Regional Development Based on Regional Superior Potential as an Effort to Alleviate Poverty in Tual City

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Abstract:

This research aims to identify leading sectors and analyze their impact on poverty reduction efforts in Tual City. This study uses quantitative methods using Location Quotient (LQ) analysis, Shift Share Analysis (SSA), Specialization Index (SI), and Klassen Typology, followed by multiple regression analysis to see the relationship between leading sectors and poverty rate. This study uses secondary data from the Central Bureau of Statistics (BPS) for the period 2019-2023. The results show that Tual City has six basic sectors: Agriculture, Forestry, and Fisheries (LQ 1.55-1.62); Construction; Wholesale and Retail Trade; Real Estate; Educational Services; and Health Services and Social Activities. The fisheries subsector shows a particular advantage, reflecting Tual's geographical advantage as an island city. Shift-share analysis shows that these sectors exhibit competitive advantage and positive growth patterns. This study concludes that the strategic development of these leading sectors, particularly the maritime-based economy, can contribute significantly to poverty alleviation in Tual City. The findings provide valuable insights for regional development planning and poverty alleviation strategies.

Keywords*: leading sector; regional development; poverty reduction; Location Quotient; Tual City*

1. Introduction

The challenge faced by the Regency, especially for new autonomous regions, is to increase regional income and independence in development with constraints on the availability of resources in the region. Thus, the determination of appropriate economic development policies and strategies is necessary. The direction of determining these policies and strategies is to achieve development priority criteria in the form of reducing forms of inequality, policies that are in accordance with the wishes of the community and development that is able to increase regional growth. (Marfiani et al., 2018).

Regional development is carried out by the government in various regions to overcome the three main development problems of poverty, unemployment, and inequality. (Kamaruddin & Alam, 2018). Regional development policies are basically

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government decisions and interventions, both nationally and regionally, to encourage the overall regional development process. This analysis is very important to accelerate regional economic growth, increase employment and reduce poverty in underdeveloped areas. This analysis is needed to be able to improve the regional development process and at the same time to improve the welfare of the local community. (Hidayat & Darwin, 2017).

The poor population in Tual City is relatively high based on data released at BPS Tual that in March 2023 the poor population in Tual reached 20.68% of the total city population. Based on this figure, Tual City is among the 10 poorest cities in Indonesia. Although in the last 5 years the poverty percentage has decreased, the decrease tends to be small so that the figure is still large, still reaching the double-digit level. For this reason, further efforts are needed to improve regional competitiveness by identifying leading sectors as an effort to alleviate poverty. Trismayanti's research (2023) entitled superior sector analysis in poverty alleviation efforts in Kuningan Regency with the result that there are sectors in GRDP based on business fields that are superior and prospective that can be developed to open business fields and can reduce poverty levels. (Trismayanti, 2023).

Samuelson in (Tarigan, 2005) introduced the theory of fast-track growth (turnpike) which assumes that each region needs to see what sectors/commodities have great potential and can be developed quickly, either because of natural potential or because the sector has a competitive advantage to be developed so that the development of the sector will encourage other sectors to develop so that the economy as a whole will grow.

Each region certainly has its own regional potential, by knowing the leading regional sector, regional development will be in accordance with the potential of the region and can be a consideration for local governments to take strategic actions in future development planning. For this reason, each region must determine and know the dominant economic sector.

The economic potential that exists in each region needs to be explored and utilized effectively and efficiently to support economic development and growth in the region. The development of the economic potential of the leading sectors that make the greatest contribution to regional economic progress is a policy priority that must be implemented. The benefit of knowing the leading sector is that it is able to provide indications for the economy nationally and regionally. The leading sector certainly has greater potential to grow faster than other sectors in a region, especially if there are supporting factors for the leading sector, namely capital accumulation, absorbed labor growth, and technological advances. (Tumangkeng Steeva, 2018)

2. Methodology

The research method referred to in this study adopts a technical approach or quantitative method in regional development planning, which uses LQ, IS, SSA,

Klassen Typology analysis techniques. This research activity begins with a literature review on the development of leading sector potential, regional economic potential. Furthermore, data collection is carried out, the data used is secondary data obtained from relevant agencies, namely BPS. Furthermore, the analysis uses LQ, IS, SSA, Klassen Typology, the results of using the LQ analysis technique can be obtained base sector or regional leading sector, IS technique to see the potential sectors to be developed and will be seen sector specialization. SSA to identify the components of regional growth so that it is known how the economic structure of Tual City, the results of Klassen Typology to identify sectors that fall into the category of developed sectors, developing sectors, developed but depressed sectors and relatively underdeveloped sectors. After obtaining the leading sector, the sector was then analyzed with multiple regression to find out how the sector affects poverty in Tual City with the help of SPSS application. In addition to quantitative data processing, further field studies were conducted in the form of primary data collection, namely short interviews with stackholders and the community to obtain credible data so as to strengthen the results of the analysis.

a. *Location Quotient* Calculation

$$LQ = \frac{Si}{S} : \frac{Ni}{N}$$

Description:

LQ : Location Quotient
Si : GRDP of sector i in Tual city
S : Total GRDP in Tual City
Ni : GRDP of sector i of Maluku province
N : Total GRDP in Maluku province

b. *Shift Share* Analysis Calculation

$PN = Ra \ x \ Yij$
$PP = (Ri - Ra) \ x \ Yij$
$PPW = (ri - Ra) x \ Yij$

When:

PP < 0, is sector I in Tual City with slow growth.
PP > 0, is sector I in Tual city with fast growth
PPW < 0, indicating that sector I in Tual city is relatively uncompetitive compared to similar sectors in Maluku Province.
PPW > 0, indicating that sector I in the city of Tual has relatively good competitiveness compared to similar sectors in Maluku Province.

c. Specialization Index Calculation

$$SI_j = \sum_{i=1}^{n} \left| \frac{E_{ij}}{E_j} - \frac{E_{ib}}{E_b} \right|$$

Description:

SI_j : Specialization Index of sector i
E_{ij} : GRDP sector in the study area (Tual City)
E_j : Total GRDP in the study area (Tual City)
E_{ib}: GRDP of sector i in the reference region (Maluku Province)
E_b : Total GRDP in the reference region (Maluku Province)

d. Klassen Typology Classification

$$\text{Rate} = \frac{Year-end\ GRDP\ of\ sector\ i\ -\ Base\ year\ GRDP\ of\ sector\ i}{Base\ year\ GRDP\ of\ sector\ i}\ x\ 100$$

$$\text{Contribution} = \frac{GRDP\ of\ sector\ i}{Total\ GRDP}\ x\ 100$$

With Classification:

Growth rate	GRDP Contribution (y)	
GRDP (r)	$yi > y$	$yi < y$
$ri > r$	Quadrant I Advanced and fast-growing sectors	Quadrant II Advanced but depressed sector
$ri < r$	Quadrant III Potential or fast-growing sectors	Quadrant IV Relatively lagging sector

Description:

yi : Average GRDP contribution of sector I in district/city

y : Average contribution in the provincial capital

ri : Average GDP growth rate of sector I in the district/city

r : Average GRDP growth rate in the provincial capital

e. Multiple Regression Analysis

$$y = a + \ \beta_1 X_1 + +\beta_2 X_2 + \cdots + \varepsilon$$

3. Empirical Findings/Result and Discussion

a. *Location Quotient*

Table 1. Location Quotient Analysis Calculation Results

Sector	2019	2020	2021	2022	2023	Description
Agriculture, Forestry and Fisheries	1,57	1,55	1,59	1,60	1,62	Base
Mining and Quarrying	0,17	0,17	0,18	0,19	0,20	Non Basis
Processing Industry	0,29	0,29	0,26	0,26	0,24	Non Basis
Electricity and Gas Procurement	0,76	0,75	0,76	0,77	0,75	Non Basis
Water Supply, Waste Management, Waste and Recycling	0,92	0,91	0,91	0,91	0,91	Non Basis
Construction	1,18	1,17	1,17	1,16	1,16	Base
Wholesale and Retail Trade; Repair of Automobiles and Bicycles	1,00	1,01	1,01	1,01	1,01	Base
Transportation and Warehousing	0,67	0,69	0,67	0,67	0,70	Non Basis
Provision of Accommodation and Drinking Meals	0,59	0,60	0,60	0,61	0,61	Non Basis
Information and Communication	0,56	0,55	0,55	0,54	0,55	Non Basis
Financial and Insurance Services	0,60	0,55	0,54	0,53	0,52	Non Basis
Real Estate	1,36	1,35	1,35	1,34	1,35	Base
Company Services	0,33	0,33	0,32	0,32	0,31	Non Basis
Government Administration, Defense and Social Security	0,79	0,78	0,78	0,79	0,78	Non Basis
Education Services	1,19	1,18	1,17	1,17	1,17	Base

Health and Social Services	1,60	1,58	1,57	1,54	1,53	Base
Other services	0,77	0,77	0,77	0,76	0,76	Non Basis

Source: Data processed

Based on the results of the Location Quotient (LQ) analysis for Tual City from 2019 to 2023, there are 6 sectors that are the basic sectors in the economy of Tual City, namely the Agriculture, Forestry and Fisheries sector; the Construction sector; the Wholesale and Retail Trade, Car and Bicycle Repair sector; the Real Estate sector; the Education Services sector; and the Health Services and Social Activities sector.

The Agriculture, Forestry and Fisheries sector is consistently the main base sector of Tual City with the highest LQ values, ranging from 1.55 to 1.62. The increasing LQ trend from 2019 to 2023 shows that this sector is getting stronger as a driver of the local economy. This indicates that Tual City has a significant comparative advantage in this sector, especially in the fisheries subsector given its geographical position as an archipelago city. This finding is in line with the study of Morrissey, 2014)which shows the importance of the marine sector in the regional economy of coastal and island regions.

In addition to the agriculture sector, the construction sector shows significant development activity in Tual City, although there is a slight decline from 2019 to 2023. The Wholesale and Retail Trade, Car and Bicycle Repair sector is right on the threshold of the basic sector with an LQ of around 1.01. This indicates that the trade sector in Tual City is strong enough to fulfill local needs and slightly serve the surrounding region. The real estate sector shows strong and consistent potential, reflecting steady urban growth and high demand for property in Tual City. The education sector shows consistency as a base sector with an LQ of around 1.17-1.19. This indicates that Tual City acts as a regional education center serving an area wider than the city itself. The last base sector in Tual City's economy is Health Services and Social Activities Although it experienced a slight decline from 1.60 in 2019 to 1.53 in 2023, this sector remains a strong base sector. This shows that Tual City has good infrastructure and human resources in health services and social activities, which also serve the surrounding areas.

Based on the discussion above, there are 6 sectors that have the potential to be developed as a comparative advantage of the Tual City area. Jumiyanti, 2018)confirms that sectors with LQ value > 1 have comparative advantage and potential for export, supporting the finding that the above basic sectors are the main drivers of Tual City's economy.

In addition, based on the results of the Location Quotient (LQ) analysis for Tual City from 2019 to 2023, there are 11 sectors that are non-base sectors, which means that these sectors are less developed in Tual City compared to the reference area (province or national). Zakaria et al. (2018) emphasized the importance of paying attention to non-base sectors that have growth potential for regional economic diversification.

b. *Shift Share* Analysis

Table 2. Shift Share Analysis Calculation Results

Sector	Regional Share (RS)	Proportional Shift (PS)	Differential Shift (DS)	SSA
Agriculture, Forestry and Fisheries	0,138	0,007	0,062	**0,207**
Mining and Quarrying	0,138	-0,164	0,009	**-0,018**
Processing Industry	0,138	0,286	0,031	**0,455**
Electricity and Gas Procurement	0,138	0,148	0,160	**0,445**
Water Supply, Waste Management, Waste and Recycling	0,138	-0,007	-0,006	**0,125**
Construction	0,138	-0,017	-0,016	**0,105**
Wholesale and Retail Trade; Repair of Automobiles and Bicycles	0,138	-0,001	0,026	**0,163**
Transportation and Warehousing	0,138	-0,127	-0,060	**-0,050**
Provision of Accommodation and Drinking Meals	0,138	-0,125	-0,071	**-0,059**
Information and Communication	0,138	0,080	0,078	**0,296**
Financial and Insurance Services	0,138	0,015	-0,116	**0,036**
Real Estate	0,138	-0,006	0,002	**0,133**
Company Services	0,138	0,003	-0,023	**0,117**
Government Administration, Defense and Social Security	0,138	-0,044	-0,045	**0,049**
Education Services	0,138	-0,002	-0,003	**0,132**
Health and Social Services	0,138	0,144	0,113	**0,394**
Other services	0,138	-0,020	-0,023	**0,095**

Source: Data processed

Based on the value of the Shift Share Analysis of Tual City from 2019 to 2023, the Regional Share (RS) value of 0.138 shows that national economic growth has a positive impact on all economic sectors in Tual City. This indicates that in general, the economic growth of Tual City is in line with the national growth trend. According to Stimson et al. (2006)According to Stimson et al. (2006), the RS component reflects the effect of national economic growth on the regional economy.

The Proportional Shift (PS) component shows significant variation between sectors, indicating differences in sectoral growth rates at the national level. The sectors with the highest positive PS values are Manufacturing Industry at 0.286, Electricity and Gas Procurement at 0.148, and Health and Social Services at 0.144. These positive PS values indicate that these sectors grew faster at the national level than the national average. Conversely, the sectors with the lowest negative PS values are Mining and Quarrying at -0.164, Transportation and Warehousing at -0.127, and Accommodation and Food Supply at -0.125. The negative PS values indicate that these sectors grew slower at the national level than the national average growth. According to Herzog & Olsen (1977)According to Herzog & Olsen (1977), the PS component reflects the structure of the regional economy and can identify sectors that have comparative advantage.

The Differential Shift (DS) component illustrates the competitive advantage or disadvantage of economic sectors in Tual City. The sectors with the highest positive DS values are Electricity and Gas Procurement at 0.160, Health Services and Social Activities at 0.113, and Information and Communication at 0.078 Positive DS values indicate that these sectors have a competitive advantage in Tual City compared to the national level. Conversely, the sectors with the lowest negative DS values are Financial and Insurance Services at -0.116, Accommodation and Food Supply at -0.07, and Transportation and Warehousing at -0.060 Negative DS values indicate that these sectors are less competitive in Tual City compared to the national level. According to Esteban-Marquillas (1972) the DS component reflects the specific locational advantage of a region.

The results of the SSA analysis show that the sectors with the highest growth in Tual City are Manufacturing Industry at 0.455, Electricity and Gas Procurement at 0.445, Health Services and Social Activities at 0.394, Information and Communication at 0.296, and Agriculture, Forestry, and Fisheries at 0.207. These sectors show faster growth in Tual City compared to the national level, indicating significant development potential. Conversely, sectors with negative SSA values are Accommodation and Food Supply at -0.059, Transportation and Warehousing at -0.050, and Mining and Quarrying at -0.018. Negative SSA values indicate that these sectors are growing slower in Tual City compared to the national level.

Shift Share Analysis shows that Tual City has significant growth potential in several sectors, especially Manufacturing Industry, Electricity and Gas Procurement, and Health Services and Social Activities. However, some sectors such as Accommodation and Food Supply and Transportation and Warehousing require special attention to improve their competitiveness. Tual City's economic development strategy needs to consider the competitive advantages of leading sectors while working to revitalize lagging sectors to achieve more balanced and sustainable economic growth.

c. Specialization Index

Table 3. Specialization Index Calculation Results

Sector	2019	2020	2021	2022	2023	SI
Agriculture, Forestry and Fisheries	0,13	0,13	0,14	0,14	0,14	0,69
Mining and Quarrying	-0,02	-0,02	-0,02	-0,02	-0,02	-0,09
Processing Industry	-0,04	-0,04	-0,04	-0,04	-0,05	-0,21
Electricity and Gas Procurement	0,00	0,00	0,00	0,00	0,00	0,00
Water Supply, Waste Management, Waste and Recycling	0,00	0,00	0,00	0,00	0,00	0,00
Construction	0,01	0,01	0,01	0,01	0,01	0,06
Wholesale and Retail Trade; Repair of Automobiles and Bicycles	0,00	0,00	0,00	0,00	0,00	0,01
Transportation and Warehousing	-0,02	-0,01	-0,02	-0,02	-0,01	-0,08
Provision of Accommodation and Drinking Meals	-0,01	-0,01	-0,01	-0,01	-0,01	-0,03

Information and Communication	-0,02	-0,02	-0,02	-0,02	-0,02	-0,09
Financial and Insurance Services	-0,02	-0,02	-0,02	-0,02	-0,02	-0,09
Real Estate	0,00	0,00	0,00	0,00	0,00	0,01
Company Services	-0,01	-0,01	-0,01	-0,01	-0,01	-0,03
Government Administration, Defense and Social Security	-0,04	-0,04	-0,04	-0,04	-0,04	-0,22
Education Services	0,01	0,01	0,01	0,01	0,01	0,05
Health and Social Services	0,01	0,01	0,01	0,01	0,01	0,06
Other services	0,00	0,00	0,00	0,00	0,00	-0,02

Source: Data processed

Specialization Index (SI) analysis is a method used to identify economic sectors that have relative concentration or specialization in a region compared to a broader reference area, usually the national level. (Hoover & Giarratani, 2020).. The table above shows the results of the Specialization Index Analysis for Tual City for the 2019-2023 period. The Agriculture, Forestry and Fisheries sector shows the highest and consistent specialization index over the 2019-2023 period. A positive and high SI value indicates that Tual City has a significant concentration in agriculture, forestry, and especially fisheries activities compared to the national average. According to Stimson et al. (2006)this kind of high specialization in primary sectors is often found in coastal and island regions. This suggests that Tual City has a strong comparative advantage in this sector, which can be the basis for local economic development. (Porter, 1990). Furthermore, despite its relatively small value, the construction sector shows consistent positive specialization. This may indicate the presence of sustainable infrastructure development in Tual City. Glaeser & Gottlieb (2009) emphasize the importance of the construction sector in urban economic growth, especially in the context of infrastructure and housing development.

In addition to the Agriculture, Forestry and Fisheries sector and the Construction sector, the Health Services and Social Activities sector is also positive indicating that Tual City has a greater focus on health services than the national average. According to Corburn (2009), strengthening the health sector is important to improve the quality of life of urban residents and can be a pull factor for in-migration. Furthermore, positive specialization in the education sector indicates that Tual City has a greater focus on education services than the national average. According to Florida et al. (2008), concentration in the education sector can be an indicator of human capital development in a region, which is important for long-term economic growth.

Several economic sectors in Tual City have negative sectors, one of which is the Government Administration, Defense and Social Security sector. The highest negative specialization index in this sector shows that the proportion of the government sector in Tual City is smaller than the national average. According to Tiebout (1956)this could indicate efficiency in the management of local government, but it could also indicate a lack of administrative capacity that needs to be improved. Another sector with a negative value is the Processing Industry sector, which indicates that the

processing industry sector in Tual City is less developed than the national level. According to Kaldor (1967)According to Kaldor (1967), the manufacturing sector is often considered the engine of economic growth, so the lack of specialization in this sector could be a concern and potential area for future economic development.

The Mining and Quarrying sector is also negative, meaning that Tual City has lower mining and quarrying activity than the national average. According to Sachs & Warner (2001)this is beneficial in the long run, given the potential "resource curse" often associated with over-reliance on the extractive sector. Another negative sector is the Information and Communication sector, which shows that Tual City lags behind in the development of information and communication technology. According to Castells (2009)According to Castells (2009), this sector is important for driving innovation and increasing overall economic productivity.

Some sectors such as Electricity and Gas Procurement, Water Procurement, Waste Management, Waste and Recycling, Wholesale and Retail Trade, and Real Estate show a specialization index close to zero. According to Isard (1975)this indicates that the proportion of these sectors in Tual City is relatively similar to the national proportion.

The Specialization Index analysis shows that Tual City's economy has a strong concentration in the Agriculture, Forestry and Fisheries sectors, and has development potential in the Construction, Education and Health sectors. However, there is a need for economic diversification, especially in the development of the Processing Industry sector and capacity building in the Information and Communication sector. Tual City's economic development strategy needs to consider strengthening the leading sectors while encouraging diversification and increasing the competitiveness of other sectors to achieve more balanced and sustainable economic growth.

d. Klassen Typology Classification

GRDP Growth Rate (r)	GRDP Contribution (y)	
	yi > y	yi < y
ri > r	Agriculture, Forestry and Fisheries Construction Trade Real Estate	Mining Transportation Eat Drink Health
ri < r	Electricity Water Education	Processing Information Finance Company Services Government Other Services

Description:
Quadrant I
Quadrant II
Quadrant III
Quadrant IV

Figure 1. Klassen typology classification
Source: Data processed

Based on the results of the Klassen Typology analysis presented, we can identify patterns of economic sector development in Tual City compared to Maluku Province as a whole. The sectors in Quadrant I are Agriculture, Construction, Trade and Real Estate. These sectors show higher growth rates and contributions in Tual City

compared to Maluku Province as a whole. The Agriculture sector is the most prominent with a contribution of 37.91% to the GRDP of Tual City and a growth rate of 19.96%. This shows that Tual City has a comparative advantage in the agricultural sector compared to other regions in Maluku Province. This finding is in line with research by Syahruddin et al. (2021) which highlights the importance of the agricultural sector in regional economic development in Eastern Indonesia. The Construction and Trade sectors also performed well, reflecting the development of infrastructure and dynamic economic activity in Tual City. This is supported by the study of Suryani & Permatasari (2019) which underlines the role of the construction sector in driving regional economic growth.

The sectors in Quadrant II are Mining, Transportation, Eating and Drinking, and Health. Although the growth rate is higher in Tual City, its contribution to GRDP is still lower than that of Maluku Province. The Health sector shows a high growth rate (25.02%) but its contribution is still relatively small (3.71%). This indicates the potential for further development in this sector. This finding is in line with research by Nurjannah & Kusreni (2020) which emphasizes the importance of investment in the health sector to boost regional economic growth.

The sector in Quadrant III is the Electricity, Water and Education Sector. Although its contribution to GRDP is still relatively small, its growth rate is quite high, indicating potential for future development. The Electricity sector, with a growth rate of 29.76%, shows significant potential. This is in line with the findings of Aziz & Wibowo (2022) which highlight the importance of energy infrastructure in driving regional economic growth.

Sectors in Quadrant IV are Sectors such as Processing, Information, Finance, Corporate Services, Government, and Other Services fall into this category. These sectors show lower growth rates and contributions compared to Maluku Province. The Processing sector, for example, has a very low contribution (1.57%) compared to Maluku Province (6.65%). This indicates the need for special attention to develop the processing industry sector in Kota Tual. This finding is supported by research Fadli & Mulyani (2023) which emphasizes the importance of economic diversification through the development of the processing industry sector in regions that are still dependent on the primary sector.

e.   Multiple Regression Analysis

Table 4. Multiple Regression Analysis Results

Variable Relationship	Coefficient	Probability	Description
Agriculture, Forestry, and Fisheries Sector → Poverty	-0,023	0,001	Significant
Construction Sector → Poverty	-0,104	0,002	Significant
Trade Sector → Poverty	-0,055	0,001	Significant
Real Estate Sector → Poverty	-3,047	0,002	Significant
Health Services Sector → Poverty	-0,209	0,002	Significant

Source: Data processed using spss application

The results of the analysis show that the agriculture, forestry, and fisheries sector has a negative and significant relationship with poverty (coefficient = -0.023, p = 0.001). Although the coefficient is relatively small, its statistical significance suggests that increased activity in this sector contributes to poverty reduction. This finding is in line with research by Cervantes-Godoy & Dewbre (2018)who found that growth in the agricultural sector has a greater impact on poverty reduction than growth in the non-agricultural sector in developing countries. However, the relatively small magnitude of the impact reflects the complexity of the relationship between the agricultural sector and poverty. As stated by Christiaensen & Martin (2018)the effectiveness of the agricultural sector in reducing poverty depends on various factors, including farm structure, land distribution, and smallholder farmers' access to markets and technology. In line with the results of the research, the agricultural sub-sector is a prominent one in Tual City, of course, priority programs are needed that can also help business actors in the agricultural sub-sector such as assistance in the distribution of seeds, fertilizers and medicines for plants. Apart from the agricultural sub-sector, the most prominent in the city of Tual is the fisheries sub-sector, the most monojol is capture fisheries while for fish farming, trepang, agar-agar and seaweed cultivation are priority programs from the government that must be developed and improved management in order to have a positive impact on the community. Of course, these priority programs will have a positive impact if they are run sustainably by looking at employment and increasing community income so that of course it will have an impact on reducing poverty in Tual city.

The construction sector shows a significant negative relationship with poverty (coefficient = -0.104, p = 0.002). This indicates that increased construction activity can contribute to poverty reduction. This finding is consistent with research by Nguyen & Nguyen (2022)who found that infrastructure investment, which is closely related to the construction sector, has a positive impact on poverty reduction in Vietnam. The construction sector can reduce poverty through several mechanisms. First, it provides jobs for unskilled and semi-skilled labor, who often come from low-income groups. Second, infrastructure development can improve connectivity and access to markets, which in turn can increase economic opportunities for the poor. (Rozenberg & Fay, 2019).

The results of the analysis show that the trade sector has a significant negative relationship with poverty (coefficient = -0.055, p = 0.001). This suggests that increased trade activity can contribute to poverty reduction. This finding is in line with research by Le Goff & Singh (2020)who found that trade can reduce poverty, especially when accompanied by financial sector development and human capital improvement, in this case the role of the government is needed, especially small/retail traders who have very little capital and even have to borrow from cooperatives or other financial services and training is needed to create a skilled workforce. The trade sector can reduce poverty in several ways. First, trade can create jobs, both directly in trading activities and indirectly through supply chains. Second, trade can increase

consumer access to products at more affordable prices. Third, trade can boost overall economic growth, which in turn can lift the incomes of the poor. (World Bank, 2018).

The real estate sector shows the strongest negative relationship with poverty (coefficient = -3.047, p = 0.002). The magnitude of this coefficient suggests that the real estate sector has great potential in reducing poverty. This finding is interesting and reflects the various mechanisms by which the real estate sector can affect poverty. One potential explanation for this strong relationship is the multiplier effect of real estate investment. As explained by M. H. Nguyen et al. (2019) investment in real estate can trigger growth in various related sectors, create jobs, and increase household income. In addition, well-targeted real estate development, such as affordable housing, can directly improve the living conditions of low-income people. However, it should be noted that the relationship between the real estate sector and poverty can be complex. Gabriel & Painter (2021) caution that a real estate boom can also lead to greater inequality if not managed well, especially through increased housing prices that can make it harder for low-income people to access decent housing.

The health services sector shows a significant negative relationship with poverty (coefficient = -0.209, p = 0.002). This indicates that improved health services can contribute to poverty reduction. This finding is consistent with the extensive literature on the relationship between health and poverty. Bloom et al. (2018) explained that investment in health can reduce poverty through several mechanisms. First, better health increases labor productivity, which can lead to higher incomes. Second, improved health can reduce spending on medical care, which is often a heavy burden for poor households. Third, the health sector itself can be a source of employment and income. Further, Wagstaff et al. (2018) emphasized the importance of financial protection in the health system to reduce poverty. They found that high health expenditure can push households into poverty, while a health system that provides adequate financial protection can help prevent this.

4. Conclusions

Based on the results of a comprehensive analysis of the economic structure of Tual City, several leading sectors with Location Quotient (LQ) values of more than 1 were identified, namely Agriculture, Forestry and Fisheries, Construction, Wholesale and Retail Trade, Real Estate, Education Services, and Health and Social Services. These sectors have a greater contribution to the GRDP of Tual City than the contribution of the same sector at the Maluku Province level.

The Specialization Index analysis shows that Tual City has strong specialization in the Fisheries, Health Services and Real Estate sectors. This indicates that these three sectors have a higher concentration of economic activity than the reference region. Meanwhile, the results of the Shift-Share analysis reveal mixed growth dynamics, where the Manufacturing Industry, Electricity and Gas Procurement, Health Services, and Information and Communication sectors show significant positive growth. In

contrast, the Transportation and Warehousing and Accommodation and Food Supply sectors experienced negative growth.

Based on the Klassen Typology analysis, the economy of Tual City can be mapped into four quadrants. The Agriculture (including Fisheries), Health Services, and Real Estate sectors fall into quadrant I as advanced and fast-growing sectors. The Construction and Education Services sectors are in quadrant II as developed but depressed sectors. The Manufacturing Industry and Information-Communication sectors are in quadrant III as potential sectors, while the Transportation-Warehousing and Accommodation-Dining sector are in quadrant IV as relatively lagging sectors.

The regression analysis results prove that the development of leading sectors, especially the Agriculture, Forestry and Fisheries sectors, has a positive influence on poverty alleviation efforts in the city. With the poverty rate reaching 20.68% in March 2023, the development of these leading sectors is crucial in creating jobs and increasing people's income. Therefore, it is recommended that the Tual City government focus its development policies on strengthening leading sectors, especially the maritime and fisheries sectors and the agriculture sub-sector while still paying attention to the development of potential sectors for economic diversification. It is also necessary to improve supporting infrastructure and develop human resources to optimize the potential of these leading sectors, so that it can effectively reduce the poverty rate and improve the overall welfare of the people of Kota Tual.

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