

Dynamic Regional Economic Structure: Contribution of Main Sectors to GRDP in NTB Province

Eka Agustiani^{1*}, Endang Astuti²

Faculty of Economics and Business, Universitas Mataram

Corresponding Author: Eka Agustiani ekaagustiani27@gmail.com

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ABSTRACT

This study analyzes the contribution and competitiveness of economic sectors in the regencies and cities of West Nusa Tenggara Province (NTB) during 2019–2023 using the Location Quotient (LQ) and Shift Share methods. The research employs a quantitative approach with secondary data from the Central Statistics Agency (BPS), specifically Gross Regional Domestic Product (GRDP) data at constant prices by business field. The results indicate that the primary sector remains the dominant base sector in most regencies such as Lombok Timur, Sumbawa, and Bima, while the secondary sector has not yet become a leading contributor. The tertiary sector shows significant growth in urban areas, particularly in Mataram City and Bima City, where services and trade drive regional economic performance. The Shift Share analysis reveals that Lombok Tengah, Mataram City, and Lombok Barat have positive regional share values (KPPW), indicating higher competitiveness and faster growth, whereas Sumbawa Barat records the lowest value due to limited infrastructure and economic diversification. Overall, the findings demonstrate that the economic structure of NTB remains dominated by the primary sector but is gradually transforming toward a service-oriented economy in urban areas.

INTRODUCTION

Growth high and sustainable economy is prerequisite main for sustainability development and improvement welfare society (Sukirno, 1998). Along with increase amount population, needs consumption also increased so that required addition income every year. In the long-term length, growth Product Gross Domestic Product (GDP) will push change structure economy from domination primary sector towards sector secondary and tertiary. This process known with transformation structural, namely mutual changes related in composition request aggregate, trade abroad, as well as offer aggregate in support development sustainable (Kuznets in Tambunan, 2022).

According to Weiss (1988 in Tambunan, 2022), transformation economy marked with shift from agriculture traditional to industry dynamic manufacturing with increasing returns to scale, which becomes driving force main growth. The modern economy then the more shifting to the sector tertiary, especially services, along increasing urbanization and development technology. Structure economy alone in general grouped to in three sector main, namely primary sector (agriculture and mining), sector secondary (industry processing, electricity, gas, water, and construction), and sectors tertiary (services) (Tambunan, 2003).

At the level national, distribution Product Gross Regional Domestic Product (GRDP) according to field business show existence shift contribution between sector. Data from the Central Statistics Agency (BPS) for the 2019–2023 period recorded that sector secondary give contribution the largest in 2020 at 31.80 percent, even though Keep going decreased in the year next. Meanwhile sector tertiary dominates with average contribution of 43.22 percent, while the primary sector instead be the smallest with an average of 22.00 percent (BPS Indonesia, 2024).

A little phenomenon different seen in West Nusa Tenggara Province (NTB). For five years lastly, sector tertiary dominate contribution to GRDP with an average of 46.46 percent, followed by primary sector of 39.81 percent, while sector secondary only contributed 13.72 percent (BPS NTB, 2024). Condition This show that although sector service the more growing, the primary sector remains own great contribution to economy area. This is in line with findings Mintari Indartini et al. (2021) who stated that primary sector. in some areas still give contribution significant even though relatively smaller compared to sector other Analysis contribution sector economy towards GRDP to become important in frame determine direction development area. Through approach Location Quotient (LQ) and Shift Share, can known base sector and sector potential in each district / city so that government area can formulate policy proper development target (Sjafrizal, 2018). Therefore that, research This done for analyze contribution primary, secondary and tertiary sectors on the GRDP of Regencies / Cities in NTB Province for the period 2019–2023. Research results This expected can give contribution academic in study economy development, at the same time become recommendation practical for formulation policy development economy sustainable in NTB.

Problem Formulation

1. How is the contribution of the primary sector to the Gross Regional Domestic Product (GRDP) in the regencies and cities of West Nusa Tenggara Province during the period 2019–2023?
2. How is the contribution of the secondary sector to the Gross Regional Domestic Product (GRDP) in the regencies and cities of West Nusa Tenggara Province during the period 2019–2023?

LITERATURE REVIEW

Economic Development

Economic development is an effort to improve people's standard of living by increasing real per capita income, productivity, and expanding employment opportunities (Suparmoko, 1988). Todaro in Arsyad (2004) emphasizes three main values of development, namely the fulfillment of basic needs, increasing self-esteem, and expanding freedom of choice. According to Amri and Khairuman (2013), catfish farming is worth considering, not only by experienced catfish farming business actors, but also by beginners because of its ease and great opportunities, what is meant by catfish farming is the activity of producing catfish from raising catfish from seed size to ready-to-eat size. The harvested catfish are then sold to consumers or markets.

Economic Growth

Economic growth is defined as an increase in a region's capacity to produce goods and services within a certain period (Sukirno, 2006). According to Sukirno (1998), economic growth also reflects long-term development achievements influenced by labor, capital, and technological developments. Previously, people thought that raising catfish required a large area of land and lots of water. This assumption is no longer valid because it has been proven that catfish can be raised on limited land and water.

Regional Economic Development Theory

Regional economic development is the process of resource management by the government and the community to create new jobs and stimulate regional economic growth (Arsyad, 2004). In this regard, partnerships between the government and the private sector are key to successful regional development.

Regional Economic Growth Theory

Regional economic growth is explained through several main theories:

- a. Economic Base Theory: emphasizes that regional growth is determined by base sectors that produce goods/services for export outside the region (Arsyad, 2004).
- b. Location Theory: highlights the selection of industrial locations to minimize costs and be closer to markets and raw materials (Arsyad, 2004).
- c. Central Place Theory: explains the existence of a central area that provides services to the surrounding areas, thus giving rise to a hierarchy of activity centers (Tambunan, 2003).

- d. Cumulative Causation Theory: explains that developed regions will continue to develop, while underdeveloped regions tend to become increasingly underdeveloped due to backwash effects (Arsyad, 2004).
- e. Industrial Attraction Model: explains that regions can strengthen growth by attracting industrial investment through incentives and subsidies (Tambunan, 2003).

Gross Regional Domestic Product (GRDP)

GRDP is the gross added value of goods and services produced in a region during a specific period. It can be calculated using three approaches: production, income, and expenditure (BPS, 2024). According to Tambunan (2003), the structure of GRDP is divided into three main sectors:

- a. Primary Sector: includes agriculture, forestry, fisheries, mining and quarrying.
- b. Secondary Sector: includes the processing industry, electricity, gas, clean water, and construction.
- c. Tertiary Sector: consists of services, trade, transportation, accommodation, communication, finance, education, health, and other services.
- d. GRDP is used as the main indicator in assessing the economic performance of a region, while also describing the dynamics of the regional economic structure (Sjafrizal, 2018).

METHODOLOGY

Type of Research

This research uses a quantitative method, a research approach based on the philosophy of positivism, with the aim of testing hypotheses through the analysis of numerical data. According to Sugiyono (2013), the quantitative method is called the scientific method because it is empirical, objective, measurable, rational, and systematic.

Research Location

The research was conducted across all regencies and cities in West Nusa Tenggara (NTB) Province. The purpose of this location selection was to compare the contributions of economic sectors that influence economic growth in each region in NTB.

Data Collection Techniques

Data was obtained through documentation techniques, namely by reviewing various documents and reports from relevant agencies. The primary source of data came from the Central Statistics Agency (BPS), supported by books, scientific journals, and previous publications relevant to the research topic.

Data Types and Sources

The type of data used is secondary data, that is, data obtained indirectly through official sources. According to Sugiyono (2013), secondary data can come from documentation and supporting literature. In this study, the data was taken

from the official website of the Statistics Indonesia (BPS) of West Nusa Tenggara Province in the form of data on the Percentage Distribution of GRDP by Industry for 2019–2023.

Identification of Variables

This study uses four variables, namely:

- a. Primary Sector (X_1)
- b. Secondary Sector (X_2)
- c. Tertiary Sector (X_3)
- d. Gross Regional Domestic Product (GRDP) (Y)

Variable Classification

Dependent Variable (Y): Gross Regional Domestic Product (GRDP), which is the added value of goods and services produced in a region. This variable is influenced by the independent variable (Sugiyono, 2013).

Independent Variables (X_1, X_2, X_3): include the primary, secondary and tertiary sectors which are determining factors in the formation of GRDP in West Nusa Tenggara Province (Sugiyono, 2013).

Operational Definition of Variables

- GRDP: the total value of goods and services produced in the regencies/cities of NTB Province during the 2019–2023 period based on constant prices (BPS, 2024).
- Primary Sector: consists of agriculture, forestry, fisheries, mining and quarrying.
- Secondary Sector: includes processing, electricity, gas, clean water and construction industries (Tambunan, 2003).
- Tertiary Sector: includes trade, transportation, communications, finance, education, health, and other services.

Data Analysis Procedure

Data analysis was conducted to assess the contribution of the primary, secondary and tertiary sectors to the GRDP of regencies/cities in NTB Province using two main analysis tools:

Location Quotient (LQ) Analysis

Used to identify basic and non-basic sectors in a region. Sectors with an LQ value > 1 are categorized as basic sectors, while those with an LQ < 1 are categorized as non-basic (Tambunan, 2003).

$$LQ = \frac{v_i/v_t}{V_i/V_t}$$

Information:

v_i = GRDP of sector i in region (district/city)

v_t = total GRDP of region j

V_i = GRDP of sector i of NTB Province

Vt = Total GRDP of NTB Province

Shift Share Analysis

Used to measure the performance and competitiveness of regional economic sectors compared to provinces (Sjafrizal, 2018).

This analysis consists of three main components:

- National Growth Component (KPN): the influence of provincial economic growth on regions.
- Proportional Growth Component (KPP): changes in economic structure due to differences in leading sectors.
- Regional Share Component (KPPW): shows the competitiveness of sectors in districts/cities compared to provinces.

These two methods are used to identify economic sectors that have competitive advantages and become the basis for regional economic growth in West Nusa Tenggara Province.

RESEARCH RESULT AND DISCUSSION

Gross Regional Domestic Product

Product Gross Regional Domestic Product (GRDP) of West Nusa Tenggara Province (NTB) during the 2019–2023 period shows development positive with trend growth that tends to increase every year. Based on data from the Central Statistics Agency (BPS, 2024), the NTB economy had contracted in 2020 due to the COVID-19 pandemic, however return grow since 2021 and onwards experience improvement until 2023.

In a way structurally, the NTB economy is still dominated by the sector tertiary with an average contribution by 46.46 percent, followed by primary sector of 39.81 percent, and the sector secondary by 13.72 percent. Dominance sector tertiary show that NTB's economy is starting to shift from dependence to sector-based source Power natural going to sector valuable services plus tall.

However, the primary sector remains hold role important especially in areas with an agricultural, forestry and fisheries base such as East Lombok and Sumbawa. Meanwhile sector secondary show development moderate, and sector tertiary grow significant in the area urban such as Mataram City which became center activity economy and government. In general, Overall, the growth of NTB's GRDP reflects existence transformation economy that is heading towards balance between productivity primary and expansion sectors sector services (BPS NTB, 2024).

Location Quotient (LQ) Analysis Results

Location Quotient (LQ) analysis is used to identify leading economic sectors in each district/city in West Nusa Tenggara Province by comparing sectoral performance at the provincial level. An LQ value > 1 indicates a basic or leading sector, while an LQ < 1 indicates a non-basic sector. The data used is GRDP by business sector at constant prices for 2015–2021. The LQ calculation results indicate sectors with the potential to become key drivers of regional economic development in West Nusa Tenggara Province.

Primary Sector

The primary sector has an LQ value > 1 in almost all regencies, including West Lombok, Central Lombok, East Lombok, North Lombok, Sumbawa, Dompu, and Bima. This indicates that economic activity in these regions is still driven by agriculture, forestry, fisheries, and mining. Sumbawa and East Lombok regencies recorded the highest LQ values, indicating that the primary sector is the main driver of the regional economy. This condition also reflects the regencies' economic dependence on natural resource-based sectors (Tambunan, 2003).

Secondary Sector

The secondary sector showed an LQ value < 1 in most districts/cities, indicating that this sector has not yet become a basic sector in West Nusa Tenggara Province. The manufacturing, electricity, gas, clean water, and construction industries still contribute relatively little to the regional GRDP. The low LQ value in the secondary sector indicates that the industrialization process in West Nusa Tenggara is still limited, and most economic activities are not yet oriented towards processing products. This indicates the need for policies to strengthen the regional industrial sector to increase added value and employment.

Tertiary Sector

The tertiary sector had an LQ value > 1 only in Mataram City and Bima City, indicating that the service sector is the primary sector in both regions. This sector's dominance is influenced by the growth of trade, transportation, government services, finance, and tourism. These results indicate that urban areas in West Nusa Tenggara (NTB) have undergone a structural transformation from the primary sector to a more modern, market-oriented service sector.

Overall, the LQ analysis results indicate that NTB's economic structure remains primarily agrarian, but there are indications of a shift toward the service sector in urban areas. This finding is consistent with Tambunan's (2003) theory of regional economic development, which states that the economic transformation process in developing regions occurs gradually from the primary sector to the secondary and tertiary sectors.

Share Analysis Results

Based on results Shift Share analysis, it is known that growth economy in West Nusa Tenggara Province (NTB) during period study show variation between district / city. In general general, partial big sector the economy in NTB is experiencing growth positive, but level his contribution different in each area.

Component growth national (regional share) shows that all over districts / cities in NTB experienced improvement mark plus as impact from growth economy province in a way overall. Meanwhile that, component growth proportional shift shows that a number of sectors, in particular sector agriculture and services, growing more fast compared to sector other. As for the components regional share (differential shift) shows that regency with activity economy-

based agriculture and fisheries such as East Lombok, Sumbawa, and Bima have Power competition relatively tall compared to other districts. While urban areas such as Mataram City and Bima City show superiority competitive in the sector services and trade.

Compilation Mark LQ in Province Nusa Tenggara West

The average results of the Location Quotient (LQ) analysis on ten districts / cities in West Nusa Tenggara Province show that the city of Mataram own the most basic sector, namely as many as 13 basic sectors. The advantages This caused by because of Mataram City is center government and activities economy province, with dominance in the sector services and manufacturing, while sector agriculture and mining No is base sector because limitations land.

In position Second, West Lombok Regency has 12 base sectors, supported by its location surrounding Mataram City. as well as height proportion power work in the sector services and manufacturing, namely around 75.96 percent in 2021. Furthermore, Bima City occupies order third with 11 basic sectors, also dominated by the sector services and manufacturing, where 88.89 percent its population working in the sector the.

Regencies each have 10 basic sectors. Central Lombok excels in this sector. agriculture, services, and manufacturing, supported condition geographically possible development agriculture and fisheries, while North Lombok has excellence in the sector agriculture and tourism, in line with potential nature and destinations tour such as Gili Trawangan and Mount Rinjani.

On the other hand, West Sumbawa Regency has the least basic sector, only 1 economic basic sector. The low amount this base sector caused by the level unemployment and relative poverty high, and limitations facilities and infrastructure that influence productivity and power competitiveness of the region.

Compilation Mark Shift Share (KPPW) in West Nusa Tenggara Province 2019-2023

Based on results Shift Share analysis, especially on the components Regional Share (KPPW), visible that performance The economy in West Nusa Tenggara Province (NTB) in the 2019–2023 period experienced variation between district / city.

Central Lombok Regency has the highest KPPW value among throughout the region, which shows that sectors regional economy This grow more fast compared to the provincial average. This is signified that Central Lombok has Power strong regional competitiveness, especially in the sector agriculture, services and industry processing.

Furthermore, Mataram City, West Lombok Regency, and East Lombok Regency also showed positive KPPW value. Regions This own structure better economy diverse with contribution big from sector trade, services and construction, which support improvement growth economy area.

On the other hand, West Sumbawa Regency has the lowest KPPW value in NTB Province, which shows growth economy relatively slow and power weak competition compared to other areas. Conditions This influenced by limitations

infrastructure, low diversification sector economy, as well as dependence on the vulnerable primary sector to fluctuations production.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results and discussion presented above, the following conclusions can be drawn:

1. Based on the results of the Location Quotient (LQ) analysis, West Nusa Tenggara Province has seven base sectors, namely: agriculture, forestry and fisheries; construction; electricity and gas supply; wholesale and retail trade, repair of motor vehicles and motorcycles; real estate; education services; and public administration, defense, and compulsory social security sectors.
2. Based on the results of the Shift Share analysis, the sectors of electricity and gas supply, information and communication, real estate, financial and insurance services, corporate services, education services, health services and social security, and other services are sectors with competitive advantages and faster growth in West Nusa Tenggara Province.

Recommendation

1. To enhance economic growth and promote sustainable regional development, local governments are advised to focus policy design and decision-making on base economic sectors that have the potential to be further developed, while still considering non-base sectors.
2. The government should optimize the existing base sectors in North Lombok Regency and Bima City to increase regional income in these areas.
3. The government is encouraged to utilize and explore other potential sectors in West Sumbawa Regency to identify alternative sectors that can support the region's economic growth.

ADVANCED RESEARCH

Future advanced research should focus on developing a dynamic regional economic model that integrates Location Quotient (LQ) and Shift Share analyses with spatial econometric and input-output modeling to better capture intersectoral linkages and growth multipliers in West Nusa Tenggara Province. Further studies could apply time-series and panel data approaches to assess the long-term competitiveness and structural transformation of base and non-base sectors across regencies and cities. Incorporating geo-economic variables, such as infrastructure accessibility, human capital distribution, and investment inflows, would also enhance understanding of spatial disparities and sectoral resilience. In addition, the use of machine learning and GIS-based predictive analytics could support the identification of emerging growth poles and diversification opportunities within the province. Ultimately, advanced research should aim to formulate evidence-based strategies that guide policymakers in designing inclusive, data-driven, and sustainable regional development frameworks aligned with national economic priorities and the Sustainable Development Goals (SDGs).

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