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## THE PERFORMANCE OF EXCELLENT SECTORS FOR ECONOMIC DEVELOPMENT IN MOROTAI ISLAND

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### ABSTRACT

*This study aims to analyze the pattern of economic growth in Morotai Island. To find out the pattern of economic growth, an analysis of economic growth analysis, Location Quotient (LQ), Klassen Typology and Shift Share Analysis are used. The results showed that the pattern of economic growth in Morotai Island Regency from the year of 2010 to 2017 had a positive trend through the Klassen Typology analysis, although the GRDP growth rate and per capita income show a positive trend, but the increase is still below the national level so that Morotai Island Regency is in quadrant IV position (the category of regions is relatively underdeveloped), Based on LQ analysis, four leading sectors were obtained, which are the base sectors of Morotai Island Regency in 2017 Based on the shift share analysis, the sectors that had the highest national share were agriculture, forestry and fisheries. The negative proportional shift value indicates that although it has a positive trend, the growth rate is slower compared to North Maluku. The projected results show that economic growth from 2017 will increase by 24.06 percent in 2019, it is hoped that the Regional Government can increase economic growth by giving special attention to leading sectors that have the potential to increase economic growth.*

**Keywords:** *Pattern of Economic Growth, LQ Analysis, Klassen Typology, Shift Share Analysis.*

### ABSTRAK

Penelitian ini bertujuan untuk menganalisis pola pertumbuhan ekonomi di Kabupaten Pulau Morotai dan untuk mengetahui pola pertumbuhan ekonomi, digunakan beberapa analisa yaitu Pertumbuhan Ekonomi, Location Quotient (LQ), Tipologi Klassen dan Analisis *Shift Share*. Hasil penelitian menunjukkan bahwa pola pertumbuhan ekonomi Kabupaten Pulau Morotai Tahun 2010 hingga tahun 2017 memiliki tren positif. Melalui analisis Tipologi Klassen, meskipun laju pertumbuhan PDRB dan pendapatan perkapita menunjukkan tren positif, namun peningkatannya masih di bawah nasional sehingga menempatkan Kabupaten Pulau Morotai berada pada posisi kuadran IV (kategori daerah relatif tertinggal). Dengan analisis LQ Diperoleh 4 sektor unggulan yang merupakan sektor basis Kabupaten Pulau Morotai Tahun 2017. Berdasarkan analisis *shift share*, sektor yang memiliki *national share* tertinggi adalah sektor pertanian, kehutanan dan perikanan. Nilai *proportional shift* yang negatif, menunjukkan bahwa meskipun memiliki tren positif namun tingkat pertumbuhan lebih lambat dibandingkan dengan Provinsi Maluku Utara. Hasil proyeksi menunjukkan bahwa pertumbuhan ekonomi dari tahun 2017 akan meningkat sebesar 24,06 persen pada tahun 2019. Diharapkan pemerintah daerah dapat meningkatkan pertumbuhan ekonomi dengan memberikan perhatian khusus pada sektor-sektor unggulan yang berpotensi meningkatkan pertumbuhan ekonomi.

**Kata Kunci:** Pola Pertumbuhan Ekonomi, Analisis LQ, Tipologi Klassen, Analisis *Shift Share*.

## I. INTRODUCTION

According to Solow (1986) in the long run the saving rate can determine capital in the production process. This means that the higher the saving rate, the higher the capital and output produced. Solow also argues that economic growth is a series of activities with four main factors, namely humans, capital accumulation, modern technology and output. Basically, the economic development of urban districts that take place in Indonesia continues to grow in an effort to advance their respective regions. This is related to the authority given to local governments since the enactment of the regional autonomy policy.

Regional economic growth while directed at potential sectors will accelerate economic progress, because indirectly regional progress will stimulate people to seek a more decent life in their area. Economic growth needs to be supported by infrastructure development, transportation, communication and social institutions that can naturally increase growth.

Morotai Island Regency as an autonomous region, has 88 villages in 5 sub-districts with an overall area of 4301.53 KM<sup>2</sup>, bringing its own consequences in the planning and development of the region in order to increase economic growth. For regional development, the Morotai Island Regency Government must continue to spur regional economic growth, further strengthen the development process so that it can catch up and its economy can grow rapidly and be able to compete with other regions in Indonesia.

Seeing the potential of the development of a very large area, it becomes very urgent for Morotai Island Regency to carry out careful planning in maximizing the utilization of regional potential. Knowing the pattern of economic growth of a region is a necessity to move and spur development in order to increase people's income.

This study aims to find out the pattern of economic growth seen in terms of per capita income and economic growth rate in 2012-2017 and to know the potential economic sector in Morotai Island Regency. The

results of this research are expected to be information and reference material for the Morotai Island Regency Regional Government to formulate policies to determine the economic sector that has the potential to be developed for regional development in Morotai Island Regency. This information is also expected to provide a clear picture for economic actors to move in the potential sector in Morotai Island Regency.

## II. RESEARCH METHOD

### A. Research Objectives

The research was conducted in North Maluku province, by taking Morotai Island Regency as the research sample.

### B. Types and Data Sources

Data is the most essential part in a research. The data used in this analysis includes quantitative data, with secondary data sources that include data on: Area and number of sub-districts and GDP of South Halmahera Regency. Secondary data sources are related agencies, among others BAPPEDA, The Central Bureau of Statistics (BPS) Morotai Island Regency and North Maluku as well as reports related to this research.

### C. Data Analysis Methods

Analysis methods used in this research are described as follows:

#### 1. Economic Growth Rate Analysis

The economic growth rate of Morotai Island Regency is calculated by using an analysis of the rate of economic growth using Gross Regional Domestic Product (GDP) on the basis of real / constant prices. (Widodo, 2006) presents the formula for determining regional economic growth as follows:

$$G_t = \frac{PDRBB_t - PDRBB_{t-1}}{PDRBB_{t-1}} \times 100\%$$

Whereas:

$G_t$  = Economic growth rate Morotai Island Regency

$PDRB_t$  = Gross regional domestic product

of Morotai Island Regency in Year t  
 $PDRB_{t-1}$  = Gross regional domestic product of Morotai Island Regency in Years t-1

## 2. Klassen Typology Analysis

Two indicators used in Klassen's typology analysis are regional economic growth and regional per capita income in North Maluku Province and Morotai Island Regency.

Table 1. Regency/City Classification by Klassen Typology

GDP Perkapita (y) GDP growth rate (r)	$Y_i > y_i$	$Y_i < y_i$
$R_i > r_i$	<b>Quadrant I</b> Region advanced and growing fast Quadrant I Region advanced and growing fast	<b>Quadrant II</b> Advanced Region but depressed
$R_i < r_i$	<b>Quadrant III</b> Rapidly Growing Regions	<b>Quadrant IV</b> of relatively lagging regions

Information:

$R_i$  = The average GDP growth rate of North Maluku Province

$r_i$  = Average growth rate of GDP Morotai Island Regency

$Y_i$  = Average GDP per capita North Maluku Province  
 Average GDP per capita North Maluku Province

$y_i$  = Average GDP per capita Morotai Island Regency

Conditions:

- $Y_i > y_i$  and  $R_i > r_i$  → The results of different analysis in quadrant I. Meaning that Morotai Island district is a developed area and experiencing rapid economic growth.
- $Y_i < y_i$  and  $R_i < r_i$  → The results of the analysis differ on quadrant II. This means that Morotai Island Regency is a developed but depressed area.
- $Y_i > y_i$  and  $R_i < r_i$  → The results of the analysis differ from quadrant III. This means that Morotai Island Regency is an area that has a fast category.
- $Y_i < y_i$  and  $R_i < r_i$  → The results of the analysis differed in quadrant IV. This means that Morotai Island Regency is in the category of relatively lagging areas.

## 3. Location Quotient (LQ) Analysis

Location Quotient (LQ) is a comparison of the roles of sectors / industries in a region to the large role of the sector / industry nationally (Tarigan, 2014).

The sectors / industries that are compared in the regions must be the same as the sectors / industries that are compared at national level and comparison times must also be the same.

To identify problem formulations and research objectives on base and non-base sectors used analysis Location Quotient (LQ). The formulation of LQ calculation is as follows:

$$LQ = \frac{X_i / PDRB_{PM}}{X_i / PDRB_{MU}} \times 100\%$$

Whereas:

$x_i$  = Sector I added value in Morotai Island district

$PDRB_{PM}$  = PDRB Morotai Island Regency

$X_i$  = Sector I added value in North Maluku Province

$PDRB_{MU}$  = GDP of North Maluku Province

## 4. Shift-Share Analysis

Shift share analysis is generally used to analyze the role of a sector or a shift in a sector in the region towards the same sector in national economy. The data that is often analyzed is data related to activities economy or employment (Putra, 2011).

Furthermore, to compare the different growth rates of various economic sectors in Morotai Island Regency with the growth of the same economic sectors in North Maluku

Province used a shift-share analysis model. With this analysis, isolation will be carried out to detail the factors that cause changes in the growth of economic sectors in the district in relation to the regional economy in North Maluku Province. The aim is to find out whether the economic sectors located in Morotai Island Regency are classified or not into industrial groups that are regionally growing rapidly in the province.

Analysis of shift-share changes in economic sectors of Morotai Island Regency is sorted into shift components and share components. The share component is referred to as a national share component or regional share that shows the large proportion of local economy growth in the district if the value of change is the same as the regional growth rate in North Maluku Province. It is used as a criterion for Morotai Island Regency to measure whether this district belongs to the classification of growing faster or slower than the average regional growth of North Maluku Province.

The shift component is deviation from regional share in local economic growth. These deviations are positive in these areas which grows faster and negatively in regions that are growing more slowly compared to regional economic growth of the Province. In this analysis, the net shift of Morotai Island economic growth is divided into two components, namely: (1) Proportional shift

component and (2) Differential shift component. Components proportional shift measure the amount of net regional shift caused by the composition of economic sectors in Morotai Island Regency. If the value of this component is positive, Morotai Island specializes in economic sectors that are regionally growing fast in North Maluku Province, whereas if negative means specialize in economic sectors that are experiencing slow growth or contracting. Differential shift component is also called locational component, measuring the amount of net regional shift caused by certain economic sectors that grow faster or slower in Morotai Island Regency compared to regional growth in North Maluku Province caused by internal local factors.

To determine the economic growth change factors of Morotai Island Regency both sourced from regional share factors, proportional shift, and differential shift used shift-share analysis. Analysis is carried out in two (2) stages, namely:

First, determine the additional real GDP of economic sectors in Morotai Island Regency with additional GDP real those economic sectors in North Maluku Province both in regional share, proportional share and differential shift components. Additional GDP real in Morotai Island district for each component is analyzed with the following formula:

$$a) \text{ Regional share: } R_s = PDRB_{rPM15} \left( \frac{\sum PDRB_{rMU17}}{\sum PDRB_{rMU15}} \right) - \sum PDRB_{rMU15}$$

$$b) P_t = \left\{ \left( \frac{PDRB_{rMU17}}{PDRB_{rMU15}} \right) - \left( \frac{\sum PDRB_{rMU17}}{\sum PDRB_{rMU15}} \right) \right\} PDRB_{rPM15}$$

$$c) \text{ differential shift } D_s = \left\{ PDRB_{rPM17} - \left( \frac{PDRB_{rMU17}}{PDRB_{rMU15}} \right) PDRB_{rPM15} \right\}$$

Second, to determine the factors that change economic growth of Morotai Island, projections are carried out on regional share

(R.), proportional share (P.) and differential shift (D.) components respectively with the following formula:

$$a) \text{ Regional share: } R_s = PDRB_{rPM15} \left( \frac{\sum PDRB_{rMU17}}{\sum PDRB_{rMU15}} \right) - \sum PDRB_{rMU15}$$

$$b) \text{ Proportional shift } = P_s = PDRB_{rMU17} \left\{ \left( \frac{PDRB_{rMU19}}{PDRB_{rMU17}} \right) - \left( \frac{\sum PDRB_{rMU19}}{\sum PDRB_{rMU17}} \right) \right\}$$

$$c) \text{ differential shift } D_{st} = \left\{ PDRB_{rPM17} - \left( \frac{PDRB_{rMU17}}{PDRB_{rMU15}} \right) PDRB_{rPM15} \right\} \left( \frac{\sum PDRB_{rMU19}}{\sum PDRB_{rMU17}} \right)$$

### III. RESULTS AND DISCUSSIONS

#### A. Economic Growth Rate Morotai Island Regency

The implementation of economic development in Morotai Island Regency in the period 2010-2017, has been able to improve economic performance in various sectors. From a macro-economic perspective, regional economic performance is assessed and aspects of economic growth, employment opportunities, inflation levels, trading activities, regional revenues and expenditures as well as the condition of the riel sector. Real economic growth is an aspect that determines the pattern and structure of economic development and one period to the next without the influence of inflation in other words, the progress achieved in regional economic development is measured from the rate of growth of Gross Regional Domestic Product (GDP) real without the influence of price changes.

In general, the regional economic condition of Morotai Island Regency in the period 2010-2017 as measured from the development of GDP real shows an average positive growth of 6.0 percent per year. The rate of economic growth of Morotai Island Regency which has a positive trend, describing 3 (three) things as follows first, the improvement of regional macroeconomic conditions of the district in the space of seven years. The impact is that there is a strengthening of economic fundamentals area due to changes in investment that encourage increased employment opportunities and productivity levels in various sectors of the economy. Second, the increase in the production of goods and services that reflected the improving condition of the real sector and there was an increase in monetary sector support, especially from banking financial institutions. Third, the increasing standard of living and the level of economic welfare of the people.

Table 2. Economic Growth Rate Morotai Island Regency in 2010-2017 (percent)

Business field	Years								
	2010	2011	2012	2013	2014	2015	2016	2017	%
Agriculture, forestry, & fisheries		4.05	6.42	4.7	3.86	2.94	5.54	5.78	7.6
Mining & quarrying	-	4.57	8.34	5.2	5.51	49	6.02	6.39	8.5
Management Industry	-	2.4	3.73	3	5.3	4.5	4	2.96	3.70
Electricity & Gas Procurement		27.83	35.06	23.49	26.01	35.96	39.86	10.23	28.35
Water procurement, Oath management, Waste		27.84	7.29	4.88	7.92	8.37	8.37	8.71	6.91
Construction	-	2.28	7.67	5.28	7.56	10.81	10.36	9.96	7.99
Big trade and retail: car repair & motorcycle	-	4.84	7.44	11.33	11.32	10.94	7.06	7.08	5.7
Transportation & Warehousing	-	4.62	10.5	4.14	7.11	7.91	20.76	11.28	9.47
Provision of accommodation & drinking food	-	6.2	10.57	4.23	6.88	6.11	7.16	6.36	6.79
Information & communication	-	7.44	7.51	7.12	7.46	7.32	7.52	8.34	7.53
Financial Services & Insurance	-	24.89	13.5	10.84	10.32	18.82	12.3	2.07	5.89
Real Estate	-	4.73	7.47	2.58	2.7	3.54	6.73	6.66	4.92
Services Company	-	4.67	3.8	7.08	5.17	6.04	6.07	6.71	5.65
Government administration, defense & compulsory social security	-	4.81	5.9	6.46	7.76	8.06	2.12	6.09	5.89
Education services	-	5.75	3.79	3.65	4.52	4.8	4.86	4.94	4.62
Health services & social activities	-	4.14	1.69	7.76	6.67	7.23	7.43	7.83	6.11
Other services	-	2.67	4.5	3.95	5.62	5.71	.91	6.18	4.93
<b>PDRB</b>	-	<b>4,48</b>	<b>6,47</b>	<b>6,05</b>	<b>6,19</b>	<b>6,13</b>	<b>6,29</b>	<b>6,37</b>	<b>6,00</b>

Source: BPS, 2018

The regional economic growth of Morotai Island Regency, which is characterized by the average GDP growth of 6.0 percent, is driven by the growth of economic sectors where the value of goods and services

production in Morotai Island Regency in all sectors of the economy has increased.

#### B. Klassen Typology Analysis

Table 3 below is the result of Klassen typology analysis using data on economic

growth rate and GDP per capita Morotai Island Regency and North Maluku Province.

**Table 3. Klasen Typology Analysis Results**

Years	GDP Per capita		Category	Economic Growth Rate		Category
	North Maluku	Morotai Island		North Maluku	Morotai Island	
2010	14,361,500.00	11,673,512.24	(-)	7.95	4.58	(-)
2011	15,691,000.00	11,863,745.15	(-)	6.80	4.48	(-)
2012	14,994,600.00	12,271,498.98	(-)	6.98	6.47	(-)
2013	16,332,220.00	12,659,112.31	(-)	6.36	6.05	(+)
2014	16,869,520.00	13,093,675.34	(-)	5.49	6.19	(+)
2015	17,533,780.09	13,524,827.51	(-)	6.10	6.13	(+)
2016	18,177,300.00	13,986,863.10	(-)	5.77	6.29	(-)
2017	19,192,970.00	14,508,545.18	(-)	7.67	6.37	(-)
<b>Average</b>	<b>16,644,111.25</b>	<b>12,947,722.48</b>	<b>(-)</b>	<b>5.65</b>	<b>5.25</b>	<b>(-)</b>

Source: BPS, 2019

The rate of percapita income and the economic growth rate of Morotai Island Regency from 2010 to 2017 experienced a positive trend. Despite the increase in population, the regional income of Morotai Island Regency has increased significantly. This means that the economy of this region is

experiencing good development, but when compared to the results achieved by North Maluku Province, the average GDP development per capita and economic growth rate of Morotai Island Regency is still lower than North Maluku Province (Table 4).

**Table 4. Classification of Economic Growth in Morotai Island Regency According to Klasen Typology**

GDP Perkapita (y)	Yi > y		Yi < y	
GDP Growth Rate (r)				
Ri > r	<b>Quadrant I</b> area advanced and growing fast (prosperous)		<b>Quadrant II</b> advanced area but depressed areas left behind in the process of building	
Ri < r	<b>Quadrant III</b> Fast-growing regions (declining affluent areas)		<b>Quadrant IV</b> Relatively underdeveloped areas 12.22 = 48 < 16,644	

Info:

Ri = Average growth rate of GDP Morotai Island Regency

Ri = Average GDP growth rate of North Maluku Province

Yi = Average GDP Per capita of Morotai Island

Yi = Average GDP Per capita of North Maluku province

Based on the results of Klasen Typology analysis in Table 4, Morotai Island Regency is in quadrant IV / type IV. Morotai Island District Government is expected to continue increasing economic growth that is needed, so that it no longer falls into the category of relatively lagging regions.

### C. Analysis Location Quotient (LQ)

LQ analysis is used to look at potential sectors in an area. LQ compares the role of an industrial sector in an area to the large role of the sector / industry nationally.

**Table 5. Results of Analysis LQ Morotai Island Regency 2016 and 2017**

No.	Sector	GDP Morotai Island		LQ Value		Average	Classification
		2016	2017	2016	2017		
1	Agriculture, forestry and fisheries	<b>404.49</b>	<b>427.87</b>	<b>2.02</b>	<b>2.09</b>	<b>2.05</b>	(+)
2	Mining and quarrying	476.3	506.8	0.006	0.006	0.006	(-)
3	Management industry	46.44	47.82	0.93	0.718	0.827	(-)
4	Procurement of electricity and gas	863.80	952.20	<b>1.00</b>	0.949	0.978	(-)
5	Water procurement, waste management and recycling	131	142.40	0.179	0.169	0.174	(-)
6	Construction	<b>70.55</b>	<b>77.57</b>	<b>1.33</b>	<b>1.247</b>	<b>1.29</b>	(+)

7	Large trade and retail; repair cars & motorcycles	174.79	187.16	<b>1.18</b>	<b>1.12</b>	<b>1.151</b>	(+)
8	Transportation and warehousing	20.12	22.39	0.44	0.41	0.429	(-)
9	Provision of accommodation and drinking food	1.16	1,23	0.30	0.28	0.29	(-)
10	Information and communication	11.67	12.64	0.32	0.307	0.316	(-)
11	Financial services and insurance	12.96	13.23	0,487	0.468	0.477	(-)
12	Real Estate	1.00	1.07	<b>1.029</b>	0.963	0.996	(-)
13	Corporate services	1.00	1.07	0.360	0.34	0.35	(-)
14	administration of defense and social security administration shall	76.93	81.61	0.58	0.56	0.57	(-)
15	Education services	32.15	33.74	<b>1.117</b>	<b>1.07</b>	<b>1.09</b>	(+)
16	Health services and social activities	13.37	14.41	0763	0.72	0.74	(-)
17	Other services	4.77	5.07	0.687	0,65	0.67	(-)
		872.94	928.56				

Source: Morotai Island in 2019 Figures

The results of the LQ analysis show that there are several sectors that meet the criteria as leading sectors, where those sectors have an LQ value > 1. In 2016 there are 6 sectors that can be the leading sectors. The sectors in question are agriculture (2.02%), Electricity and gas procurement (1.01%), construction (1.33%), large trade and retail, car and motorcycle repairs (1.18%), real estate (1.03%) and education services (1.12%). Furthermore, in 2017, only 4 sectors can be

the leading sectors, namely the agricultural sector (2.10%), construction (1.25%), large trade and retail, car and motorcycle repair (1.12%) and education services (1.07%).

#### D. Shift Share Analysis

Table 6 shows the value of the national share component of the economic sector in Morotai Island Regency by using GDP data real Year 2015 and 2017 Morotai Island Regency and North Maluku Province.

Table 6. Counting National Share

Sector	GDP Morotai	GDP North Maluku	(C)	National Share
	2015	2017/ 2015		
	(a)	(b)	(a x b)	(C- a)
Agriculture, Forestry, & Fisheries	383.25	1.13	436.4	53.22
Mining & Calling	449.3	1.13	511.76	62.40
Management Industry	44.66	1.13	50.86	6.20
Electricity & Gas Procurement	67.60	1.1389	703.37	85.78
Water Procurement, Waste Management, Waste	120.9	1.13	137.69	16.79
Construction	63.92	1.13	72.80	8.87
Big Trade & Retail; Car Repair & Motorcycles	163.27	1.1389	185.94	22.67
Transportation & Warehousing	16.66	1.1389	18.98	2.31
Provision of Accommodation & Drinking	1.08	1.1389	1.23	150.57
Information & Communication	10.85	1.13	12.36	1.50
Financial Services & Insurance	11.54	1.1389	13.15	1.60
Real Estate	946.20	1.13	1.07	131.41
Company services	949.30	1.13	1.08	131.85
Government administration, compulsory social security defense	73.33	1.13	85.78	10.46
Education services	30.66	1.13	34.94	4.25
Health services and social activities	12.44	1.13	14.17	1.72
Other Services	4.51	1.13	5.13	626.56
<b>GRDP</b>	<b>821.32</b>	<b>1.1389</b>	<b>935.39</b>	<b>144.07</b>

The national share value shows the large value increase of a sector in the GDP real Morotai Regency with the proportion of GDP increase real North Maluku Province. The sector with the largest national share is agriculture, forestry and fisheries with a

value of 53,229.72. While the smallest sector is water procurement, waste management and waste of 16.79.

Next, Table 7 shows the proportional shift calculation. The proportional shift value indicates the amount of deviation or

deviation from the national share value. proportional shifts indicate the value of structural components. The negative proportional shift value (-7,751,844), indicates a slower growth rate in Morotai Island Regency compared to the growth rate in North Maluku Province.

Sectors that have negative proportional shift value as many as 6 sectors from 17 existing sectors, namely agriculture, forestry and fisheries; mining and quarrying sector;

water procurement, waste and waste management sector; government administration, defense, compulsory social security sectors; education services sector; and the health care sector and social activities. These six sectors have slower growth rates in Morotai Island Regency compared to North Maluku Province. This happens because there is external influence from sector i in Morotai Island Regency.

**Table 7. Proportional Shift Calculation**

<i>a) Sector</i>	<b>GDP Morotai 2015</b>	<b>GDP Malut 2015</b>	<b>GDP Malut 2017</b>	<b>HGDP Malut 2017/ PDRB Malut 2015</b>	<b><math>\sum PDRB</math>Malut 2017/<math>\sum PDRB</math> Malut 2015</b>	<b>(d)</b>	<b>Proportional Shift</b>
	(a)			(b)	(c)	(b - c)	(a x d)
foresterie et l'agriculture Provision of accommodation and drinking food halieutiques	383.25	4.74	5.100	1.52	1.13	(0.063)	(24.31)
Mining & Quarrying Management industry	449.3	2.25	5.250	1.30	1.13	(0.04)	(19.83)
Electricity and gas procurement	44.66	1.09	1.66	1.52	1.139	0.38)	17.13
Water supply, oath management, waste	617.67	1.66	25.08	1.13	1.139	0.16	102.10
Construction	120.9	25.08	21.04	1.17	1.139	(0.00)	(0.71)
large trade and retail point; repair cars and motorcycles	63.92	21.04	1.55	1.14	1.139	0.03	1.97
Transportation and warehousing	163.27	5.55	4.16	1.17	1.13	0.00	105.1
Provision of accommodation and drinking food	16.66	4.16	1.34	1.23	1.13	0.03	614.90
Information and communion	1.08	1.14	108.76	1.15	1.13	0.09	106.07
Financial services and insurance	10.85	87.96	1.02	1.18	1.13	0.02	2.17
real estate	1548.80	887.36	706.96	1.16	1.13	0.05	579.98
Company services	946.20	594.53	27.97	1.14	1.13	0.02	28.28
Government administration, mandatory social security annuals	949.30	23.93	78.63	1.92	1.13	0.00	7.110
Education services	75.33	68.59	3.645	1.11	1.139	(0.04)	(3.29)
Health services and social activities	30.66	3.33	788.03	1.12	1.139	(0.02)	
Other services	12.44	706.47	495.86	1.16	1.139	(0.01)	(718.80)
<b>GRDP</b>	<b>4.51</b>	<b>166.75</b>	<b>193.49</b>	<b>1.160</b>	<b>1.13</b>	<b>(0.01)</b>	<b>(141.1)</b>
	<b>821.32</b>	<b>166.75</b>	<b>193.49</b>	<b>20.01</b>	<b>19.36</b>	<b>0.64</b>	<b>(7.75)</b>

Furthermore, there are 11 sectors of positive value, namely processing industry sector, procurement and gas sector, construction sector, large trade and retail sector, motorcycle and motorcycle repair,

transportation and trade sector, accommodation and drinking food supply sector, information and communication sector, financial and insurance services



sector, real estate sector, company services sector and other service sectors.

The following is the result of differential shift calculations Based on the analysis of differential shifts there are 9 sectors that grow faster based on internal locational factors.

Nine sectors that experienced faster growth, namely agriculture, forestry and dairy sectors, mining and quarrying sectors, and electricity and gas procurement sector, water procurement sector, waste and waste management, construction sector, large trade and retail sector, car and motorcycle repair, transportation and trade sector,

information and communication sector, and health and social services sector. While the other 8 sectors are negative, this means that the eight sectors are less profitable in the development of Morotai Island PDRB internally. The eight sectors in question are the processing industry sector, the accommodation and drinking food supply sector, the financial and insurance services sector, the real estate sector, the corporate services sector, the government administration sector, defense, compulsory social security, the education sector, and other service sectors.

**Tabel 8. Calculation Differential Shift**

Sector	GDP Morotai 2017	GDP North Maluku 2017/ 2015	GDP Morotai 2015	(D)	Differential shift
	(a)	(B)	(C)	(Bxc)	(a-d)
Agriculture, forestry and fisheries	4.27	1.07	384.25	412.17	16.69
Mining and quarrying	506.80	1.09	449.3	491.86	14.93
Management Industry	47.82	1.52	44.66	68.00	(20,180.20)
Electricity and gas procurement	952.20	1.30	617.60	805.48	146.71
Water Procurement, Waste Management, Waste	77.57	1.13	120.9	136.98	5.41
Construction	77.57	1.13	63.92	74.78	2.79
Large trade and retail; car and motorcycle repair	187.16	1.13	163.27	186.05	1.10
Transportation and deforestation	22.39	1.17	16.66	19.59	2.80
Provision of accommodation and drinking food	12.38	1.23	1.08	1344.04	(105.34)
Information and communication	12643.70	1.15	10.85	12.57	64.55
Financial Services and Insurance	13.23	1.18	1.58	13.73	(493.86)
Real Estate	1.07	1.16	946.28	1.10	(13.75)
Corporate services	1.07	1.14	949,39	1.08	(13.75)
Defense administration, Compulsory Social Security	81.61	1.09	5.33	82.27	(651.40)
Education services	33.74	1.11	0.66	34.20	(462.50)
Health services and activities	14.41	1.12	2.44	14.03	383.31
Other services	928.561	1.16	4.51	5.23	(161.73)
<b>GDP</b>	<b>928.56</b>	<b>1.13</b>	<b>21.32</b>	<b>935.39</b>	<b>(6.83)</b>

Based on the recapitulation of the results in Table 9, it can be projected the value of GDP real Morotai Island 2019 of 1.15 trillion rupiah, higher in 2017 (928,561.4 billion rupiah). Thus, the economy of Morotai Island Regency in 2019 is estimated to grow by

24.06% from 2017. The growth factor is derived from regional share value of 60.288 Billion Rupiah, proportional shift of 218.39 Billion Rupiah and differential shift value of 356.49 Billion Rupiah.

**Table 9. Recapitulation of The Contribution Factor of Morotai Island with Shift Share Analysis**

Sector	GDP Morotai 2016	Changes Due to Factors			GDP Morotai 2019
		National Share	Proportional Share	Differential Share	
	(a)	(b)	(c)	(d)	(a+b+c+d)
Agriculture, forestry and fisheries	404.49	27.78	(7.71)	16.20	440.76
Mining and quarrying	476.30	32.90	(18.65)	15,13	505.69

	(a)	(b)	(c)	(d)	(a+b+c+d)
Electricity and gas procurement	46,445.20	3,104.91	921.85	(21.59)	28.88
Water procurement, waste management, waste	131.00	9.24	0.66	159.70	1,121.40
Construction	863.80	61.82	36.07	5.71	146.62
Large trade and retail, reception of cars and motorcycles	131.00	9.24	0.660	2.97	79.52
Construction	70.55	5.036	961.28	1.181,8	190.93
Large trade and retail repair of cars and motorcycles	174.79	12.15	2.2,11	2.962,16	24,696.63
Transportation and deforestation	20.12	1.454,21	253.85	(111.25)	1.14
Provision of accommodation and drinking food	1.16	80.43	7.99	68.74	9.71
Information and communication	11.67	820.92	(2.84)	68.74	5.32
Financial services and insurance	12.26	958.46	2.029,35	(533.69)	5.12
Real estate	1.009,90	69.94	4.07	(30.334)	8.29
company services	1.00	69.76	7.232,86	(14.48)	95.97
Government administration, physical defense sos. Mandatory	76.93	5.29	14.42	(686.52)	62.72
Educational services	32.15	2.18	28.85	(485.05)	71.46
Health services and social activities	13.37	2.190,89	28.85	405.00	115.63
Other services	4.77	3.29	110.70	(170.04)	115.63
<b>Amount</b>	<b>872.94</b>	<b>60.28</b>	<b>218.39</b>	<b>356.48</b>	<b>1.15</b>

The projection results show that there are 3 economic sectors that will contribute the most to the GDP of Morotai Island district. Successive sectors of agriculture, forestry and fisheries amounted to 440.77 billion rupiah (38.26%), the large trade and retail sector, car and motorcycle repair amounted to 190.94 billion rupiah (16.54%) and other service sectors amounted to 115.64 Billion Rupiah (10.04%). The sector that will contribute the smallest is the water supply, waste management, waste sector of 146.62 Billion Rupiah (0.01%).

#### IV. CONCLUSIONS

1. Economic growth from 2017 will increase by 24.06 percent in 2019, it is hoped that the Regional Government can increase economic growth by giving special attention to leading sectors that have the potential to increase economic growth, according to Klassen typology mapping is in quadrant IV (relatively lagging area)
2. Average economic growth rate of Morotai Island Regency in 2010-2017 of 6.0 percent

3. The results of the LQ (Location Quotient) analysis show that there are several sectors that meet the criteria as a leading sector, which has an LQ value >1.
4. Based on the analysis of shift share, the sector that has the largest national share is agriculture, forestry and fisheries sector with a value of 53,229.72. While the smallest is the water supply sector, trash and waste management of 16.79.

#### V. SUGGESTIONS/RECOMMENDATIONS

The Morotai Regency Government is suggested to focus on encouraging leading sectors that contribute in increasing economic growth, where it is mandated in RPJMD (*Rencana Pembangunan Jangka Menengah Daerah*) Morotai Island to prioritize the welfare of the community by looking for new breakthroughs for the process of increasing investment.

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