



## Identification of Leading Sectors for Baubau City's Economic Development

Rahmawati <sup>1\*</sup>, La Ode Sofyan <sup>2</sup>, Syahrir Ramadhan <sup>3</sup>

<sup>1-3</sup> Social Sciences and Political Sciences, Dayanu Ikhsanuddin Baubau, Indonesia

\* Corresponding Author: **Rahmawati**

---

### Article Info

**ISSN (online):** 2583-8261

**Volume:** 04

**Issue:** 05

**September – October 2025**

**Received:** 09-07-2025

**Accepted:** 10-08-2025

**Published:** 02-09-2025

**Page No:** 48-55

### Abstract

This study aims to identify the leading sectors of Baubau City in 2010-2023 and their influence on economic growth in 2011-2023. The type of data used is secondary data from 17 sectors of the ADHK PDRB of Baubau City and Southeast Sulawesi in 2010-2023, Multiple Linear Regression analysis techniques and projections of the main leading sector PDRB in 2025-2034 with the best Linear, Exponential and Quadratic Trend models (Order 2 Polynomial). The results of the study show: (1) the wholesale and retail trade sector, car and motorcycle repairs have an opportunity in 2024 to 2034 of an average of 1,877,091.00 billion Rupiah per year, (2) the health services and social activities sector is projected to generate 134,350.23 billions Rupiah per year. While in other sectors there is no opportunity to contribute significantly to Regional Original Income.

**Keywords:** Identification, Projection, Leading Sectors.

---

### 1. Introduction

The contemporary crisis has stimulated renewed political and scholarly interest in economic power structures and regionalization. This concerns, in particular, local-global relations, a central argument in the Global Production Networks (GPN) literature. (Wilhelm and Chilla 2023) <sup>[20]</sup> This situation requires governments to frequently face critical decisions: whether to adhere to formal organizational protocols or adopt pragmatic alternatives when challenging circumstances threaten development progress (Rowe, Whitty, and Wheeldon 2024) <sup>[16]</sup> Public sector leaders are motivated to adopt innovative measures through transparency and regulatory issues so that public services and activities are not disrupted (Benchis, Shahzad, and Dan 2025) <sup>[5]</sup>. As governments strive to modernize public services, there is a need for identity management in public sector innovation (Forrester-Jones *et al.* 2025) <sup>[9]</sup>.

Normatively, the research is conducted on Law Number 59 of 2024 concerning the National RPJP, Regional Regulation of Southeast Sulawesi Province Number 5 of 2024 concerning the RPJPD of Southeast Sulawesi Province for 2025-2045 and Regional Regulation of Baubau City Number 6 of 2024 concerning the RPJPD of Baubau City for 2025-2045. In the elaboration of the RPJPN, Baubau port is only listed as a secondary national shipping route. In the mission in the RPJPN for economic transformation in the Sulawesi region in general, Baubau City is also not listed in the port development plan map in the Sulawesi and Eastern Indonesia regions. Sadono Sukirno, 2011 in (Mesrania & Hiyadah, 2023) said that the economic indicators of a region or area can be shown through the development of the number of GRDP, and the most effective acceleration of regional development is through the development of leading sectors. Identification of leading economic sectors is a form of environmental scanning of economic segments at the strategy formulation stage before implementation and evaluation of strategies in the strategic management concept. The buildings sector—which accounts for 40% of natural resource consumption and 36% of energy consumption, and 33% of greenhouse gas emissions—plays a significant role in the global energy and environmental footprint. The circular economy (CE) is increasingly recognized as essential for sustainability in the buildings sector. (Moustafa, Asif, and Wuni 2025) <sup>[12]</sup>. Siagian, 2004 in (Asmidin, 2022) <sup>[1]</sup> explains that in strategic management theory, environmental factors that influence an organization consist of 2 (two) categories, namely distant external factors or general environment (macro

environment) and near external factors or industrial environment. These distant or general environmental factors include politics, economics, social, technology and industry. The process of analyzing the external environment in strategic management goes through 4 (four) activity processes, namely: (1) Scanning, (2) Monitoring, (3) Forecasting and (4) Assessing. Preble, 1992 in (Asmaddin, 2022)<sup>[1]</sup>, while in previous research explains that in making a participatory strategic plan in decentralized decision making is based on a structured understanding with 4 (four) stages namely; 1). Mapping basic conditions, 2). Forming a shared understanding regarding the structure of variable relationships, (3). Assessing priorities, 4). Selecting alternatives (Nikolaidis *et al.* 2025)<sup>[14]</sup>. (R ahmawati 2024)<sup>[7]</sup> in previous research with the research title Projection forecasting Policy Of Buton Mining Management Indonesia explained that it is necessary to carry out stages in making rational mining policy planning through 4 (four) stages, namely: (1), Identification, (2), Mapping, (3), Selecting alternatives, (4), Choosing the best alternative.

Several sources stated that, as a maritime hub in Eastern Indonesia, Baubau City is committed to resolving issues related to seaports, airports, and transportation and digital connectivity. This is done to improve accessibility and the regional economy, as well as support the growth of the maritime and logistics sectors. (rubriksultra.com, 2024). Efforts to improve the quality of Baubau port as a gateway to Eastern Indonesia by sea, Baubau City together with the head of KSOP are working to improve port facilities and services to meet international standards and support the smooth flow of trade and logistics in Eastern Indonesia. (lulopedia.id, 2024). The Port of Murhum Baubau has great potential as a trigger for maritime economic growth in Eastern Indonesia. This is supported by, among others: its location as the main travel route between Makassar, Maluku, and Papua, and as a gateway to Eastern Indonesia. (suarakendari.com, 2024). The structure of Baubau City can be seen through GRDP data and the contribution of the economic sector in the last 13 years which shows an increasing trend from 3.283 trillion Rupiah to 7.326 trillion Rupiah in 2023. In 17 economic sectors (business fields), there are 6 sectors with the largest average contribution to the total services of Baubau City in 2010 to 2023, namely: (1) Construction sector of 20.35%; (2) Wholesale and Retail Trade Sector; Car and Motorcycle Repair of 19.66%; (3) Agriculture, Forestry, and Fisheries sector of 13.64%; (4) Government Administration, Defense and Mandatory Social Security Sector of 8.31% and (5) Education Services of 7.16%; and (6) Transportation and Warehousing Sector of 5.57%. And there are also 3 economic sectors with the smallest average contribution to the total GRDP of Baubau City, namely: (1) Electricity and Gas Supply Sector of 0.07%; (2) Company Services Sector of 0.16%; and (3) Water Supply, Waste Management, Waste and Recycling Sector of 0.32%.

Several sources state that, as a maritime hub in Eastern Indonesia, Baubau City is committed to resolving issues related to seaports, airports, transportation, and digital connectivity. This is done to improve accessibility and the regional economy, as well as support the growth of the maritime and logistics sectors. (rubriksultra.com, 2024). Efforts to improve the quality of Baubau Port as a gateway to Eastern Indonesia via sea routes, Baubau City, together with the Head of the KSOP, are working hard to improve port

facilities and services to meet international standards and support the smooth flow of trade and logistics in Eastern Indonesia. (lulopedia.id, 2024). Murhum Baubau Port has great potential as a trigger for maritime economic growth in Eastern Indonesia. This is supported, among other things, by its location on the main shipping route between Makassar, Maluku, and Papua, as well as being a gateway to Eastern Indonesia. (suarakendari.com, 2024). The economic structure of Baubau City can be seen through GRDP data and the contribution of economic sectors in the last 13 years which shows an increasing trend from 3.283 trillion Rupiah to 7.326 trillion Rupiah in 2023. In 17 economic sectors (business fields), there are 6 sectors that have the largest average contribution to the total economy of Baubau City from 2010 to 2023, namely: (1) Construction Sector of 20.35%; (2) Wholesale and Retail Trade Sector; Car and Motorcycle Repair of 19.66%; (3) Agriculture, Forestry and Fisheries Sector of 13.64%; (4) Government Administration, Defense and Mandatory Social Security Sector of 8.31% and (5) Education Services Sector of 7.16%; and (6) Transportation and Warehousing Sector of 5.57%. And there are also 3 economic sectors that have the smallest average contribution to the total PDRB of Baubau City, namely: (1) Electricity and Gas Supply Sector of 0.07%; (2) Corporate Services Sector of 0.16%; and (3) Water Supply, Waste Management, Waste and Recycling Sector of 0.32%.

Based on data from the Baubau City Statistics Agency (BPS), the average contribution of the transportation and warehousing sector from 2010 to 2023, projected as the main driver for other economic sectors as a maritime axis in Sulawesi, has actually experienced a downward trend. The sector's highest contribution was in 2011 at 5.91% and its lowest in 2021 at 5.31%, as other sectors began to recover post-pandemic. Positive achievements in 2022 and 2023 indicate an increase but have not yet returned to 2011 levels. This trend also indicates that the transportation and warehousing sector is experiencing stagnant and flat movement at 5%. Tracing back, this can be suspected due to the Baubau City government's rejection of the construction of a finger port by the Southeast Sulawesi provincial government in the 2003-2008 period in the Kamali beach public area during that period. In addition to contributing to the GRDP, the growth rate of Baubau City's economic sectors also requires careful attention. Adam Smith in (Christin AA Alfons1, Anderson G. Kumenaung2 2024)<sup>[6]</sup> in general economic growth is defined as an increase in the ability of an economy to produce goods and services. Therefore, the economic growth rate of Baubau City from 2011 to 2023 is very important to observe. Based on data from the Baubau City Statistics Agency (BPS), Baubau City's economic growth in the last 12 years has experienced a downward trend since 2011 and was worst in 2020 due to the Covid-19 pandemic. The highest economic growth occurred in 2012 at 9.83%. Starting in 2013, it continued to decline until 2023. This shows that although in terms of quantity, Baubau City's GRDP experienced an upward trend, its economic growth actually experienced a downward trend.

The phenomenon of Baubau City's strategy formulation as a maritime region in Sulawesi that is not supported by data on the potential of the transportation and warehousing sectors as leading sectors also requires follow-up. Leading sources need to be integrated into efficiency principles and innovations adopted in maintaining the potential of leading resources.

(Szoldrowska and Smol 2025) <sup>[18]</sup>. This strategic decision phenomenon also has a gap with strategic management theory where strategic formulation in the form of establishing a strategic vision should begin with an external strategic environmental scan, especially for the economic segment. Policymakers need to identify leading resources and prioritize regulatory frameworks and tailored financial mechanisms, especially in low-income countries, to encourage the implementation of equitable circular economy principles and bridge existing gaps. (Abdirahman, Asif, and Mohsen 2025) <sup>[2]</sup>.

### Research Type

This research began with a scanning process in the form of identifying leading economic sectors in Baubau City using the LQ, DLQ, Shift Share, and Klassen Typology formulas. After the leading sectors were identified, a monitoring process was carried out in the form of a significance test of their influence on economic growth. nomic using multiple linear regression and continued with forecasting by projecting the GRDP growth of leading economic sectors in 2025-2034 using Linear, Exponential and Quadratic Trends (2nd Order Polynomial). Then, an assessment was conducted in the form of a study whether the transportation and warehousing sectors can be relied upon to support the vision of Baubau City as a maritime hub in Sulawesi based on the results of the analysis in the scanning, monitoring and forecasting processes.

### Research Location

This research was conducted at the Baubau City Statistics Office. This location was chosen based on the availability of the data required for the study.

### Population and Sample

The population in this study was 17 business sectors in Baubau City and Southeast Sulawesi between 2010 and 2023. The sample used was the leading sectors identified using the LQ, DLQ, Shift Share, and Klassen Typology formulas.

### Data Types and Sources

This study uses secondary data in the form of ADHK GRDP Data for Baubau City and Southeast Sulawesi Province from 2010 to 2023.

### Method of collecting data

Data was collected using the following methods:

1. Literature review by collecting secondary data sourced from the BPS website, libraries, the internet or previous research results obtained from online publications related to the research problem.
2. Observation method, namely collecting data by making direct observations.

### Data analysis techniques

The data analysis used in this study is quantitative descriptive analysis, where the aim of this analysis is to describe systematically, factually and accurately empirical facts, the relationship between the variables studied and projections (forecasting) based on the secondary data analyzed.

### The quantitative analysis method is carried out in three stages, namely:

Scanning (Identification of leading sectors) and its techniques, Monitoring (Multiple Linear Regression Analysis), Forecasting (Projection of Potential Leading Sectors of GRDP 2025-2034).

### Results and Discussion

#### Identification of Leading Sectors in Formulating Development Planning Strategies for Baubau City

Sampurno (2013) in (Asmiddin, 2022) <sup>[1]</sup> said that the external environmental analysis process at the strategic formulation stage is carried out through 4 (four) activity processes, namely: (1) Scanning, (2) Monitoring, (3) Forecasting and (4) Assessing. Belohlav and Sussnan, 1983 in (Salusu, 2003) offered a model of the external environmental scanning process which is carried out by searching and selecting data that is related to organizational activities or whose impact will be felt in the long term. (Adolph 2016) <sup>[3]</sup>, said that the economic variable that is very influential in planning is Gross Domestic Product. In this study, scanning the economic segment environment was carried out by calculating data from 17 business sectors in the ADHK GRDP of Baubau City and Southeast Sulawesi in 2010 - 2023 using the LQ, DLQ, Shift Share and Klassen Typology formulas. This is based on the opinion of (Mesrania 2024) <sup>[11]</sup>, who stated that a region's economic indicators can be demonstrated through the growth of its GRDP, and that the most effective way to accelerate regional development is through the development of leading sectors. Furthermore, (Yatminiwati 2019) <sup>[21]</sup> added that leading sectors are those whose existence plays a significant role in a region's economy.

The monitoring stage requires detecting the meaning and observing the trends of each phenomenon occurring in the macro-environment as outlined in the scanning process. According to Preble (Asmiddin, 2022) <sup>[1]</sup>, monitoring, according to Sampurno, involves following developments or examining any trends identified in the results of external environmental scanning. Monitoring in this study was conducted by examining the influence of leading sectors on Baubau City's economic growth using multiple linear regression. Causality testing was conducted to obtain an overview of which economic sectors have the most significant influence on Baubau City's economic growth.

Forecasting is conducted by developing projections based on the detection and interpretation of trends from symptoms found during the scanning and monitoring stages. Preble (Asmiddin, 2022) <sup>[1]</sup> This study uses linear, exponential, and quadratic trend models (second-order polynomials) to determine the development trends of key leading sectors over the next 10 years (2025-2034). In this case, the trend is an increase or decrease in economic potential in Baubau City.

Assessment is an evaluation of the identification, influence testing, and trend projections of leading sectors. This study identifies key leading sectors with the potential to support Baubau City's economy, including the reliability of the transportation and warehousing sectors, which support Baubau City's vision as a maritime hub in Sulawesi. Reliability parameters are the results of calculations, testing,

and trends in the transportation and warehousing sectors during the scanning, monitoring, and forecasting stages.

### Identification of Potential Leading Economic Sectors in Baubau City

The results of data scanning of 17 economic sectors (business fields) of Baubau City and Southeast Sulawesi in 2010-2023 found 6 leading sectors categorized as basic sectors with  $LQ > 1$ , prospective with  $DLQ > 1$ , sectors with positive progressive growth (Proportional Shift) and positive competitiveness (Differential Shift) and are in quadrant III in the Klassen typology as potential sectors and can develop rapidly. These leading sectors are: (1) clean water supply sector, waste management, waste and recycling; (2) wholesale and retail trade sector; car and motorcycle repair; (3) accommodation and food and beverage provision sector; (4) information and communication sector; (5) real estate sector; (6) health services and social activities sector.

The results of data processing based on the formulas for each Location Quotient (LQ), Dynamic Location Quotient (DLQ), Shift Share and Klassen Typology method can be explained as follows.

#### 1. Location Query (LQ)

Previous research indicates that the basic sector is an activity that exports goods and services outside the boundaries of the relevant economic region. Meanwhile, the non-basic sector is an activity that provides goods and services to meet the needs of the community living within the boundaries of that economic region (Juli *et al.* 2024) <sup>[4]</sup>.

The results of data processing using the Location Quotient (LQ) formula in this study produced 13 basic sectors, which means that business activities generated by these economic sectors can not only serve Baubau City but also the surrounding areas. If ranked by the average LQ value of 13 basic sectors in Baubau City in the last 13 years (2010-2023), other services sectors have the highest ranking with a value of 2.439; In order, the accommodation and food and beverage provision sector is ranked 2nd with a value of 1.906; the real estate sector is ranked 3rd with a value of 1.904; the information and communication sector is ranked 4th with a value of 1.687; the water supply, waste management, waste, and recycling sector is ranked 5th with a value of 1.637; the construction sector is ranked 6th with a value of 1.637; the government administration, defense, and mandatory social security sector is ranked 7th with a value of 1.594; the wholesale and retail trade sector; Car and motorcycle repair is ranked 8th with a score of 1,565; the education services sector is ranked 9th with a score of 1,513; the electricity and gas supply sector is ranked 10th with a score of 1,456; the financial and insurance services sector is ranked 11th with a score of 1,371; the health services and social activities sector is ranked 12th with a score of 1,275 and finally the transportation sector is ranked 13th with a score of 1,250.

Based on the ranking, the transportation and warehousing sector, a supporting parameter for the maritime hub, ranked 13th out of 13 basic sectors. This finding indicates that despite being a basic sector, the transportation and warehousing sector lacks the potential and competitiveness to become an economic sector or business field that will support the economy and realize Baubau City's vision as a maritime hub in Sulawesi.

The results of the study show the movement trend of the

Location Quotient (LQ) value of Baubau City in the last 13 years (2010-2023) which shows that of the 13 basic sectors, only 3 sectors are indicated to show an upward trend, namely; (1) the wholesale and retail trade sector; car and motorcycle repair; (2) the accommodation and food and beverage provision sector; and (3) real estate. Meanwhile, the transportation and warehousing sector has actually experienced a downward trend in the last 13 years.

This finding is also supported by the findings of a similar study using the LQ method to identify the base sector (Supriyanto and Kaparang 2024) <sup>[17]</sup> which identified and analyzed the leading sectors in the economy of Minahasa Regency for the 2019-2023 period using the Location Quotient (LQ) method. The data used were secondary data in the form of Gross Regional Domestic Product (GRDP) of Minahasa Regency and North Sulawesi Province obtained from the Central Statistics Agency. The analysis results show that there are several basic sectors with LQ values  $> 1$ , namely agriculture, forestry, and fisheries (LQ = 1.28), mining and quarrying (LQ = 1.28), manufacturing industry (LQ = 1.15), electricity and gas (LQ = 1.18), water and waste management (LQ = 1.07), construction (LQ = 1.14), real estate (LQ = 1.27), and government administration (LQ = 1.21), educational services (average LQ = 1.06), and other services (average LQ = 1.06). An important finding in this study is the significant transformation in the manufacturing industry sector which experienced a drastic increase from LQ = 0.78 in 2022 to LQ = 2.56 in 2023. Meanwhile, the tourism, transportation, and information communication sectors are still classified as non-basic sectors with LQ values  $< 1$ . This study recommends strengthening the basic sector through industrialization policies, agricultural modernization, and infrastructure development, as well as special programs for developing non-basic sectors to create more equitable and sustainable economic growth in Minahasa Regency.

#### 2. Dynamic Location Coefficient (DLQ)

Ariviya Juliantari, Sutanto, and Suriadi (2024) <sup>[4]</sup> state that the Dynamic Location Quotient (DLQ) is a method that compares the growth rate of a sector within a region's economic structure to the growth rate of a sector on a national or regional scale. The weakness of LQ analysis is that the results are static, so DLQ analysis is performed because LQ cannot predict basic and non-basic sectors/subsectors in the present and future.

The results of data processing using the DLQ formula in this study found that there were 7 prospective sectors with a DLQ value  $> 1$ , namely: (1) the real estate sector with a value of 10.19; (2) the accommodation and food and beverage provision sector 5.98; (3) the agriculture, forestry and fisheries sector 4.51; (4) the water supply, waste management, sewage and recycling sector 3.49; (5) the wholesale and retail trade sector; car and motorcycle repair 2.40; (6) the health services and social activities sector 1.64; and (7) the information and communication sector 1.62.

The property sector has the highest prospects compared to the other six prospective sectors. These findings indicate that over the past 13 years (2010-2023), property business activity has been quite promising in the Baubau City economy. This is evidenced by the growth of the housing (property) business in various parts of Baubau City over the past 13 years.

This finding also shows that of the 7 prospective sectors, there are non-basic sectors in the calculation results using the

LQ formula, namely the agriculture, forestry, and fisheries sector. These results indicate that although the agriculture, forestry, and fisheries sector is prospective with  $DLQ > 1$ , but because it is not included in the basic sector with  $LQ < 1$ , this sector is not included in the leading sector. Meanwhile, the other 5 sectors based on the DLQ calculation results in this study have the potential to become leading sectors in the Baubau City economy. In addition, the transportation and warehousing sector has a DLQ value of  $0.25 < 1$  which is not included in the prospective sector category. This indicates that the transportation and warehousing sector as the main pillar of the vision as a maritime hub in Sulawesi cannot be relied upon to support the Baubau City economy in the future.

### 3. Share Shift

Based on the results of data processing using the Shift Share formula, 8 economic sectors were found that had positive (+) Proportional Share (PS) and Differential Shift (DS) values. Of the 8 economic sectors, the one with the highest Differential Shift (DS) ranking was the wholesale and retail trade sector; car and motorcycle repair with a value of 127,666.68. In addition, there were 2 economic sectors with positive Proportional Shift and Differential Shift values but were categorized as non-basic sectors with an average LQ value of  $0.57 < 1$  and DLQ of 102,856.16  $> 1$ , namely the agriculture, forestry, and fisheries sector. And the other sector was educational services with an LQ of 1.51  $> 1$  but a DLQ of 0.96  $< 1$ . Therefore, it cannot be categorized as a leading sector in this study. There were 5 other sectors along with the wholesale and retail trade sector; car and motorcycle repair, namely (1) the clean water supply sector, waste management, waste and recycling; (2) accommodation and food and beverage provision sector; (3) information and communication sector; (4) real estate and (5) health services and social activities with  $LQ > 1$  and  $DLQ > 1$  can be categorized as leading sectors in this study. The highest Shift share, proportional shift and Differential Shift values indicate that the wholesale and retail trade sector; car and motorcycle repairs are experiencing progressive growth and high competitiveness. Thus, this sector has great potential to become the main leading sector supporting the economy of Baubau City in the future. An important finding in the results of data processing using Shift Share is that the transportation and warehousing sector has a negative Differential Shift (DS) value (-36.406)  $< 1$  which means it has no competitiveness. This shows that the transportation and warehousing sector cannot be relied upon to support the economy of Baubau City in achieving the vision of Baubau City as a maritime hub in Sulawesi.

### 4. Class Typology

The results of observation data processing in the form of a comparison of the average contribution and growth of the economic sector of Baubau City with Southeast Sulawesi in 2010-2023 showed that the economic sector of Baubau City was mapped in quadrant III as a potential sector and quadrant IV as a lagging sector. This finding shows that in the 2010-2023 period the average contribution and average growth of the economic sector of Southeast Sulawesi as a dominant reference was higher than that of Baubau City. There are 9 sectors in quadrant III, namely: (1) agriculture, forestry, and fisheries sector; (2) clean water, waste management, waste,

and recycling sector; (3) wholesale and retail trade sector; car and motorcycle repair; (4) accommodation and food and beverage provision sector; (5) information and communication sector; (6) real estate sector; (7) government administration, defense, and mandatory social security sector; (8) education services sector; (9) health services and social activities sector. Of the 9 sectors, the agriculture, forestry and fisheries sector is a non-basic sector with  $LQ <$ ; Meanwhile, the education and government administration, defense, and mandatory social security sectors are non-prospective with  $LQ < 1$ . Therefore, only six other sectors are included in the leading sector category. Meanwhile, the transportation and warehousing sector is included in quadrant IV as a lagging sector quadrant, along with seven other economic sectors. This finding indicates that the transportation and warehousing sector cannot yet be relied upon to support Baubau City's vision as a maritime hub in Sulawesi.

The combination of LQ, DLQ, Shift Share and Klassen Typology methods in identifying leading sectors in Baubau City resulted in the discovery of 6 leading sectors as base sectors with  $LQ > 1$ , prospective sectors with  $DLQ > 1$ , sectors with progressive and competitive growth with Proportional Shift (PS), Positive Differential Shift (DS), and are in quadrant III of Klassen typology as potential sectors. The six leading sectors are: (1) clean water supply, waste management, waste and recycling sector; (2) wholesale, retail, car and motorcycle repair sector; (3) accommodation and food and beverage provision sector; (4) information and communication sector; (5) real estate sector; and (6) health services and social activities sector. The findings of this study, using a combination of LQ, DLQ, Shift Share, and Klassen Typology, are supported by findings from a similar study by (Halik, 2025), which aimed to evaluate the alignment of the SEZ theme with the economic potential of the Southeast Sulawesi region using the Location Quotient (LQ), Dynamic Location Quotient (DLQ), Shift-Share Analysis, and Klassen Typology methods. The results of the study indicate two main sectors, namely the fisheries subsector and the base metal industry subsector. The fisheries subsector is supported by abundant marine resources and leading export commodities such as frozen octopus, seaweed, and pelagic fish. Meanwhile, the base metal industry is driven by abundant nickel reserves in the region, producing ferronickel and stainless steel for export needs. This study concludes that the development of SEZs is in line with regional potential.

Research using Location Quotient (LQ), Shift-Share Analysis, and Klassen Typology has also been conducted by previous researchers (Muhammad Hatta, Muhammad Nur, and Atira 2024) on the leading sectors of the Parepare City economy. Based on the combination of these three analytical tools, there are three main leading sectors, namely: Food and Beverage Accommodation Provision Sector, Transportation and Warehousing Sector, and Financial Services Sector. In addition, these sectors also play an important role in increasing regional economic growth, creating jobs, strengthening regional competitiveness in facing national economic changes, and have the potential to become a source of substantial regional income. Therefore, the sustainability and development of these sectors are expected to have a long-term impact on the welfare of the people of Parepare City.

## 5. Monitoring

Monitoring is the second stage in the environmental scanning process for strategy formulation. This stage requires detecting the meaning and observing the trends of each phenomenon occurring in the macroenvironment. Preble (1992) in (Asmaddin, 2022)<sup>[1]</sup> and (Widiatmika, 2015)<sup>[19]</sup> explain that the monitoring stage involves detecting the meaning of each development and event in the external environment based on data analysis from the scanning stage. In this study, the macroeconomic segment data generated during the scanning stage is the focus of the analysis.

To explain and analyze the six leading sectors identified in the scanning phase, researchers conducted a multiple linear regression analysis to determine the significant influence of the six leading sectors on Baubau City's economic growth over the past 12 years. The six sectors in the multiple linear regression model served as the independent variables (X) and economic growth as the dependent variable (Y).

The multiple linear regression equation produced in this study is  $Y = -0.354 - 0.00460X_1 + 0.518X_2 + 0.0114X_3 - 0.053X_4 + 0.162X_5 + 0.293X_6$ . Where  $-0.354$  is a constant value; variable  $X_1$  is the clean water supply sector, waste management, waste and recycling; variable  $X_2$  is the wholesale and retail trade sector; car and motorcycle repair; variable  $X_3$  is the accommodation and food and beverage provision sector; variable  $X_4$  is the information and communication sector; variable  $X_5$  is the real estate sector and variable  $X_6$  is the health services and social activities sector. Based on the results of the partial hypothesis test (t-test) it was detected that of the 6 leading sector variables that had the most significant influence on the economic growth of Baubau City in the last 12 years (2011-2023) were (1) the wholesale and retail trade sector; Car and motorcycle repair with a P value of  $0.002 < 0.05$  and (2) the health services and social activities sector with a P value of  $0.0158 < 0.05$ . The other four sectors do not affect economic growth with their respective P values  $> 0.05$ . The P value  $> 0.05$  also applies to constants with a P value of  $0.7076 > 0.05$ . Thus, the correct multiple linear regression equation after the partial hypothesis test in this study is:  $Y = 0.518X_2 + 0.293X_6$ . However, the results of the simultaneous test (F Test) illustrate that the 6 leading sectors (Variable X) together have a significant effect on the economic growth of Baubau City (Variable Y) with a P Value F of  $0.000111 < 0.05$ . Similar research on the influence of leading sectors on economic growth is also found in research conducted by (Rika Rahmadina Putri, SEI, M.Si, Mudzakir Ilyas, and Evi Rukmana 2023) who examined the influence of the trade and agricultural sectors on the economic growth of Prabumulih City, South Sumatra using multiple linear regression. The findings of this study are that partially the trade sector ( $X_1$ ) has a negative effect on the economic growth of Prabumulih City (Y). The agricultural sector ( $X_2$ ) with a calculated t value of 18.268 is greater than the t table value of 1.812, then ( $18.268 > 1.812$ ) and a significance value of 0.000, it is stated that partially the agricultural sector ( $X_2$ ) has a positive and significant effect on the economic growth of Prabumulih City (Y). Based on the results of the simultaneous test or F test, it shows that the trade sector and the agricultural sector with a calculated f value of 385.364 is greater than the f table of 4.103 ( $385.364 > 4.103$ ) and a significance value of 0.000, it is stated that the Trade Sector ( $X_1$ ) and the Agricultural Sector ( $X_2$ ) together have a positive and significant effect on

the economic growth of Prabumulih City (Y).

## 6. Forecasting

According to Sampurno (Asmaddin, 2022)<sup>[1]</sup>, forecasting is a projection of what will happen in the future based on trends identified during the scanning and monitoring phase. According to Dunn (Rahmawati, 2021), during the forecasting phase, analysts develop projections and predictions about what will happen, and how quickly, as a consequence of superior alternative choices based on extrapolated past and present data.

The scanning process produced 6 leading sectors and then in the monitoring process it was detected that of the 6 leading sectors, only 2 sectors had the most significant influence on the economic growth of Baubau City, namely (1) the wholesale and retail trade sector; car and motorbike repair; and (2) the health services and social activities sector.

Based on the extrapolation method, at the forecasting stage, these two sectors are projected to have an increasing trend in the amount of GRDP in the next 10 years (2025-2034) based on the GRDP data of the sector for the previous 12 years (2010-2023). The projection is carried out to determine the linear and nonlinear trends of the two sectors, whether the trend is increasing or decreasing by using linear, exponential, and quadratic trend models (2nd order polynomials). If the trend is increasing, it means it can be relied upon to become a potential leading sector and conversely, if the trend is decreasing, it means it cannot be relied upon to support the economy in the future.

Based on the calculation results of the 2010-2023 GRDP sector time series data using linear, exponential and quadratic trend models (2nd order polynomial) it was found that the most accurate way to project the trend of the wholesale and retail trade sector; car and motorcycle repair for the next 10 years is with the Quadratic model (2nd Order Polynomial) with the equation:  $Y = 433430 + 98544t - 1285.9t^2$  and a Determination Coefficient of 0.9881 or 98.81%. From the results of these calculations, the following positive trend achievement projections were produced: GRDP in 2024 amounted to 1,622,262.50 billion Rupiah; in 2025 amounted to 1,680,943.60 billion Rupiah; in 2026 amounted to 1,737,052.90; in 2027 amounted to 1,790,590.40 billion Rupiah; In 2028 it will be 1,841,556.10 billion Rupiah; In 2029 it will be 1,889,950.00 billion Rupiah; In 2030 it will be 1,935,772.10 billion Rupiah; In 2031 it will be 1,979,022.40 billion Rupiah; In 2032 it will be 2,019,700.90 billion Rupiah; In 2033 it will be 2,057,807.60 billion Rupiah and in 2034 it will be 2,093,342.50 billion Rupiah. The average GRDP of the wholesale and retail trade sector; car and motorcycle repair in the next 10 years will be 1,877,091.00 billion Rupiah.

Meanwhile, based on the calculation results of the time series data of the GRDP sector for 2010-2023 using linear, exponential, and quadratic trend models (2nd order polynomials), it was found that the most accurate in projecting trends in the health services and social activities sector for the next 10 years is the Quadratic model (2nd Order Polynomial) with the equation:  $Y = 36296 + 4056t + 41.303t^2$  with a Determination Coefficient ( $R^2$ ) of 0.9937 or 99.37%. From the calculation results, the following positive trend achievement projections are produced: GRDP in 2024 is 106,429.18 billion Rupiah; in 2025 it is 111,765.57 billion Rupiah; in 2026 it is 117,184.57; in 2027 it is 122,686.17

billion Rupiah; in 2028 it is 128,270.38 billion Rupiah; in 2029 it is 133,937.20 billion Rupiah; in 2030 it is 139,686.62 billion Rupiah; in 2031 it is 145,518.65 billion Rupiah; in 2032 it is 151,433.29 billion Rupiah; In 2033, it will reach 157,430.53 billion Rupiah and in 2034, it will reach 163,510.38 billion Rupiah. The average GRDP of the health services and social activities sector over the next 10 years will be 134,350.23 billion Rupiah.

Upon further examination, the projected GRDP for the wholesale and retail trade, car and motorcycle repair sectors has a much higher annual achievement rate than the health services and social activities sectors. This figure indicates that the wholesale and retail trade, car and motorcycle repair sector is able to make a dominant contribution to the Baubau City economy. Thus, the wholesale and retail trade, car and motorcycle repair sector is the main leading sector, positioned as a driver of the Baubau City economy from 2010-2034.

The findings of this study are similar to those of Suradi (2022) on the projection of economic growth in the education services sector in Lampung Province from 2022 to 2025 using linear, exponential, and quadratic trends. The objective of this study was to create projections. Descriptive and predictive methods were employed in this study. Trend analysis was used to find the best economic growth model

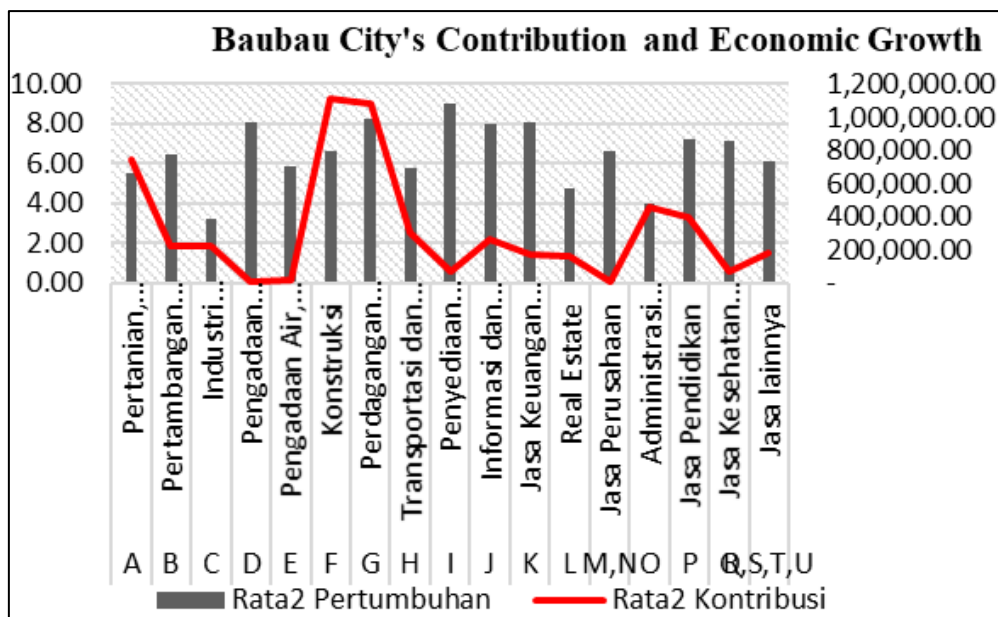
(linear, quadratic, cubic, and exponential), as indicated by the highest coefficient of determination (R<sup>2</sup>) value in the model formed, using Micros software.

**7. Assessment**

Preble (1992) in (Asmaddin, 2022) [1] explains that the assessment stage is the process of accurately assessing the implications, interpretations, and projections of the phenomena analyzed in the scanning, monitoring, and forecasting stages. This is done to determine the organization's competitive strategy. Without conducting an assessment, an organization simply sees data but doesn't understand its competitive relevance.

Based on the results of the analysis of the scanning, monitoring and forecasting stages of the leading sectors of Baubau City, it was concluded that the wholesale and retail trade sector; car and motorcycle repairs are the mainstay sectors of the Baubau City economy in the last 13 years (2010-2023), and have an increasing trend in the next 10 years (2025-2034).

Overall, across 17 business sectors in Baubau City, the contribution and growth of the wholesale and retail trade and car and motorcycle repair sectors have consistently achieved the highest achievements in the last 13 years.



Source: Data on ADHK GRDP of Baubau City and Southeast Sulawesi Province 2010-2023. Processed

Fig 1: Graph of Baubau City's Contribution and Economic Growth 2010-2023

Thus, based on the external environmental analysis of the economic segments that have been produced, the formulation of Baubau City's future development strategy should prioritize the wholesale and retail trade sector, as well as car and motorcycle repair. This can be achieved, among other things, by supporting the growth of MSMEs as the main drivers of the trade and services sector, which dominates Baubau City's business sector. Data from the Cooperatives and MSMEs Office records 12,244 business units in Baubau City, or 7.37% of the Baubau City population. According to data from the Investment and One-Stop Integrated Services Agency (PTSP), there are 16,000 MSMEs with Business Identification Numbers (NIB). Furthermore, BPS data

indicates that MSMEs contribute 37%, or 4.2 trillion Rupiah, to the GRDP. Meanwhile, there are 29,338 new and established entrepreneurs (rri.co.id, 2024). The transportation and warehousing sector, which should be the main pillar of Baubau City's vision as a maritime center in Sulawesi, cannot be relied upon to support Baubau City's economy because it is not included in the category of leading sectors.

**Conclusion**

The results of the analysis using the LQ, DLQ, Shift Share and Klassen Typology formulas found six leading sectors in Baubau City in 2010-2023, namely: (1) provision of clean water, waste management, waste and recycling; (2)

wholesale, retail, car and motorcycle repair sector; (3) accommodation and food and beverage provision sector; (4) information and communication sector; (5) real estate sector; and (6) health services and social activities sector.

The multiple linear regression equation produced in this study is  $Y = 0.518X_2 + 0.293X_6$ . Of the 6 leading sectors, there are 2 sectors that have a significant influence on the economic growth of Baubau City in 2011-2023, namely: (1) wholesale, retail, car and motorcycle repair sector ( $X_2$ ) with a P Value of  $0.002 < 0.05$  and (2) health services and social activities sector ( $X_6$ ) with a P Value of  $0.0158 < 0.05$ . Meanwhile, the other 4 sectors do not have a significant influence on economic growth with each P Value  $> 0.05$ . 3. The selected projection model uses Quadratic (2nd Order Polynomial) with the equation  $Y = 433430 + 98544t - 1285.9t^2$  and a Determination Coefficient of 0.9881 or 98.81% so that the average projection of the GRDP of the wholesale, retail, car and motorcycle repair sector in 2024-2034 experienced an increasing trend of 1,877,091.00 billion Rupiah per year and the health services and social activities sector of 134,350.23 billion Rupiah per year, also using the Quadratic model (2nd Order Polynomial) with the equation  $Y = 36296 + 4056t + 41.303t^2$  and a Determination Coefficient ( $R^2$ ) of 0.9937 or 99.37%. 4. The transportation and warehousing sector cannot be relied upon as a mainstay of the economy in achieving the vision of Baubau City as a maritime hub in Sulawesi because it is not included in the leading sectors in Baubau City. This is proven by the calculation of  $LQ > 1$  as a basic sector but is ranked 13th out of 13 basic sectors, then  $DLQ < 1$ , negative Proportional Shift (PS) and negative Differential Shift (DS) and is in quadrant IV of the Klassen Typology as a lagging sector.

### Suggestion

The findings of this study emphasize the importance of local governments in identifying superior sectors with a comprehensive, rational approach.

### Reference

1. Asmaddin. Strategic Management of Public Organizations and Business Organizations. Banyumas: PT. Pena Persada Kerta Utama; 2022.
2. Abdirahman AA, Asif M, Mohsen O. Circular economy in the renewable energy sector: A review of growth trends, gaps and future directions. *Energy Nexus*. 2025;17:100395. doi:10.1016/j.nexus.2025.100395.
3. Adolph R. Strategic Management. [place unknown: publisher unknown]; 2016. p. 1-23.
4. Ariviya Juliantari R, Sutanto H, Suriadi I. Analysis of leading sectors in the regional development of East Lombok Regency. *J Econ Bus*. 2024;10(2):43-55. doi:10.29303/ekonobis.v10i2.186.
5. Benchis MP, Shahzad K, Dan S. Comparative analysis of blockchain adoption in the public and private sectors. A Technology-Organization-Environment (TOE) framework approach. *J Innov Knowl*. 2025;10(4):100746. doi:10.1016/j.jik.2025.100746.
6. Alfons CAA, Kumenaung AG, Tolosang KD. Analysis of leading economic sectors and their contribution to the economy in South Halmahera Regency. *MUSYTARI Manag Balance Econ*. 2024;10(4):1-17. doi:10.8734/Musyitari.v1i2.36.
7. Rahmawati. International Journal of Social Science Research and Review in Indonesia. 2024;7(5):83-95.
8. Rahmawati. Policy Analysis Theory and Cases. [place unknown: publisher unknown]; 2024. Available from: <https://drive.google.com/drive/home>.
9. Forrester-Jones R, Jawad R, Zaki C, Ismail G. Living policy labs: A case study of collaborative dialogue about social protection to alleviate grievances and facilitate peaceful outcomes in Egypt. *World Dev*. 2025;185:106790. doi:10.1016/j.worlddev.2024.106790.
10. Wangke SC, Rotinsulu TO, Sumual JI. Analysis of determining leading sectors in South Halmahera Regency 2015-2023. *Sci Period J Effic*. 2024;24(5):56-67.
11. Mesrania PA. Analysis of the influence of leading sectors in increasing economic growth development in Sragen Regency in 2010-2021. *J Econ Educ*. 2024;20(1):78-96. doi:10.21831/jep.v20i1.52407.
12. Moustafa Z, Asif M, Wuni IY. Circular economy in the building sector: A systematic review of environmental, economic, and social dimensions. *Sustain Futures*. 2025;9:100690. doi:10.1016/j.sfr.2025.100690.
13. Muhammad Hatta, Muhammad Nur, Atira. Analysis of potential leading sectors in Parepare City development planning. *Cateris Paribus J*. 2024;4(2):90-101. doi:10.31850/cpj.v4i2.3248.
14. Nikolaidis NP, Troullaki K, Lilli MA, Halasah S, Lehrer D, Rozakis S, et al. An integrated participatory framework for WEF E Nexus strategic planning: The Jordan Valley case study. *J Environ Manag*. 2025;375:124246. doi:10.1016/j.jenvman.2025.124246.
15. Rika Rahmadina Putri SEI, Mudzakir Ilyas, Evi Rukmana. Analysis of the influence of the trade sector and the agricultural sector on economic growth. *ADL Islam Econ J Islam Econ Stud*. 2023;4(2):187-95. doi:10.56644/adl.v4i2.79.
16. Rowe KM, Whitty SJ, Wheeldon AL. The pragmatic comporment compass: Rethinking projectification in public sector projects. *Proj Leadersh Soc*. 2024;5:100152. doi:10.1016/j.plas.2024.100152.
17. Supriyanto S, Kaparang VWP. Identification of leading sectors in Minahasa Regency: Analysis using the Location Quotient (LQ) approach. *Multidiscip Sci J*. 2024;1(5):99-105. doi:10.69714/djs1cf37.
18. Szołdrowska D, Smol M. The current state of water resources in Poland - Possibilities of water reuse and management by the circular economy. *Desalin Water Treat*. 2025;323:101287. doi:10.1016/j.dwt.2025.101287.
19. Widiatmika KP. 16 Journalism Ethics in Yellow Newspapers: A Study of Green Light Newspapers. [place unknown: publisher unknown]; 2015.
20. Wilhelm C, Chilla T. The regional dimension in GPN – Mapping value creation and governance of the Bavarian beer sector. *Geoforum*. 2023;145:103828. doi:10.1016/j.geoforum.2023.103828.
21. Yatminiwati M. Polytron strategy management. [place unknown: publisher unknown]; 2019. Available from: <http://hariyantom90.blogspot.com/2013/12/manajemen-strategi-polytron.html?m=1>.