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Analysis of the Manufacturing Sector in the Economy of West Nusa Tenggara Province (An Input-Output Approach)

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Abstract

This study aims to analyze the role of the manufacturing sector in economy of West Nusa Tenggara Province based on the 2016 Input-Output data, by measuring forward and backward linkages as well as the dispersion power coefficient and senstivity of disperson toward other economic sectors. This study uses a quantitative descriptive method with an Input–Output approach, based on the 2016 West Nusa Tenggara Input–Output Table from the Central Bureau of Statistics. It analyzes forward and backward linkages, dispersion power, and sensitivity to assess the role of the manufacturing sector in the regional economy. The Input–Output analysis shows that West Nusa Tenggara's economy is still dominated by the primary sector, with manufacturing not yet a major contributor to GRDP. However, its high backward linkage (1.711) and dispersion power (1.208) indicate a strong role in driving upstream sectors. Although its forward linkage is moderate (1.317) and its sensitivity of dispersion is below one (0.892), manufacturing remains strategically important as a bridge between the primary and value-added sectors. The results show that strengthening the manufacturing sector can promote regional economic growth due to its relatively high linkages and dispersion power. Therefore, development policies should focus on expanding resource-based manufacturing to support economic transformation in West Nusa Tenggara Province. The novelty of this study lies in applying Input–Output analysis to examine manufacturing linkages in West Nusa Tenggara Province, where similar research remains limited.

INTRODUCTION

Indonesia, as an archipelagic country with more than 17,000 islands, possesses highly heterogeneous geographical, social, and economic characteristics. This diversity results in uneven national development processes, where some regions develop rapidly while others remain in the early stages of development. Development challenges in Indonesia are not only related to the unequal distribution of infrastructure, but also to how to promote economic transformation from dependence on the primary sector toward a more modern economy.

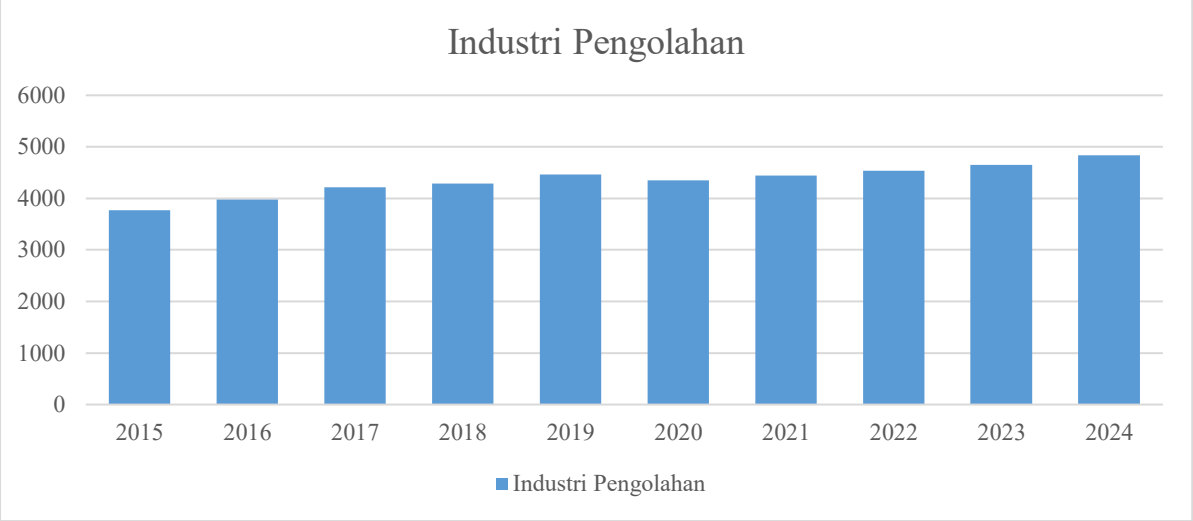
Economic development in a country is not only supported by primary sectors such as agriculture and mining, but also by secondary and tertiary sectors that are capable of generating added value and strengthening the economic structure. Since the era of modern industrialization, developing countries have sought to undertake structural transformation through the development of the manufacturing sector as a strategy to increase productivity, expand employment opportunities, and reduce dependence on raw material exports (Todaro & Smith, 2020).

The economy of Indonesia over the past five years has shown recovery and stable growth. According to data from Badan Pusat Statistik (2025), Gross Domestic Product (GDP) at constant 2010 prices increased consistently from IDR 10,722.99 trillion in 2020 to IDR 12,920.28 trillion in 2024. This increase was primarily driven by major sectors such as manufacturing, trade, and agriculture. The manufacturing sector itself remained the largest contributor to GDP, accounting for more than 20 percent in 2024, highlighting its role as a key driver of the national economy. The national economic structure, which is gradually shifting from the primary sector toward the industrial sector, indicates that the process of structural transformation is continuously underway.

Nusa Tenggara Barat (NTB) is one of the archipelagic regions of Indonesia with highly dynamic socio-economic conditions. Geographically, NTB consists of two major islands, namely Lombok and Sumbawa, each possessing distinct resource characteristics and development potentials. Lombok Island is known for an economic base dominated by agriculture, tourism, and micro and small enterprises. Meanwhile, Sumbawa Island is more widely recognized as a center for mining activities and larger-scale agribusiness. This geographical and economic diversity creates a heterogeneous yet complementary regional economic structure, providing NTB with significant potential to develop high value-added sectors, particularly through resource-based industrialization (Umniyah et al., 2024).

Industrialization plays a highly strategic role in promoting sustainable economic growth. Through the development of production activities and the expansion of business opportunities, industrialization is able to increase a society's physical output, create and expand employment opportunities, and strengthen a country's foreign exchange reserves. Moreover, the process of industrialization contributes to accelerating regional development, improving income distribution, and alleviating poverty through increased value added and economic productivity (Anas, 2015).

Although the economic structure of Nusa Tenggara Barat (NTB) is still dominated by primary sectors, it is important to examine more deeply the role of sectors with strong potential to drive regional economic transformation, namely the manufacturing sector. This sector serves as one of the main indicators for assessing the extent to which the regional economy is able to move toward higher value-added activities through the processing of local resources. Changes in NTB's economic structure in recent years also indicate that industrialization has begun to receive greater attention, although its contribution has fluctuated from year to year. The following graph presents the trend of Gross Regional Domestic Product (GRDP) in the manufacturing sector of NTB during the 2015–2024 period as an initial step to understand the sector's development dynamics.



Source: Badan Pusat Statistik NTB 2014-2024

Figure 1. GRDP at Constant 2010 Prices by Industry (billion rupiah)

The manufacturing sector in Nusa Tenggara Barat, although not yet a dominant contributor, has shown stable and consistent growth over the past several years. Based on data from Badan Pusat Statistik, the value added of the manufacturing sector increased from IDR 3,772.63 billion in 2015 to IDR 4,839.21 billion in 2024 (at constant 2010 prices). This increase reflects improvements in the region's production capacity in processing local commodities such as agricultural products, livestock, fisheries, and mining outputs. The relatively stable upward trend is highly significant for NTB, as the manufacturing sector serves as a key bridge in strengthening the value chain from the primary sector to modern service sectors.

Based on data from (Badan Pusat Statistik Nusa Tenggara Barat, 2024), released through the Official News on NTB Economic Growth for the Fourth Quarter of 2024, the contribution of the manufacturing sector to the GRDP of Nusa Tenggara Barat remains relatively small, amounting to 3.87 percent (at current prices/ADHB) in 2024 compared to other sectors. Nevertheless, this sector plays a strategic role in the process of regional economic transformation. The manufacturing sector contributes to increasing the value added of local commodities, expanding export opportunities, and creating more stable new income streams for the community. In the context of regional development, the manufacturing sector can become a key driver of economic growth if it is developed in a well-planned manner and supported by adequate infrastructure. The development of its contribution from year to year also indicates that this sector has begun to gain a place within NTB's economic structure, which has long been dominated by primary sectors. The following table presents economic growth and the contribution of the five main sectors to the GRDP of NTB Province for 2023-2024 at current prices (ADHB).

Table 1. Economic Growth and Contribution of the Five Main Sectors to NTB's GRDP, 2023–2024

NO	INDUSTRY	Growth 2023 (%)	Growth 2024 (%)	Contribution to GRDP 2024 (Current Prices) (%)
1	Agriculture, Forestry, and Fishing	2,05	1,54	21,45
2	Mining and Quarrying	-10,39	11,66	20,12
3	Manufacturing Industries	2,51	4,19	3,87
4	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	6,94	5,87	14,2
5	Construction	10,87	2,93	9,11

Source: BPS NTB, *Pertumbuhan Ekonomi Provinsi NTB Triwulan IV Tahun 2024*, No. 12/02/52/Th.XIX, 5 Februari 2025.

The data in the table indicate that the manufacturing sector still contributes relatively little to the formation of GRDP in Nusa Tenggara Barat compared to primary sectors and major service sectors. Nevertheless, the role of the manufacturing sector is not solely measured by the magnitude of its output contribution, but also by its ability to stimulate the economic activities of other sectors through input–output linkages. This sector has the potential to increase the value added of local commodities, strengthen the regional production structure, and generate broader multiplier effects within the regional economy.

Several previous studies using the Input-Output approach have shown that the manufacturing sector plays an important role in promoting regional economic growth through intersectoral linkages. (Anas, 2015) and (Amaliya & Widodo, 2019) found that the manufacturing sector in Jawa Tengah and at the national level exhibits strong forward and backward linkages, as well as significant multiplier effects on output, income, and employment. Research conducted by (Junari et al., 2020) in Jawa Timur, (Suputra, 2021) in Sulawesi Utara, (Sherly, 2022) in Jawa Tengah, (Firman et al., 2023) in Papua Barat, and (Johny et al., 2023) in Nusa Tenggara Timur also demonstrate that the manufacturing sector or its subsectors have a strong capacity to stimulate the growth of other sectors and can be categorized as leading sectors within their respective regions.

Nevertheless, most of these studies were conducted in regions with relatively more advanced industrial bases or well-established industrial structures. Studies that specifically analyze the sectoral linkages of the manufacturing sector in Nusa Tenggara Barat are still very limited, particularly those employing a comprehensive Input-Output analysis. This condition indicates the existence of a research gap that needs to be addressed in order to gain a deeper understanding of the position and role of the manufacturing sector within a regional economy that is still predominantly dominated by primary sectors.

Therefore, the novelty of this study lies in its focus on analyzing the role of the manufacturing sector in Nusa Tenggara Barat as an archipelagic region with a relatively low level of industrialization. This research employs an Input-Output approach to examine forward linkages, backward linkages, dispersion power, and sensitivity of dispersion of the manufacturing sector based on the 2016 Input-Output Table of NTB Province. This approach is expected to provide a more comprehensive overview of the position of the manufacturing sector within the regional economic structure, as well as its potential role in supporting structural economic transformation.

This study aims to analyze the role of the manufacturing sector in the economy of Nusa Tenggara Barat. Specifically, it seeks to identify the magnitude of forward and backward linkages of the manufacturing sector with other economic sectors, as well as to analyze its dispersion power and sensitivity of dispersion within the regional economic structure of NTB. This research adopts a quantitative descriptive approach and does not test hypotheses, focusing instead on mapping sectoral linkages as a basis for formulating regional economic development policies.

METHODS

This study is a quantitative descriptive research employing an Input-Output analysis approach. This approach is used to describe the economic structure, patterns of intersectoral linkages and distribution, as well as the role of the manufacturing sector in the economy of Nusa Tenggara Barat. Quantitative descriptive research does not aim to test causal relationships between variables; rather, it processes and interprets numerical data to provide a comprehensive understanding of the economic phenomena being analyzed. This research is conducted in Nusa Tenggara Barat in 2026, using the 2016 Input-Output data of NTB. The use of the 2016 data is based on the fact that it is the most recent Input-Output table published by Badan Pusat Statistik Nusa Tenggara Barat.

The data sources in this study are obtained from Badan Pusat Statistik, specifically the 2016 Input-Output Table of Nusa Tenggara Barat, which serves as the primary data for analyzing

intersectoral relationships within the NTB economy. In addition, scientific publications, research reports, and other relevant literature are used as supporting data sources to provide additional and in-depth information regarding the manufacturing sector and the regional economy.

Data collection was carried out through a documentation study by reviewing and gathering statistical documents from the official website of Badan Pusat Statistik and related institutions. The data obtained were then organized, checked for consistency, and processed using Microsoft Excel. The use of this software aimed to facilitate sector classification, matrix construction, and the calculation of indicators applied in the Input-Output analysis.

The data analysis was conducted through several stages. The initial stage involved constructing the technical coefficient matrix (A-matrix), which shows the amount of intersectoral inputs required to produce one unit of output. Subsequently, the Leontief inverse matrix $(I - A)^{-1}$ was calculated to determine the direct and indirect impacts of changes in final demand in a particular sector on other sectors within the economy of Nusa Tenggara Barat. Based on the Leontief inverse matrix, backward linkage analysis was carried out to assess the extent to which the manufacturing sector depends on inputs from other sectors, while forward linkage analysis was conducted to evaluate the extent to which the output of the manufacturing sector is utilized by other sectors as production inputs. In addition, dispersion power and sensitivity of dispersion analyses were performed to identify the ability of the manufacturing sector to stimulate the growth of other sectors and to measure the sector's responsiveness to changes in intersectoral economic activities. The results of the linkage and dispersion indicators were then used to determine the role and position of the manufacturing sector within the economic structure of Nusa Tenggara Barat. Sectors with an index value greater than one (>1) were interpreted as having a strategic role or being classified as key sectors. All analytical results were subsequently presented and interpreted descriptively by linking the quantitative findings with the empirical conditions of the regional economy.

This study does not examine causal relationships between variables and does not formulate hypotheses as in explanatory or econometric research. Therefore, it does not employ independent and dependent variables, nor does it require a variable measurement table. The indicators analyzed are derived directly from the Input-Output model calculations, namely backward linkages, forward linkages, dispersion power, and sensitivity of dispersion, which are obtained from the Leontief inverse matrix. These indicators are used to describe the role and position of the manufacturing sector within the regional economic structure.

RESULTS AND DISCUSSION

The economic structure of Nusa Tenggara Barat is still dominated by primary sectors,

particularly agriculture, forestry, and fisheries, as well as mining and quarrying. The trade and services sectors also make a fairly significant contribution, while the manufacturing sector continues to play a relatively limited role in the regional GRDP structure. This condition indicates that the structural transformation of NTB's economy toward higher value-added sectors is still progressing gradually. Based on the results of the 2016 Input-Output analysis, an overview of the position of the manufacturing sector within the NTB economic system can be identified through linkage and dispersion indicators.

Backward Linkage Analysis

Backward linkages are indicators used to measure the extent to which a sector depends on other sectors as suppliers of production inputs. This indicator reflects a sector's ability to stimulate upstream sector activities through increased demand for intermediate inputs. A backward linkage value greater than one (>1) indicates that the sector has relatively high intersectoral input dependency, meaning that an increase in the sector's output will generate a stronger stimulating effect on its supplier sectors. Conversely, a value less than one (<1) suggests that the sector's dependence on inputs from other sectors is relatively low.

Table 2. Backward Linkages of the 17 Economic Sectors of West Nusa Tenggara Province

NO	SEKTOR	***BACKWARD***		
		DIRECT	*INDIRECT*	TOTAL
1	Agriculture, Forestry, and Fishing	0,133	1,043	1,176
2	Mining and Quarrying	0,166	1,088	1,254
3	Manufacturing	0,578	1,133	1,711
4	Electricity and Gas	0,577	1,597	2,175
5	Water supply, Sewerage, Waste Management and Remediation Activities	0,187	1,088	1,275

6	Construction	0,373	1,152	1,525
7	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	0,213	1,080	1,294
8	Transportation and storage	0,274	1,109	1,383
9	Accommodation and Food Service Activities	0,416	1,138	1,554
10	Information and Communication	0,266	1,114	1,380
11	Financial and Insurance Activities	0,136	1,050	1,186
12	Estate Activitie	0,181	1,094	1,275
13	Business Activities	0,263	1,107	1,370
14	Public Administration and Defence; Compulsory Social Security	0,284	1,135	1,418
15	Education	0,179	1,086	1,265
16	Human Health and Social Work Activities	0,247	1,140	1,387
17	Other Services Activities	0,296	1,155	1,451

Based on the calculation results of backward linkages presented in Table 2, the manufacturing sector in Nusa Tenggara Barat has a total backward linkage value of 1.711. This value indicates that the manufacturing sector has relatively strong backward linkages, meaning that a one-unit increase in final demand for this sector will stimulate an increase of 1.711 units in the output of upstream sectors through both direct and indirect linkages. The backward linkage value of the manufacturing sector, which is greater than one, suggests that this sector is highly dependent on input supplies from other sectors, such as agriculture, mining, trade, and other supporting services. This reflects the characteristic of the manufacturing sector as a processing industry that transforms raw materials into intermediate and finished goods, thereby requiring a continuous flow of inputs from upstream sectors.

Compared to other sectors, the backward linkage value of the manufacturing sector falls into the high category, although it remains lower than that of the electricity and gas supply sector, which records the highest backward linkage value of 2.175. This condition indicates that while the manufacturing sector plays an important role in stimulating upstream sector activities, its role has not yet become fully dominant within the economic structure of Nusa Tenggara Barat. The relatively high backward linkage of the manufacturing sector suggests that its development has

the potential to generate broad multiplier effects on input-supplying sectors. Therefore, strengthening the manufacturing sector through increased production capacity, diversification of local raw materials, and the development of resource-based industries is expected to enhance intersectoral integration and promote sustainable economic growth in Nusa Tenggara Barat.

Forward Linkages Analysis

Forward linkages are indicators used to measure the extent to which the output of a sector is utilized as an input by other sectors within the economy. The forward linkage value reflects the role of a sector as a supplier of intermediate inputs to downstream sectors. Conceptually, a forward linkage value greater than one (>1) indicates that the sector has an above-average capacity to support the production activities of other sectors, thereby holding the potential to play a strategic role within the economic structure. Conversely, a value less than one (<1) suggests that the sector's role as an intersectoral input provider remains relatively limited.

Table 3. Forward Linkages of the 17 Economic Sectors of West Nusa Tenggara Province

NO	SECTOR	*FORWARD*		
		DIRECT	*INDIRECT*	TOTAL
1	Agriculture, Forestry, and Fishing	0,451	1,161	1,612
2	Mining and Quarrying	0,143	1,019	1,162
3	Manufacturing	0,248	1,068	1,317
4	Electricity and Gas	0,858	1,978	2,836
5	Water supply, Sewerage, Waste Management and Remediation Activities	0,120	1,036	1,156
6	Construction	0,087	1,033	1,120
7	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	0,383	1,129	1,512
8	Transportation and storage	0,377	1,131	1,508
9	Accommodation and Food Service Activities	0,216	1,061	1,277
10	Information and Communication	0,610	1,282	1,892
11	Financial and Insurance Activities	0,379	1,185	1,563
12	Estate Activitie	0,263	1,125	1,388
13	Business Activities	0,842	1,422	2,264

14	Public Administration and Defence; Compulsory Social Security	0,068	1,030	1,098
15	Education	0,027	1,003	1,031
16	Human Health and Social Work Activities	0,055	1,015	1,070
17	Other Services Activities	0,221	1,084	1,305

Based on the calculation results of forward linkages as presented in Table 3, the manufacturing sector in Nusa Tenggara Barat has a total forward linkage value of 1.317. This value indicates that, on average, every one-unit increase in final demand in other sectors will lead to a 1.317-unit increase in the output of the manufacturing sector through intersectoral linkage mechanisms, both directly and indirectly.

The forward linkage value of the manufacturing sector, which is greater than one, indicates that this sector has played a role as a supplier of inputs to other sectors within the economy of Nusa Tenggara Barat. However, when compared to other sectors with higher forward linkage values such as the electricity and gas supply sector, which records a value of 2.836 the role of the manufacturing sector remains moderate and has not yet become a primary sector in supporting downstream production activities. This condition suggests that the output of the manufacturing sector has not been fully integrated into intersectoral production chains, as a significant portion of its output is still directed toward final demand, such as household consumption or exports, rather than serving as intermediate inputs for other sectors. This reflects that the industrialization process in Nusa Tenggara Barat is still at an early stage and requires stronger horizontal and vertical linkages with other economic sectors.

Thus, although the manufacturing sector has demonstrated a positive forward linkage value and is above the average, strengthening its role as a strategic sector is still necessary. Such efforts can be undertaken through the development of downstream industries based on local resources, enhancement of inter-industry connectivity, and policy support that encourages the integration of the manufacturing sector into the regional production system. Strengthening the forward linkages of the manufacturing sector is expected to increase value added, reinforce the regional economic structure, and promote economic transformation in Nusa Tenggara Barat.

Dispersion Power Analysis

The power of dispersion is an indicator used to measure a sector's ability to stimulate the growth of other sectors particularly upstream sectors due to an increase in final demand for that

sector. This indicator reflects the magnitude of the stimulus effect generated by a sector on the overall economy. In general, a dispersion power value greater than one (>1) indicates that the sector has an above-average capacity to stimulate economic activities in other sectors, while a value less than one (<1) suggests that the sector's stimulating effect is relatively weak.

Table 4. Dispersion Power of the 17 Economic Sectors of West Nusa Tenggara Province

NO	SECTOR	Dispersion Power
		Value
1	Agriculture, Forestry, and Fishing	0,830
2	Mining and Quarrying	0,885
3	Manufacturing	1,208
4	Electricity and Gas	1,535
5	Water supply, Sewerage, Waste Management and Remediation Activities	0,900
6	Construction	1,077
7	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	0,913
8	Transportation and storage	0,976
9	Accommodation and Food Service Activities	1,097
10	Information and Communication	0,974
11	Financial and Insurance Activities	0,838
12	Estate Activitie	0,900
13	Business Activities	0,967
14	Public Administration and Defence; Compulsory Social Security	1,001
15	Education	0,893
16	Human Health and Social Work Activities	0,979
17	Other Services Activities	1,024

Based on the calculation results of dispersion power presented in Table 4, the manufacturing sector in Nusa Tenggara Barat has a dispersion power value of 1.208. This value is greater than one, indicating that the manufacturing sector has a relatively strong capacity to stimulate increases in the output of other sectors through production linkages. In other words,

every increase in final demand for the manufacturing sector will generate a considerable multiplier effect on the economic activities of upstream sectors. Compared to other sectors, the electricity and gas supply sector records the highest dispersion power value, at 1.535, highlighting its highly dominant role in driving other sectors. Nevertheless, the relatively high dispersion power of the manufacturing sector reflects its strategic potential in strengthening the regional economic structure.

The relatively high dispersion power of the manufacturing sector indicates that its development has the potential to generate broad multiplier effects, particularly through increased demand for raw materials, labor, and supporting services from other sectors. This aligns with the role of the manufacturing sector in creating added value from local commodities and linking the primary sector with the tertiary sector. Thus, although the contribution of the manufacturing sector to the GRDP of Nusa Tenggara Barat remains relatively small, its dispersion power value greater than one suggests that it holds significant potential as a driver of regional economic growth. Therefore, strengthening the manufacturing sector through resource-based industrialization policies, infrastructure improvement, and the development of regional supply chains is essential to enhance its overall impact on the economy of Nusa Tenggara Barat.

Sensitivity of Dispersion Analysis

Sensitivity of dispersion is an indicator used to measure the responsiveness of a sector to changes in final demand in other sectors of the economy. This indicator reflects the extent to which a sector is stimulated to increase its output when other sectors experience growth. In general, a sensitivity of dispersion value greater than one (>1) indicates that the sector is responsive and easily influenced by the growth dynamics of other sectors, whereas a value less than one (<1) suggests that the sector is relatively insensitive to intersectoral economic changes.

Table 5. Sensitivity of Dispersion of the 17 Economic Sectors of West Nusa Tenggara Province

NO	SECTOR	SENSITIVITY OF DISPERSION
		VALUE
1	Agriculture, Forestry, and Fishing	1,091
2	Mining and Quarrying	0,787
3	Manufacturing	0,892
4	Electricity and Gas	1,914

5	Water supply, Sewerage, Waste Management and Remediation Activities	0,783
6	Construction	0,759
7	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	1,024
8	Transportation and storage	1,021
9	Accommodation and Food Service Activities	0,865
10	Information and Communication	1,282
11	Financial and Insurance Activities	1,059
12	Estate Activitie	0,940
13	Business Activities	1,534
14	Public Administration and Defence; Compulsory Social Security	0,744
15	Education	0,698
16	Human Health and Social Work Activities	0,725
17	Other Services Activities	0,884

Based on the calculation results of sensitivity of dispersion presented in Table 5, the manufacturing sector has a sensitivity value of 0.892. This value is below one, indicating that the manufacturing sector is relatively less responsive to changes in final demand in other sectors. In other words, the growth of other sectors has not optimally stimulated an increase in the output of the manufacturing sector. The relatively low sensitivity of the manufacturing sector suggests that it has not yet been fully integrated into the intersectoral production system in Nusa Tenggara Barat. This condition may be due to the limited linkages of the manufacturing sector, which is still small-scale and based on simple processing. As a result, increased economic activity in other sectors has not yet significantly raised the demand for manufacturing sector output.

In contrast, the electricity and gas supply sector has a high sensitivity of dispersion value of 1.914, followed by the business services sector at 1.543. This indicates that both sectors are highly responsive to changes in demand from other sectors and hold a strong position within the regional production network. Meanwhile, the manufacturing sector's position below the average highlights that it still requires strengthening in terms of downstream development, product diversification, and market expansion. Thus, although the manufacturing sector has a relatively high dispersion power, its low sensitivity of dispersion indicates an imbalance in its role within the NTB economy. The sector functions more as a driver rather than being driven by the growth

of other sectors. These findings underscore the importance of industrial development policies that not only enhance production capacity but also strengthen downstream linkages, enabling the manufacturing sector to become more responsive to regional economic dynamics.

DISCUSSION

The study results indicate that the manufacturing sector in Nusa Tenggara Barat exhibits a linkage structure that is not yet fully balanced. The high values of backward linkages, forward linkages, and dispersion power demonstrate that this sector primarily functions as a driver for upstream sectors, particularly the primary sectors. This reflects the characteristics of NTB's manufacturing industry, which is still largely based on processing local commodities such as agricultural and mining products.

However, the sensitivity of dispersion value being below one indicates that the integration of the manufacturing sector into downstream production chains is still limited. The sector's output has not been fully utilized as intermediate inputs within the regional production system. This condition suggests that industrialization in Nusa Tenggara Barat is still at an early stage, with product diversification and downstream development remaining suboptimal.

These findings indicate that strengthening the manufacturing sector requires more than just increasing production capacity; it also necessitates strategies for developing downstream industries, diversifying higher-value products, and enhancing intersectoral integration. Improving inter-industry connectivity and strengthening regional supply chains are crucial factors to ensure that the manufacturing sector not only drives upstream sectors but also becomes an integral part of the regional production system.

Overall, although the manufacturing sector has not yet become a key sector in the NTB economy, the analysis results indicate that it holds strategic potential in supporting structural economic transformation. With targeted industrialization policies based on local potential, the manufacturing sector can serve as an important instrument for increasing value added, expanding employment opportunities, and strengthening the economic structure of Nusa Tenggara Barat sustainably.

CONCLUSION

This study aimed to analyze the role of the manufacturing industry sector in the economy of West Nusa Tenggara (NTB) Province using the Input-Output approach, specifically measuring intersectoral linkages and dispersion coefficients. Based on the results of the analysis, it can be

concluded that the structure of NTB's economy is still dominated by primary sectors such as agriculture, forestry, fisheries, and mining and quarrying. Although the manufacturing industry sector has not yet become a major contributor to GRDP, it plays a strategic role as a bridge between the primary sector and other sectors through value-added processes. Forward linkage analysis indicates that the output of the manufacturing sector is utilized as input by other sectors, although its integration is still moderate. Meanwhile, backward linkage analysis shows that this sector depends significantly on inputs from upstream sectors, meaning that any increase in final demand for the manufacturing sector can stimulate output growth in supplier sectors, particularly the primary sector. The dispersion analysis confirms that the manufacturing sector has a relatively strong ability to create multiplier effects on other sectors, while sensitivity dispersion analysis indicates that the sector is relatively less responsive to the growth of other sectors, especially downstream sectors, so that growth in other sectors does not yet fully drive an increase in the manufacturing sector's output.

These findings indicate that the manufacturing sector holds a strategic role as a driver of economic growth in NTB, although it cannot yet be classified as a key sector due to its limited sensitivity to intersectoral demand changes. Practically, the study emphasizes the importance of government attention to the development of the manufacturing sector through policies that strengthen the value chain, improve the quality of local raw materials, develop intermediate industries, and support industries based on regional resource advantages. Additionally, increasing investment, infrastructure, and industrial technology should be prioritized to enhance production efficiency, competitiveness, and sector integration into regional production chains.

For further research, it is recommended to use more recent Input-Output data or combine linkage and dispersion analysis with output, income, and employment multipliers to provide a more comprehensive understanding of the manufacturing sector's role in NTB's economy and to offer more targeted policy recommendations to support structural economic transformation in the region.

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