An Analysis of Population Productivity and Its Relationship with the Regional Economic Structure in Tolitoli Regency

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Abstract

This study aims to analyze the relationship between population productivity and the regional economic structure in Tolitoli Regency. The data used is sourced from the official publication of the Central Bureau of Statistics through the Tolitoli in Figures 2024 document. The results show that the agriculture, forestry, and fisheries sectors are the largest contributors to labor absorption but do not provide a proportional contribution to the Gross Regional Domestic Product (GRDP). This imbalance indicates low productivity in labor-intensive sectors and highlights the need for economic transformation toward higher value-added sectors. The study recommends strengthening policies that support economic diversification, improving human resource quality, and developing new productive sectors as strategies to enhance regional productivity and competitiveness. These findings are expected to serve as a foundation for formulating a more inclusive and sustainable regional economic development strategy.

Keywords: *Population Productivity, Economic Structure, GRDP, Labor, Tolitoli Regency*

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INTRODUCTION

Regional economic development does not solely depend on the size of the budget or the number of infrastructure projects, but rather on how effectively a region manages the potential of its human resources (Kuncoro et al., 2018; Maskur et al., 2023). In this context, labor productivity serves as a critical indicator to assess the extent to which the population's capacity can generate valuable economic output (Alatas et al., 2022; www.nsd.co.id, 2015). Tolitoli Regency, as a region with strong potential in the agriculture, fisheries, and services sectors, faces complex structural challenges in advancing economic transformation toward higher and more sustainable productivity (BPS Tolitoli, 2024b; Sardono, 2023).

The main issue that arises is the imbalance between the contribution of economic sectors to the Gross Regional Domestic Product (GRDP) and the proportion of the labor force absorbed within them. In many cases, the sectors that absorb the majority of the workforce are not necessarily the largest contributors to the regional GRDP (Fahri Eka Oktora, 2013; Oktora & Pontoh, 2013). Conversely, sectors that make significant contributions to the GRDP often absorb only a small share of the workforce (A. Saputra et al., 2022). This imbalance creates a productivity paradox and poses a major challenge for regional development planners, particularly in formulating employment, vocational education, and sectoral investment policies (GALIH PRIHANDANI UTOMO, 2022; A. Saputra & Ramlawati, 2020).

This phenomenon is not unique to Tolitoli but reflects a broader pattern observed in many developing regions (Handayani, 2017). However, to formulate contextual and applicable solutions, there is a need for a thorough mapping of the regional economic structure, intersectoral labor distribution, and sectoral productivity calculations based on accurate empirical data (B. Saputra & Fernando, 2017). The Tolitoli in Figures 2024 publication by the Central Bureau of Statistics serves as a critical data source in presenting an objective overview of these dynamics (BPS Tolitoli, 2024a).

Through this study, the authors aim to analyze the relationship between regional economic structure and labor productivity in Tolitoli Regency (Lydia Irena, 2020; Riri Anggraheni Eka Rimandasari, 2015). Specifically, the research will measure the contribution of various business sectors to the regional GRDP, compare these with labor distribution by sector, and calculate productivity ratios for each sector (Haryadi & Al'ayubi, 2020). With this approach, it is expected that the study will identify which sectors demonstrate high efficiency and which sectors still hold potential for productivity enhancement through appropriate policy interventions .

The primary objective of this study is to present an in-depth descriptive analysis of sectoral productivity disparities, while also offering an empirical basis for policy decisions related to economic and labor development at the regional level. Moreover, the study seeks to raise awareness that economic growth cannot be separated from the improvement of the quality and capability of the local workforce, particularly in sectors that have long supported the livelihoods of the community.

Theoretically, this research is grounded in the basic concept of labor productivity, defined as the ratio between economic output and the number of workers involved in producing that output (A Muliana & Fiansi, 2024). In the context of regional economic development, this concept is closely associated with the structural transformation theory

developed by Arthur Lewis, Simon Kuznets, and Colin Clark, which posits that long-term economic growth is accompanied by a shift in labor from low-productivity primary sectors to more productive secondary and tertiary sectors (Rian Tinegas, 2021). Previous studies have shown that such transformation requires investments in education, training, infrastructure, and a supportive business environment (Sutanto, 2022).

This research is expected to provide meaningful contributions in the form of data-driven policy recommendations, particularly in guiding regional economic development priorities that emphasize not only growth but also efficiency and equitable distribution of development benefits. Accordingly, the findings of this study can be utilized by local governments, planning institutions, and educational entities to strengthen a development agenda based on productivity and the quality of human resources in Tolitoli Regency.

METHODOLOGY

His study employs a quantitative descriptive approach aimed at providing a systematic overview of the relationship between economic structure and labor productivity in Tolitoli Regency. This approach is selected because it is suitable for analyzing aggregate secondary statistical data and is capable of portraying socio-economic phenomena through measurable numerical indicators. The descriptive design also enables the researcher to conduct mapping and comparative analysis across economic sectors based on productivity ratios (Astridya Paramita & Lusi Kristiana, 2013; Ricardianto et al., 2020).

1. Research Design

he research design is exploratory-descriptive, with a primary focus on analyzing the relationship between the contribution of various economic sectors to the Gross Regional Domestic Product (GRDP) and the distribution of labor across those sectors. This study does not intend to test causal hypotheses but rather aims to build a deeper understanding of sectoral productivity imbalances at the regional level and to formulate recommendations based on available official statistical data.

2. Population and Sample

The population of this study includes all economic sectors listed in the GRDP classification by industry in Tolitoli Regency, including agriculture, forestry, and fisheries; mining; manufacturing; construction; wholesale and retail trade; transportation; financial services; and public administration. These sectors serve as the units of analysis for calculating labor productivity (A Muliana & Fiansi, 2024).

Since this research uses a total population (total sampling) method, all economic sectors recorded in Tolitoli in Figures 2024 will be analyzed without applying a limited sampling technique. This approach provides broader and more comprehensive coverage of productivity conditions across sectors.

3. Data Collection Techniques and Instruments

The data used in this study are derived from secondary sources, namely the official publication Tolitoli in Figures 2024 issued by the Central Bureau of Statistics (BPS) of Tolitoli Regency, along with other relevant supporting data. This document contains annual data, including (BPS Tolitoli, 2024a):

1. GRDP of Tolitoli Regency by industry at current and constant prices (from 2020 to 2023),
2. Number of workers by industry/sector,

3. General employment data, such as labor force participation rate and open unemployment rate.

The instrument used for data collection is a custom-developed tabulation analysis format designed by the researcher to organize data, calculate sectoral productivity, and conduct year-to-year and cross-sector comparisons. For data processing and visualization purposes, the researcher used software such as Microsoft Excel and SPSS version 25 to facilitate ratio calculations and the creation of comparative charts and tables.

4. Data Analysis Techniques

The data analysis was conducted using a sectoral productivity ratio technique, which involves dividing the GRDP value per sector (in Indonesian Rupiah) by the number of workers in the respective sector. The basic formula used is:

$$\textbf{Sector Productivity} = \frac{\textbf{GRDP of the Sector}}{\textbf{Number of Workers in the Respective Sector}}$$

This analysis was carried out progressively for each year during the 2020–2023 period, enabling the identification of productivity trends across sectors over time. In addition, a comparative analysis was conducted between each sector's contribution to total GRDP and the proportion of labor absorbed, in order to assess the degree of balance between economic output and the distribution of human resources.

The results of this quantitative analysis are discussed qualitatively in the discussion section, by relating them to the socio-economic context of the region and relevant literature. Data validity is ensured through the use of credible official national sources (BPS), and the entire data processing procedure was carried out transparently, logically, and in a manner that allows replication by other researchers.

RESULTS AND DISCUSSION

1. Economic Structure of Tolitoli Regency: Sectoral Composition and Contribution

Based on Tolitoli in Figures 2024, the economic structure of Tolitoli Regency is still predominantly driven by the primary sector, particularly agriculture, forestry, and fisheries. In 2023, this sector contributed approximately 44.91% to the Gross Regional Domestic Product (GRDP) at current prices. Other sectors with notable contributions include wholesale and retail trade (12.10%), construction (10.35%), and public administration (8.22%).

The following table presents a summary of sectoral contributions to Tolitoli Regency's GRDP in 2023:

Sektor	Contribution to GRDP (%)
Agriculture, Forestry, Fisheries	44,91
Wholesale and Retail Trade	12,10
Construction	10,35
Public Administration	8,22
Transportation and Warehousing	5,37
Manufacturing Industry	4,48
Education Services	2,15
Information and Communication	1,65
Financial Services	1,29
Others	9,48

This data indicates a high dependency on the primary sector. Meanwhile, sectors typically associated with higher productivity, such as manufacturing, financial services, and information and communication, have yet to become the main pillars of the regional economy.

2. Distribusi Tenaga Kerja Antar Sektor

The labor force in Tolitoli Regency in 2023 was recorded at 123,650 people, with the agricultural sector absorbing more than 60% of the total workforce. The trade and services sectors were the next largest employers. Meanwhile, the industrial and financial sectors still accounted for a relatively small share of labor absorption. The following chart illustrates the comparison of labor proportions across sectors:
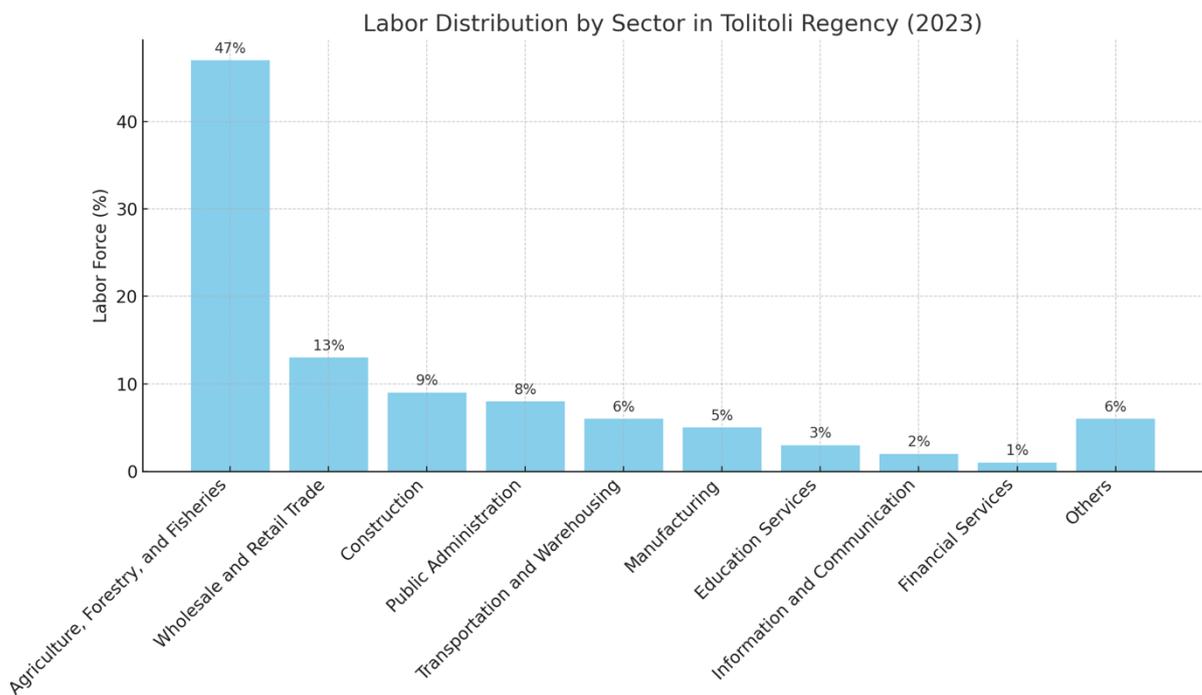

Chart 1: Labor Distribution by Sector in 2023

Labor-intensive sectors such as agriculture and trade serve as the backbone of employment absorption, even though they are not the sectors contributing the highest value added to the GRDP.

3. Labor Productivity Analysis by Sector

Productivity is measured by the ratio between a sector's contribution to GRDP and the number of workers employed in that sector. The results show that sectors with high GRDP contributions and fewer workers tend to have higher productivity, while sectors with a large workforce and low GRDP contributions—such as agriculture—exhibit lower productivity.

For example:

1) **Agricultural sector**: absorbs more than 60% of the labor force but contributes only about 45% to the GRDP
2) **Financial and professional services sectors**: employ a relatively small number of workers but show much higher productivity per worker.

Summary Table of Sectoral Productivity:

Sector	GRDP Contribution (%)	Labor Force (%)	Productivity Indication
Agriculture	44,91	>60	Low
Trade	12,10	±15	Medium
Construction	10,35	±6	High
Finance & Modern Services	±1,29	<1	Very High

The disparity in sectoral productivity reflects the suboptimal structural transformation of the regional economy. High value-added sectors have not yet developed strongly enough to serve as new growth centers. Conversely, sectors that dominate employment remain stagnant in terms of productivity.

4. Interpretation of Findings within Theoretical and Literature Framework

These findings align with the theory of structural transformation proposed by Kuznets and Lewis, which asserts that long-term economic growth is characterized by a shift of labor from the primary sector to more productive secondary and tertiary sectors. In Tolitoli, this shift is still occurring very slowly. Agriculture remains the primary employment choice for the working-age population, despite its relatively low per capita income contribution.

Furthermore, this imbalance can be attributed to factors such as low education quality, limited access to vocational training, and scarce employment opportunities in modern sectors. Thus, this research not only explains the factual conditions but also offers a reflective foundation for regional policy planning.

5. Research Implications for Regional Development Planning

This study yields several important implications:

1) **First**, there is a need to formulate strategies to improve productivity in the agricultural sector, such as through mechanization, commodity diversification, and broader market access.
2) **Second**, the local government must accelerate the development of productive sectors like small-scale industry, the creative economy, and modern services by promoting vocational education and investment incentives.
3) **Third**, economic transformation will only succeed if supported by inclusive and sustainable human resource development policies.

CONCLUSION

Based on the analysis results, it was found that Tolitoli's economic structure is still dominated by the primary sector—particularly agriculture, forestry, and fisheries—which contributes nearly half of the total Gross Regional Domestic Product (GRDP). However, this dominance is not accompanied by high productivity levels, as this sector also absorbs the largest share of the workforce but generates relatively low added value.

Conversely, sectors such as finance, modern services, and manufacturing—which theoretically possess higher productivity—still account for a very small portion in terms of both GRDP contribution and labor absorption. The imbalance between labor distribution and sectoral contribution reflects the suboptimal structural transformation of the regional economy toward a more productive and competitive direction.

The core finding of this study highlights that improving the productivity of the population in Tolitoli Regency cannot be separated from strategies of economic diversification and the enhancement of human resource quality. True economic transformation requires a labor shift toward sectors with higher value-added potential, accompanied by strengthened access to education, vocational training, and the creation of a business climate conducive to the growth of new productive sectors.

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