy planning [22].

Output multiplier in region S sector i

$$X_i^S = \sum_{j=1}^n k_{ij}^{SS} + \sum_{j=1}^n k_{ij}^{SR} \quad (5)$$

Output multiplier in region R sector i

$$X_i^R = \sum_{j=1}^n k_{ij}^{RS} + \sum_{j=1}^n k_{ij}^{RR} \quad (6)$$

Where k_{ij}^{SS} is the element of the value of the open Leontief inverse matrix of sector i of region S with respect to sector j of region S and k_{ij}^{SR} is the value elements of the open Leontief inverse matrix of sector i of region S with respect to sector j of region R , and vice versa [22].

Before calculating the labor multiplier value, it is necessary to calculate the labor coefficient first using the following formula [22].

$$t_i = \frac{\text{Total Labor}_i}{I_i} \quad (7)$$

Where I_i is total input sector i . Based on the case study of two regions, the following is formulated [22]:

Labor multiplier in region S sector i

$$T_i^S = t_i^S [\sum_{j=1}^n k_{ij}^{SS} + \sum_{j=1}^n k_{ij}^{SR}] \quad (8)$$

Labor multiplier in region R sector i

$$T_i^R = t_i^R [\sum_{j=1}^n k_{ij}^{RS} + \sum_{j=1}^n k_{ij}^{RR}] \quad (9)$$

4 Result and Discussions

4.1 Backward Linkage Analysis

Backward linkages reflect the extent to which a sector relies on the output of other sectors [22]. The implementation of the Trump-era reciprocal tariffs, Phase II, against Indonesia directly depressed export demand for the textile and clothing industry on Java Island. This external shock not only weakened export performance but also had spillover effects on other connected sectors [19] [20]. The magnitude of the impact on a sector reflects the degree of close backward linkages with the textile and clothing industry. This linkage analysis is a crucial tool for identifying which sectors are vulnerable to the decline in global demand for Javanese textile and clothing products due to the tariff policy.

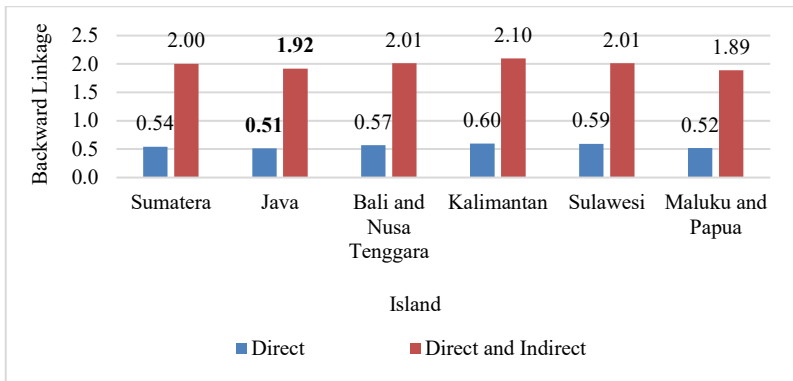


Fig. 2. Backward linkages of the textile and clothing industry by island.

Based on Figure 2, the direct backward linkages in Java Island have a value of 0.51. If there is an increase in demand (in the first round of economic activity) for the textile and clothing industry in Java Island of 1 million rupiah, then the sector requires additional direct input from other sectors or from the sector itself, amounting to 0.51 million rupiah. The direct and indirect backward linkages in Java Island have a value of 1.92 at the new equilibrium condition. The region with the most significant backward linkages in Indonesia is Kalimantan Island (0.60 and 2.10).

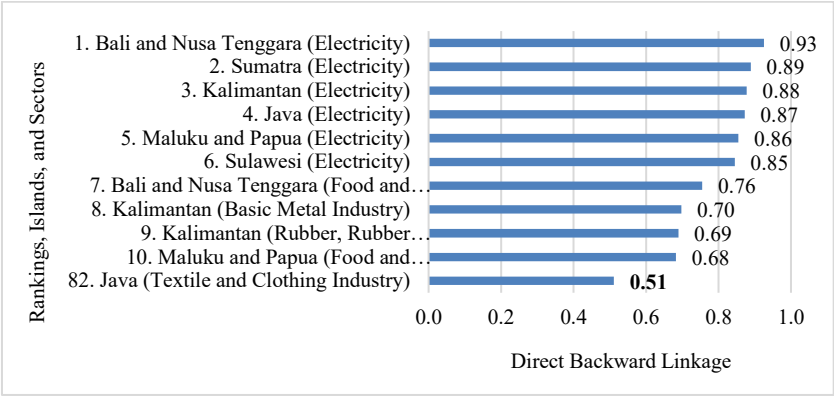


Fig. 3. Direct backward linkages to all sectors by island*).

*) Only sectors ranked 1-10 are displayed, and 82.

Figure 3 shows that the direct backward linkage value of the textile and clothing industry on Java Island is relatively high compared to other sectors in other regions. Although the value is below 1, it is higher than the average of 0.38 for all sectors across the six islands.

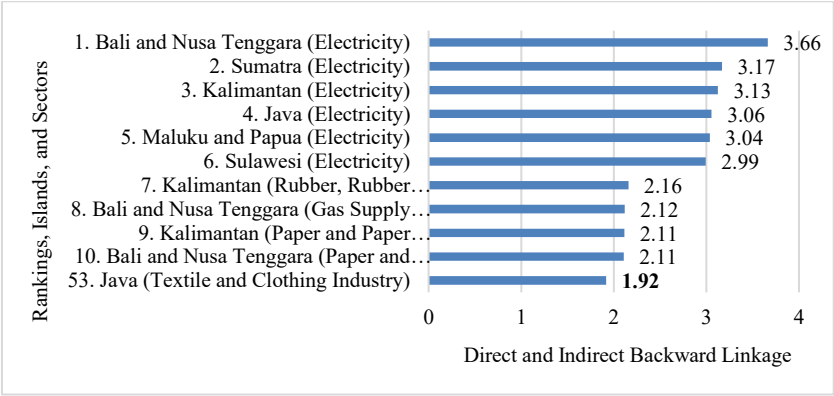


Fig. 4. Direct and indirect linkages (total) to all sectors by island*).

*) Only sectors ranked 1-10 are displayed, and 53.

Similarly, the direct and indirect (total) backward linkages in Figure 4 are above the average of 1.65. Of the 312 positions, the direct linkage value of this industry ranks 82nd and the total linkage rank 53rd. This condition indicates that the textile and clothing industry on Java Island has potential for the national economy, driving production growth in sectors that provide industrial inputs, both in the initial cycle of economic activity and in the new equilibrium.

Next, a more in-depth analysis was conducted to examine the relationship between the textile and clothing industry and each sector of the Javanese economy.

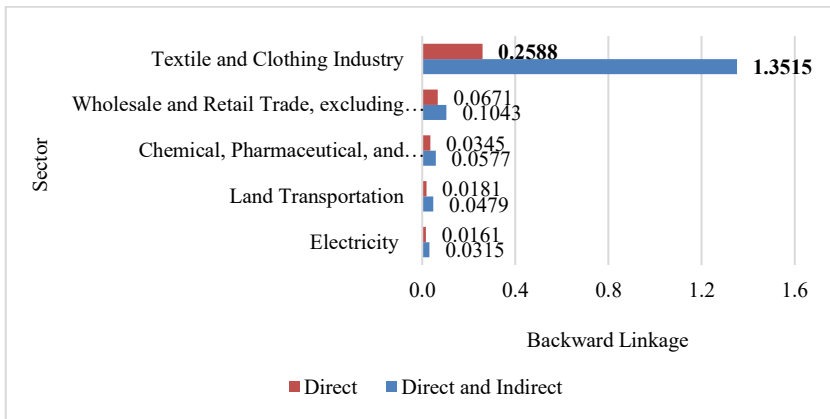


Fig. 5. Backward linkages of the textile and clothing industry with each sector in the Java Island economy*).

*) Only sectors ranked 1-5 are displayed.

Figure 5 shows the direct backward linkages to the textile and clothing industry within the Javanese economic structure, with the industry itself accounting for the most significant value at 0.2588. Next, the wholesale and retail trade sector, excluding cars and motorcycles, has a linkage value of 0.0671. If demand for the textile and clothing industry increases by 1 million rupiah, the wholesale and retail trade sector, excluding cars and motorcycles, provides an additional input of 0.0671 million rupiah.

Furthermore, the total direct and indirect backward linkages include the textile and clothing industry (1.3515); wholesale and retail trade, excluding cars and motorcycles (0.1043); the chemical industry (0.0577); land transportation (0.0479); and electricity (0.0315). These values indicate that these sectors dominate the input supply for the textile and clothing industry in the Javanese economy, both directly and indirectly.

4.2 Dispersion Effect Analysis

The varying magnitude of final demand across sectors renders linkage analysis insufficient for explaining the comparison of backward linkages between sectors. A dispersion effect analysis is conducted to normalize the linkage analysis by comparing the average impact generated by a sector with the average impact across all sectors [21]. This dispersion effect analysis provides information on which sectors have the potential to drive growth in their upstream sectors [34]. Figure 6 presents information on the dispersion effect of the textile and clothing industry across six islands in Indonesia, using the index of power dispersion (IPD) value.

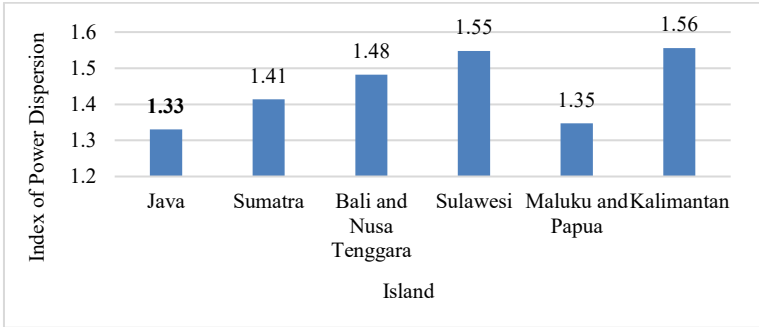


Fig. 6. Index of power dispersion of the textile and clothing industry by island.

Based on Figure 6, it is evident that the textile and clothing industry's highest index of power dispersion (IPD) is held by Kalimantan Island at 1.56. This is followed by Sulawesi (1.55); Bali and Nusa Tenggara (1.48); Sumatra (1.41); Maluku and Papua (1.35); and Java (1.33). From these values, it is known that Java Island has the lowest IPD among the other regions. However, the IPD of each region shows a value above 1, indicating that the textile and clothing industry in all regions has a strong ability to attract growth in its upstream sector production. When compared to other sectors outside Java, the IPD of the textile and clothing industry is relatively high. In line with direct backward linkages, this industry ranks 82nd out of 312.

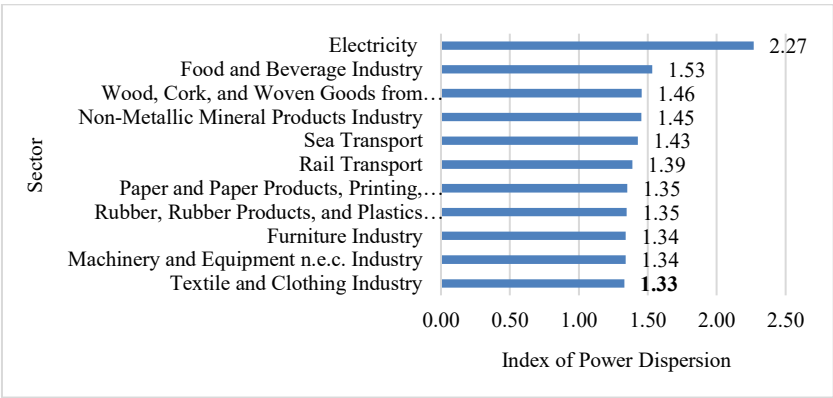


Fig. 7. Index of power dispersion of all sectors in Java Island*).

*) Only sectors ranked 1-11 are displayed.

Figure 7 provides information regarding the index of power dispersion (IPD) within the economic structure of Java. The sector with the highest IPD in Java is the electricity sector (2.27). Meanwhile, the textile and clothing industry ranks 11th with a value of 1.33. Overall, 23 sectors in Java have IPDs above 1, while 29 sectors have IPDs below 1. This indicates that most sectors in Java have a weak ability to attract upstream production growth. Industrial development strategies such as increasing local resources,

supply chain efficiency, and encouraging linkages with local input-providing MSMEs are highly relevant to enhancing the impact of this industrial dispersion on the Javanese economy as a whole.

4.3 Output Multiplier Impact Analysis

Protectionist policies have the potential to significantly reduce export demand, which not only directly impacts the textile and clothing industry itself but also creates spillover effects to other interrelated sectors [15] [16] [19] [20]. The higher the multiplier value of a sector, the greater the potential spillover effects within the economy. This analysis serves as an important baseline before formulating further policies, as it provides an initial overview of the scope of sectoral impacts that can be generated by external shocks. Table 2 compares the output multiplier values of the sectors with the most significant backward linkages to the textile and clothing industry in the Javanese economy with those in other regions.

Table 2. Output multiplier value of the upstream sector of the textile and clothing industry in the Java Island economy by island.

No	Island	Sector				
		Textile and Clothing Industry	Wholesale and Retail Trade	Chemical Industry	Land Transportation	Electricity
1	Sumatra	2,00	1,51	2,04	1,70	3,17
2	Jawa	1,92	1,42	1,73	1,66	3,06
3	Bali and Nusa Tenggara	2,01	1,53	1,93	1,77	3,66
4	Kalimantan	2,10	1,59	1,84	1,76	3,13
5	Sulawesi	2,01	1,43	1,95	1,64	2,99
6	Maluku and Papua	1,89	1,44	1,85	1,63	3,04

Based on Table 2, Java Island ranks fifth in the textile and clothing industry, with a value of 1.92. If final demand for the textile and clothing industry increases by 1 million rupiah, total output across all sectors in the new equilibrium will increase by 1.92 million rupiah. Although below the industry average of 1.99, this value is still relatively high compared to other sectors in other regions. This identification aligns with the direct and indirect (total) backward linkages, which show this industry ranked 53rd out of 312. This is because the total linkage value also represents the output multiplier effect [32].

From a linkage perspective, an increase in final demand for this industry drives additional inputs. This extra input comes from the output produced by the industry's upstream sectors. Therefore, a rise in demand for inputs in the textile and clothing industry equates to an increase in the output capacity of the backward-linked sectors.

Furthermore, the upstream sector of the textile and clothing industry (aside from the industry itself) in the Java Island economy has the smallest output multiplier value compared to other regions. The chemical industry's output multiplier is 1.73, and wholesale and retail trade, excluding automobiles and motorcycles, is 1.42. The output multiplier for these upstream sectors is below the average for each sector. The textile and clothing industry needs to maximize its role as a downstream sector for these sectors. This is because the industry has strong links with its upstream sectors in the Javanese economy. In turn, these sectors can expand the reach of the multiplier effect on the national economy by supporting the textile and clothing industry.

4.4 Labor Multiplier Impact Analysis

Protectionist policies that risk destabilizing sectoral output also have knock-on effects on job availability. It is important to analyze the labor multiplier to gauge the extent of changes in labor availability resulting from shocks to the textile and clothing industry. The higher the labor multiplier, the greater the sector's potential to alter the number of labor and the unemployment rate [25]. Table 3 presents the labor multiplier values for the upstream textile and clothing industry in the Javanese economy compared to those in other regions.

Table 3. Labor multiplier value of the upstream sector of the textile and clothing industry in the Java Island economy by island.

No	Island	Sector				
		Textile and Clothing Industry	Wholesale and Retail Trade	Chemical Industry	Land Transportation	Electricity
1	Sumatra	0,014	0,056	0,018	0,063	0,025
2	Jawa	0,070	0,345	0,609	0,170	0,097
3	Bali and Nusa Tenggara	0,017	0,132	0,316	0,059	0,089
4	Kalimantan	0,098	0,049	0,088	0,029	0,029
5	Sulawesi	0,015	0,107	0,117	0,039	0,035
6	Maluku and Papua	0,116	0,346	3,233	0,074	0,059

Table 3 shows that the highest labor multiplier value in the textile and clothing industry is found in the Maluku and Papua islands, at 0.116. Meanwhile, Java has a labor multiplier value of 0.070 for the textile and clothing industry. This means that every 1 billion rupiah increase in final demand for the textile and clothing industry in Java will increase the labor demand for the entire sector by 70 person.

Furthermore, the upstream sectors of the textile and clothing industry (apart from the industry itself) in the Javanese economy have relatively large labor multipliers compared to other regions. These include the wholesale and retail trade, excluding automobiles and motorcycles sector, with a multiplier of 0.345; the chemical industry with a

multiplier of 0.609; land transportation with a multiplier of 0.170; and electricity with a multiplier of 0.097.

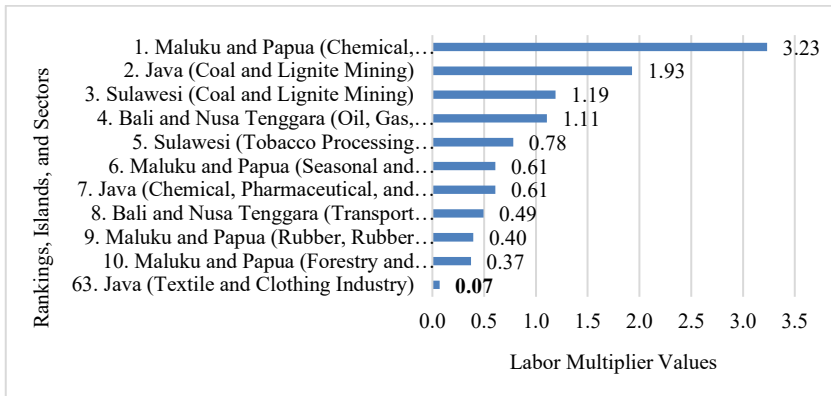


Fig. 8. Labor multiplier values for all sectors by island*)

*) Only sectors ranked 1-10 are displayed, and 63

Figure 8 shows the position of the textile and clothing industry on Java Island in the national economy, ranking 63rd out of 312. Although the industry's multiplier is less than 1 and still below the regional average (0.075), it is still relatively high compared to sectors in other regions.

Overall, the labor multiplier also indicates that the textile and clothing industry, along with its upstream sectors, plays a significant role in creating jobs in various regions of Indonesia. However, there are differences in characteristics between regions, indicating the need for specific and contextual policy approaches to develop this sector equitably and inclusively.

5 Conclusion

This study aims to analyze the linkage and multiplier effects of the textile and clothing industry in Java Island using the Inter-Regional Input-Output (IRIO) approach sourced from Statistic Indonesia.

The results of the linkage analysis show that the textile and clothing industry in Java Island has a direct backward linkage value of 0.51, and a total of 1.92 direct and indirect backward linkages. From the economic structure of Java Island, the textile and clothing industry plays an important role as a downstream sector for the industry itself with backward linkage values of 0.2588 and 1.3515. Other sectors that play an important role as upstream sectors of this industry are the wholesale and retail trade, excluding automobiles and motorcycles (0.0671 and 0.1043); the chemical industry (0.0345 and 0.0577); land transportation (0.0345 and 0.0577); and electricity (0.0161 and 0.0315).

To normalize the results of the linkage analysis, a dispersion impact analysis was conducted in this study. The results indicate that the textile and clothing industry in

Java has an index of power dispersion (IPD) of 1.33. An IPD value > 1 indicates that the industry has a strong ability to attract production growth from its upstream sectors. This demonstrates that the textile and apparel industry in Java plays a vital role in the economic structure, both as a user of inputs in the national supply chain.

To determine the extent to which the textile and clothing industry in Java Island contributes to the economy as a whole, another approach used is the analysis of the impact of output and labor multipliers. From the analysis of output multiplier, it was found that the textile and clothing industry in Java Island has a multiplier value of 1.92. Every increase in final demand of 1 million rupiah in this industry will result in an additional output of 1.92 million rupiah across all economic sectors. This value is slightly below the national average (1.99), but it still shows a significant spillover effect on other sectors as the value is > 1 . Furthermore, the textile and clothing industry in Java Island has a labor multiplier value of 0.70. Every increase in final demand of 1 billion rupiah in this industry will result in an additional 70 people being employed across the economic sector. This value exceeds the national average (0.55) and thus indicates a significant spillover effect on other sectors, even though the value is > 1 .

Overall, the results of this study indicate that the textile and clothing industry in Java is a strategic sector with high economic linkages and a significant multiplier. However, this sector is highly vulnerable to external shocks, such as protectionist policies, which have a broad impact not only on the sector but also on the wider value chain within the economy. Therefore, appropriate policy interventions are needed to maintain the stability and competitiveness of this sector amidst the dynamics of global trade.

Acknowledgement. The authors sincerely appreciate all individuals and institutions who contributed support, guidance, and collaboration during the completion of this research. Especially to Prof. Yuri Mansury, the authors are very grateful for the input in the thesis examination process of this research.

Disclosure of Interests. The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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