Reposition of Sectors Before and After Regional Division in Manokwari

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Abstract

Regional expansion could be a strength to improve the performance of local governments and aims to make governments at regional level to be more focused on escalating potential sectors in their regions. This study analyzes the repositioning of the GRDP contributing sector before and after expansion between two regency regions in 2010-2017. The research method uses Location Quotient (LQ) and Shift Share analysis. Results of this study show that before and after expansion of districts into new regency, agricultural sector has declined in the contribution of GRDP. But after the expansion, the sectors with the best economic performance are the construction, administration and trade & repair sectors. In addition, agricultural sector to some extent has been decreased in the two regions. But at the same time, agricultural sector become leading sector in the new region with slow growth. Implication of this study is that the division of regions would not create new leading sector if the potential sector in a new region is the leading sector in the older region. Therefore, policy making which ensure basic sectors to have positive proportional shift and differential shift could drive economic development planning in both regions.

Key words : GRDP sectors, location quotient, shift share, regional development

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INTRODUCTION

Development of a region both nationally and at the regional level may be successful showed by its economic growth indicators. If the contribution of the Gross Regional Domestic Product (GRDP) increases, the economic growth and development of a region will also increase simultaneously. But along with the increase in the population of a region, the demand for goods and services in all sectors contributing to GRDP is also increasing. Thus, the determination of sectors having the multiplier effect on other sectors in supporting the effectiveness and efficiency of achieving development goals is absolutely necessary.

Policy makers have considered the possibility of disadvantaged of government implementation due to the range of control in areas with a large population and number of villages. To overcome this, the expansion of new territories from the original area is one way to achieve the development stage. This process might accelerate the achievement of development goals and gain the fulfillment of its effectiveness and efficiency. With the existence of regional expansion, improving the quality of community services by government officials, the effectiveness of government administration, and management of development can be improved (Damanik, 2016). Regional expansion has become the government's strength to improve its performance while increasing the welfare of regional communities. In addition, regional expansion also aims governments to be more focused on developing potential sectors in their regions.

The separation of an area from its parent area into an independent region is required to have terms and conditions in accordance with the laws and regulations. Legal regulations for regional expansion in Indonesia is Law No. 23 of 2014 concerning Regional Government which was the result of amendments to Law Number 22 Year 1999 and its implementation basis is based on government regulation Number 78 of 2007 concerning the method of forming, eliminating and merging a region. One of the requirements for expansion is economic capacity and regional potential which are named technical requirements. The technical requirements along with administrative and physical territorial requirements are a requirement that must be owned by the area before being divided.

South Manokwari District was expanded at the end of 2012 together with the Arfak Mountains District to be new regencies. These two regions are divided according to Law Number 24 of 2012 concerning the establishment of the South Manokwari Regency and the Arfak Mountains Regency in West Papua Province. The negative impact of regional expansion has actually been felt by the local government of Manokwari Regency since the release of the South Manokwari and the Arfak Mountains Regencies. In the 2014, for example, State Budget shrank to above 30% compared to 2013. From the beginning the APBN has reached to more than Rp. 1 trillion, has decreased to Rp. 700 billion (Sefire, 2016).

South Manokwari is an area that has contributed significantly to the agricultural sector when it is still incorporated in Manokwari Regency and at the same time has increased the value of economic growth in Manokwari Regency (Sholihah, 2014). Table 1 shows the development of GRDP in Manokwari before and after the regional been squeezed.

Table 1: Development of GRDP in Manokwari at Constant Price (ADHK) for 2010-2017 (Billion Rupiah)

No.	Industry Origin	Before Expansion		After Expansion						Average
		2010	2011	2012	2013	2014	2015	2016	2017	
1.	Agriculture, Forestry, and Fishery	1,030.55	987.24	672.68	713.47	749.62	784.27	815.98	864.48	827.29
2.	Mining and quarrying	127.95	131.17	132.18	137.98	140.78	152.02	165.72	161.79	143.70
3.	Processing industry	176.37	180.81	183.64	192.72	200.44	204.83	211.36	225.04	196.90
4.	Procurement of electricity and gas	3.88	4.41	4.19	4.70	4.84	4.74	4.90	5.02	4.59
5.	Water supply, waste management, waste, and recycling	14.42	14.55	15.28	15.91	16.69	17.90	18.99	19.99	16.72
6.	Construction	728.88	823.42	914.51	1,058.65	1,177.63	1,286.40	1,405.40	1,541.58	1,117.06
7.	Wholesale and retail, automobile and motorcycle repairs	441.57	495.94	528.90	569.78	611.92	649.92	694.19	751.44	592.96
8.	Transportation and warehousing	177.89	191.94	209.90	242.78	275.04	295.34	321.24	343.47	257.20
9.	Provision of accommodation and drinking	63.87	65.24	66.75	69.57	73.28	78.30	83.07	90.31	73.80
10.	Information and communication	159.35	160.21	182.58	199.13	222.47	239.68	263.00	271.30	212.22
11.	Financial services and insurance	110.51	118.60	139.28	181.73	202.28	222.04	228.94	230.31	179.21
12.	Real Estate	109.56	119.49	133.16	141.27	156.13	170.94	187.18	203.45	152.65
13.	Company services	10.89	11.14	11.46	12.41	13.01	13.63	14.30	15.00	12.73
14.	Public administration, defense, and compulsory social security	654.41	719.30	717.84	787.83	859.81	939.90	1,026.62	1,111.16	852.11
15.	Educational services	207.58	214.58	205.09	227.04	247.13	266.19	287.10	306.51	245.15

No.	Industry Origin	Before Expansion		After Expansion						Average
		2010	2011	2012	2013	2014	2015	2016	2017	
16.	Health services and social activities	86.00	91.82	90.79	91.63	95.53	100.95	105.96	113.11	96.97
17.	Other services	28.21	28.96	25.51	27.59	29.43	31.30	33.37	35.38	29.97
	Gross Regional Domestic Product (GRDP)	4,131.91	4,358.81	4,233.73	4,674.19	5,076.04	5,458.37	5,867.31	6,289.33	5,011.21

Source: Central Bureau of Statistics (2015a, 2018b)

From the data in table 1, it can be seen how the value of the ADHK GRDP in Manokwari Regency changed before and after the division. Of the seventeen sectors that contributed to the GRDP of Manokwari Regency, the sector that had the largest contribution to GRDP in 2010 was the agricultural sector with a total contribution of 1,030.55 billion rupiah or 24.95% of the total GRDP. But, in the following years, the contribution of the agricultural sector declined, especially during and after the division which only reached around 15% and even 13% of the total GRDP and was later replaced by the contribution of the construction sector which continued to increase every year, even increasing to 1,541, 58 billion rupiah in 2017. This makes the construction sector to be the largest contribution to the ADHK GRDP of Manokwari Regency. While the sector that has the lowest contribution is the electricity and gas sector every year. On average, the highest GRDP value was found in the construction sector, followed by the administrative sector and agriculture sector ranked third for the Regency Manokwari.

The success of development could be seen from its economic growth, economic structure and the smaller inequality between regions and between sectors (Kuncoro, 2004). Table 2 shows the state of ADHB and ADHK GRDP in South Manokwari Regency. South Manokwari Regency is a newly expanded area from Manokwari Regency besides the other new Regencies, namely the Arfak Mountain Regency. As a new regency, the GRDP value of South Manokwari is certainly smaller when compared to Manokwari Regency. But, this does not rule out the possibility that if every economic sector is well managed, especially potential sectors, as it can increase the value of GRDP of South Manokwari Regency.

Table 2: Development of GRDP after the Expansion of the Regency of South Manokwari and West Papua Province at Constant Prices (ADHK) for 2012-2017 (Billion Rupiah)

No	Industry Origin	South Manokwari On Average 2012-2017	West Papua On Average 2010-2017
1.	Agriculture, Forestry, and Fishery	315.60	5,206.76
2.	Mining and quarrying	2.46	11,076.95
3.	Processing industry	4.60	15,731.19
4.	Procurement of electricity and gas	0.56	17.47
5.	Water supply, waste management, waste, and recycling	0.00	54.90
6.	Construction	13.36	5,153.15
7.	Wholesale and retail, automobile and motorcycle repairs	5.36	2,794.60

No	Industry Origin	South Manokwari On Average 2012-2017	West Papua On Average 2010-2017
8.	Transportation and warehousing	11.51	1,070.04
9.	Provision of accommodation and drinking	1.46	248.73
10.	Information and communication	0.99	797.64
11.	Financial services and insurance	2.52	614.65
12.	Real Estate	1.38	511.84
13.	Company services	0.41	50.56
14.	Public administration, defense, and compulsory social security	80.40	3,855.63
15.	Educational services	15.31	1,148.58
16.	Health services and social activities	5.94	364.44
17.	Other services	5.30	138.05
	Gross Regional Domestic Product (GRDP)	**467.14**	**48,835.20**

Source: Central Bureau of Statistics (2015b, 2015c, 2018b, 2018c), Processed

Table 2 illustrates the development of South Manokwari Regency GRDP from 2012-2017 or since the district was established as regency. The sector that contributed most to the South Manokwari Regency GRDP is the agricultural sector. Agriculture has contributed the most to GRDP since the district was established. ADHK's agricultural sector contribution in 2012 amounted to 287.86 billion rupiahs, while based on ADHB GRDP in 2012 amounted to 304.13 billion rupiahs and continued to increase every year (BPS, 2015b, 2018b). The size of the contribution of the agricultural sector to the South Manokwari Regency GRDP is directly proportional to the decline in the contribution of the agricultural sector to Manokwari Regency GRDP since 2012. In contrast, the economic sector that does not contribute to South Manokwari Regency GRDP is the water supply, waste management and waste sectors, which since 2012-2017 this sector does not contribute at all to the development of GRDP in the regency or in other words, its contribution to the GRDP is only 0 rupiah per year.

The sector of West Papua Province which has the largest contribution is the industrial sector which in 2010 had a contribution of 13,524.27 billion rupiah and continues to increase every year to reach 17,715.06 billion rupiah in 2017. While the sector that has the smallest contribution is the electricity and gas sector. Furthermore, the mining and quarrying sector is the second largest sector after the industry (table 2). Referring to the BPS (2015-2018), the largest contribution is the industrial sector which contributed 13,524.37 billion in 2010 and in 2017 its contribution to the GRDP increased significantly to 18,618.95 billion rupiah, while the sector with the lowest contribution was electricity and gas, similar to the ADHK GRDP sector performance.

There are a number of previous studies that have been carried out previously, including: identification of the leading sectors and economic structures which shows the competitive advantage and comparative advantage possessed by each sector and sub-sector of the economy (Damanik, 2016); analysis the leading sectors (Nurhayati and Kusumawati, 2014); determination of economic leading sectors and structure of economic growth, base and non-base sectors, repositioning of sectors

and sectors that have competitive advantage and specialization (Hajeri, Yurisinthae and Dolorosa, 2015); the economic structure of area after the expansion (Hamri *et al.*, 2016); determination of potential economic sector (Suarmanayasa, Susila and Bagia, 2018); and disparities in economic growth and shift in the economic structures (Iswanto, 2015; Khusaini, 2015; Wahyudi, 2017).

Through an analysis of the presentation of GRDP values each year, it can also be known the magnitude of economic growth, inflation between sectors, and the development of each economic sector which will show what sectors are leading to the stages of industrialization based on their contribution to GRDP. In addition, through GRDP, proportional shifts and differential shifts can be found in each sector. A proportional shift will show changes in each sector in Manokwari Regency and in South Manokwari Regency towards the same sectors in West Papua Province. Whereas, differential shifts can be used to provide information about industrial competitiveness in Manokwari Regency and in South Manokwari Regency with those in West Papua Province. Based on the background above, this research question is how are the development sectors of GRDP in Manokwari and South Manokwari Regencies due to the expansion and which sectors indicate repositioning after division in Manokwari and South Manokwari Regencies. Thus, the purpose of this study is to analyse the development of GRDP contributing sectors in Manokwari and South Manokwari Regencies as a result of division and to identify sectors that show repositioning after division in Manokwari and South Manokwari.

METHOD

This study analyze changes in the economic structure of regions before and after separating from its parent by showing sectors in GRDP performance. There are two areas, Region A known as Manokwari (Main region)

and Region B known as South Manokwari Regency (Expanded region). South Manokwari before 2012 was a district in Manokwari and being a new regency since 2012. Figure 1 illustrates how this research is conducted.

Firstly, this research investigate about sectors that contribute to GDP during the period. After that, these sectors will be analyzed through Shift Share analysis to determine sectors that include proportional shift and differential shift. Both are part of the Shift Share analysis which will show changes in the regional economic structure towards a higher regional economic structure as a comparison. Proportional shifts show a relative change in the performance of a sector in a certain area of the same sector in the provincial reference. While the differential shift shows how far the competitiveness of local industries with the economy is used as a reference. Through Shift Share analysis, it is explained what sectors are the leading sectors in Manokwari Regency before and after the expansion and what sectors are the leading sectors in South Manokwari regency. The leading sectors are analyzed also through LQ and DLQ to find out the base and non-base sectors.
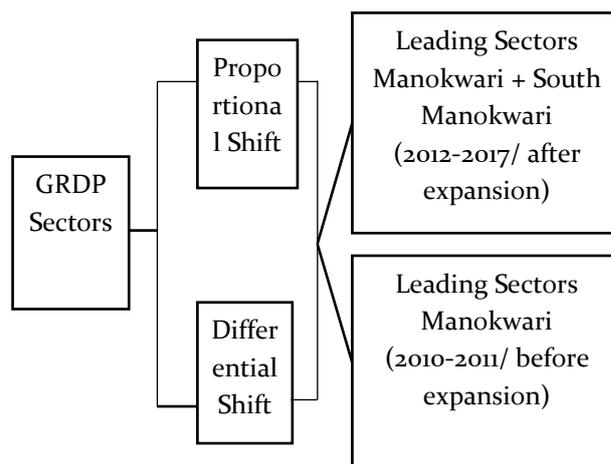
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Figure 1: Research Framework

This research is quantitative research, which is a method that emphasizes objectively measuring aspects of social phenomena. The data used in this study are secondary data, obtained from BPS Manokwari Regency, South Manokwari Regency and West Papua Province.

The research location was chosen in Manokwari Regency, because Manokwari Regency was the main regency which was later taken part of its territory to become two new Regencies, namely South Manokwari Regency and Arfak Mountains Regency.

The Gross Regional Domestic Product (GRDP) data used in this study are GRDP on the basis of Constant Prices (ADHK) and GDP at Current Prices (ADHB) of West Papua Province and Manokwari Regency and South Manokwari Regency in 2010-2017. GRDP is the amount of value added of goods and services produced from all economic activities throughout the region in a given year or a certain period and usually one year. GRDP is one indicator of the economic growth of a country or region.

The sector is an economic activity business field, a sector/subsector that is able to create economic activities and is able to create prosperity in an area is categorized as a sector that contributes significantly to the regional GRDP. The economic sector that contributes significantly to the value of GRDP of a region has the potential to be able to improve the welfare of the region. There are seventeen (17) economic sectors that contribute to the GRDP value.

The greater the contribution of a sector to GDP, the more dominant the sector in the economy of the region. In addition, GRDP development will increase economic growth. With the existence of economic growth will bring economic development. To see the development of the sector, it can be seen from sector inflation, inflation is calculated using the GRDP deflator. Changes in various economic sectors will result in economic growth, which is marked by rising national production, national income, and per capita income. The unit used in calculating the contribution and development of the economic sector is percent (%).

In this study, the focus for analysis was Manokwari and South Manokwari. The data obtained are presented based on descriptive statistical method to show the result of percentage, average and frequency. Descriptive statistics describes the phenomenon or characteristics of the data including the characteristics of its distribution (Hartono, 2004). The analytical tool in this study is the method of calculating sector contributions, the inflation calculation method, the Location Quotient (LQ) method and the sift share (SS) calculation method.

To find out the economic condition of a region based on the development of GRDP, it is necessary to look at the amount of contribution from each economic sector that constitutes the GRDP. By comparing sectoral contributions during the year of observation it can be seen the structural changes in the components (sectors) of regional GDP compilers, so that they can see the economic conditions of the region. Sectoral contributions are calculated by dividing the GRDP per sector with the total GRDP.

$$\text{Sector Contribution}_i = \frac{\text{GRDP}_i}{\text{Total GRDP}} \times 100 \quad \text{...............(1)}$$

Where:
GRDP_i = GRDP sector i
Total GRDP = Total GRDP value from the entire economic sector
I = business field sector (1, 2, 3, ..., 17)

Inflation is an economic condition in which prices generally increase in a long time. Inflation in general can occur because there is more money in circulation than is needed. Inflation is an economic phenomenon that can

never be completely eliminated. The efforts carried out are usually only limited to reducing and controlling it. To find out the magnitude of the inflation value, a calculation can be made using the GDP deflator. PDRB deflator is the ratio between nominal GDP or current price and real GDP or constant price.

$$\text{deflator GRDP}_t = \frac{\text{GRDP nominal}_t}{\text{GRDP riil}_t} \times 100\% \dots\dots\dots\dots(2)$$

Using this index information can be formulated:

$$\text{INF}_t = \frac{\text{deflator GRDP}_t - \text{deflator GRDP}_{t-1}}{\text{deflator GRDP}_{t-1}} \times 100\% \dots\dots\dots(3)$$

The deflator GRDP has a value greater than, equal to, or smaller than one. Value of deflator GRDP greater than or equal to one means that general prices have increased or at least the same. Conversely, the value of the deflator of GRDP smaller than one means that general prices have decreased.

The concept of economic bases explains how an economic sector and its basic activities can meet the needs of domestic market, as well as other markets outside. Therefore, quantitative and qualitative approaches were also applied together with Location Quotient (LQ) and Static Location Quotient (SLQ). The general formula of LQ and SLQ that can be applied in determining leading economic sectors is as followed:

$$LQ \text{ or } SLQ = \frac{(GDRP \text{ sector } i \text{ regency}/total \text{ GDRP regency})}{(GDRP \text{ sector } i \text{ province}/total \text{ GDRP province})} \dots\dots\dots(4)$$

If LQ > 1 indicates that the sector is base and potential, whereas LQ < 1, it means not the base sector. Thus, the higher the LQ value of a sector, the more competitive advantage of the regency on a related sector.

The sectoral trends in a region will be compared to the average LQ of the related sector to evaluate whether there is a change in the sectoral contribution or not in a period of time. In this study, the analysis will be limited to period from 2010 to 2017 (short term).

Shift share analysis is a quantitative method that is commonly used to analyze changes in the real economic structure of the administrative structure of the higher administrative regions as a comparison or reference. Shift Share is used to calculate and analyze the economic structure of the regency against the provincial or national economic structure. The formulas used for this share shift analysis are as follows:

a. Real impact of regional economic growth:

$D_{ik} = N_{ik} + M_{ik} + C_{ik}$ atau $D_{ik} = E_{ik}^* - E_{ik}$ ....(6)

b. Effects of economic growth reference:

$N_{ik} = E_{ik} \times r_p$ ....(7)

c. Proportional shift or influence of industrial mix:

$M_{ik} = E_{ik} (r_{ip} - r_p)$ ....(8)

d. Effect of competitive advantage:

$C_{ik} = E_{ik} (r_{ik} - r_p)$ ....(9)

Where:

D_{ik} = real impact of regional economic growth

N_{ik} = influence of reference growth

M_{ik} = the influence of the industrial mix

C_{ik} = influence of competitive advantage

E_{ik} = GRDP in the regency i sector

E_{ip} = GRDP in the provincial sector i

r_{ik} = the rate of growth of the regency i sector

r_{ip} = rate of growth of the provincial sector i

r_p = provincial economic growth rate

This analysis uses three basic information related to each other, namely: a) Economic, provincial or national growth that shows how the national economic growth influences the regional economy. b) Proportional shifts, which show the relative changes of a sector in a particular area to the same sector in a provincial or national reference. A proportional shift is also called the influence of the industry mix. c) Differential shifts, which provide information in determining how far the industrial competitiveness of the region is the reference economy. This differential shift is

also called the influence of competitive advantage.

RESULTS AND DISCUSSION

The West Papua Province's Gross Regional Domestic Product (GRDP) since 2010 continued to increase until 2017, both based on constant (real) prices of 56,906.82 billion rupiah and based on current prices (nominal) amounting to 71,788.56 billion rupiah. Although the value of the GRDP of West Papua Province continues to increase, the rate of real GDP growth has stabilized in recent years with a range of 4 percent growth. Indeed, the lowest nominal GRDP growth rate occurred in 2016 (5.95 percent) while in other years the nominal GRDP value was above 6 percent.

The rate of economic growth in Manokwari Regency is very high for nominal GRDP with a value above 9 percent to 15 percent. The lowest value only occurred in 2012 at 2.63 percent just when the regional expansion was inaugurated. Whereas in the same year (2012), the value of the real GRDP growth rate reached at -2.87 percent and became the lowest growth rate. On the other hand, South

Manokwari Regency experienced a fairly high growth rate at the beginning of its formation, then decreased until 2017 both for the value of real GRDP and its nominal value.

During the period 2010-2017, Manokwari has average growth rate higher than that of South Manokwari and West Papua Province. It has reached 6.26 percent with fluctuated growth rate during this period. On the other hand, South Manokwari has maintained its growth rate to be stabilized since established to be below five percent (4.73 percent). Manokwari has higher GRDP value because it has been supported by its identity as the capital city of West Papua Province and central of administrations, economics and other government activities.

According to table 3, the economic growth has been decreasing below one percent each year but still in good performance for both regencies. It was illustrated by sector's performance during the period which would be discussed later. However, the sectors in each regions have shown a change in its position as leading sectors and may create new economic structures, so that it becomes government's consideration in policy making.

Table 3: GRDP of Manokwari, South Manokwari and West Papua Province 2010-2017

Areas	Time/Year		Riil GDRP (Billion Rp)	Economic Growth (%)	Nominal GDRP (Billion Rp)	Economic Growth (%)
Manokwari	**Before**	2010	4,131.91	-	4,131.91	-
	Expansion	2011	4,358.81	5.49	4,591.44	11.12
		2012	4,233.73	-2.87	4,712.36	2.63
		2013	4,674.19	10.40	5,460.98	15.89
	After	2014	5,076.04	8.60	6,315.94	15.66
	Expansion	2015	5,458.37	7.53	6,972.56	10.40
		2016	5,867.31	7.49	7,648.42	9.69
		2017	6,289.33	7.19	8,593.45	12.36
	Average		5,011.21	6.26	6,053.38	11.11
South	**Before**	2010	-	-	-	-
Manokwari	**Expansion**	2011	-	-	-	-

Areas	Time/Year		Riil GDRP (Billion Rp)	Economic Growth (%)	Nominal GDRP (Billion Rp)	Economic Growth (%)
		2012	411.09	-	446.91	-
		2013	433.29	5.40	492.02	10.09
	After	2014	458.42	5.80	553.48	12.49
	Expansion	2015	479.68	4.64	608.49	9.94
		2016	502.49	4.75	648.25	6.53
		2017	517.87	3.06	712.71	9.94
	Average		576.98	4.73	467.14	9.80
West Papua Province	Before	2010	41,460.69	-	41,460.69	-
	Expansion	2011	42,867.19	3.39	44,254.64	6.74
		2012	44,423.34	3.63	47,421.09	7.16
		2013	47,705.86	7.39	53,014.21	11.79
	After	2014	50,259.91	5.35	58,180.96	9.75
	Expansion	2015	52,346.49	4.15	62,888.03	8.09
		2016	54,711.28	4.52	66,631.08	5.95
		2017	56,906.82	4.01	71,788.56	7.74
	Average		48,835.20	4.64	55,704.91	8.17

Source: Central Bureau of Statistics (2015a, 2015b, 2015c, 2018a, 2018b, 2018c), Processed

A change in the value or position of a sector also influences the inflation rate of GRDP. Highest inflation rate of sector will prevent sector to have progresif growth rate and vice versa. If local government could manage the rate of inflation in each sectors, leading sector after division would noticeably state as potential to development planning in a region.
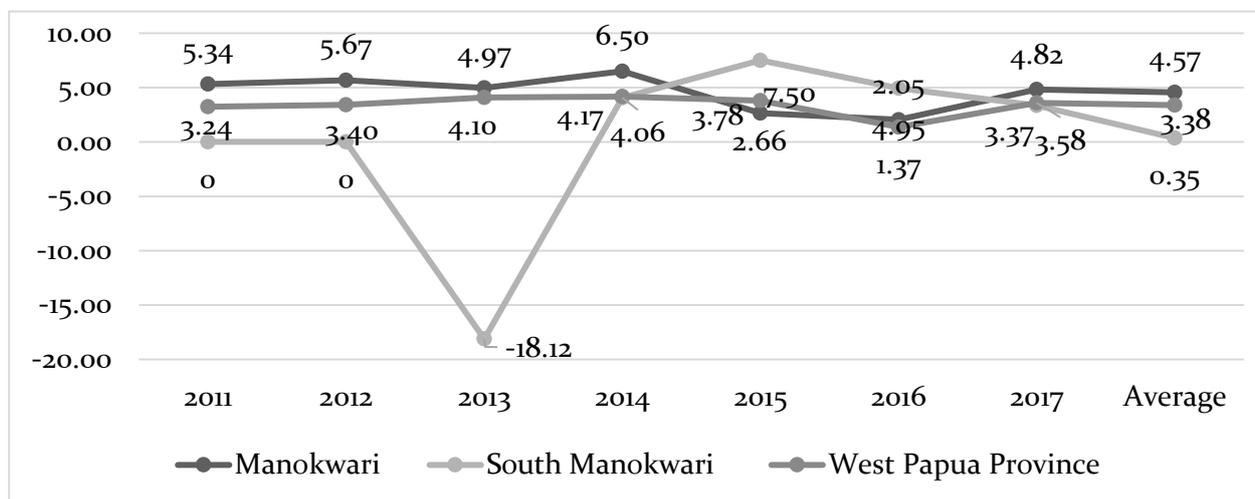
Source: Processed data, 2019
Figure 2. Inflation in Manokwari, South Manokwari and West Papua Province in 2010-2017

In addition, inflation could be stabilized at a low rate if government has sufficient tax revenue (Mankiw, 2007). Tax revenue comes from activities of each sectors. The more activity of a sector, the more revenue for local government and at the same time the inflation rate could be maintained.

Table 4. Average Inflation per Economic Sector, 2010-2017

No.	Industry Origins	Inflation Rate (%)		
		Manokwari	South Manokwari	West Papua Province
1	Agriculture, Forestry, and Fishery	2.11	0.69	4.23
2	Mining and quarrying	4.09	3.61	2.24
3	Processing industry	1.74	1.93	0.76
4	Procurement of electricity and gas	7.27	14.76	7.67
5	Water supply, waste management, waste, and recycling	2.04	0.00	2.45
6	Construction	5.59	-0.23	6.58
7	Wholesale and retail, automobile and motorcycle repairs	4.74	3.15	4.65
8	Transportation and warehousing	5.66	5.03	5.74
9	Provision of accommodation and drinking	4.14	-0.51	5.99
10	Information and communication	2.07	3.03	1.47
11	Financial services and insurance	7.37	-2.69	5.31
12	Real Estate	4.34	0.85	4.72
13	Company services	5.16	0.61	4.19
14	Public administration, defense, and compulsory social security	5.56	-1.92	6.51
15	Educational services	4.02	1.10	2.67
16	Health services and social activities	3.52	2.18	3.80
17	Other services	2.68	-2.02	4.42
	Rate of Inflation (%)	4.57	0.35	3.38

Source: Processed data, 2019

In Manokwari, the average inflation was 4.57 on period 2010 to 2017. The lowest inflation occurred in 2015 and 2016, which accounted at 2.66 and 2.05 percent. While for the regency of South Manokwari, the inflation value at the beginning of 2013 was -18.12 percent before stabilizing at 3.37 percent in 2017 with an average inflation of 0.35 percent (2012-2017).

In addition, inflation can also be seen in each economic sector that contributes to the GRDP of 2010-2017. The sector with the highest inflation value is the electricity and gas sector. It has occurred in the three regions. This also shows that the availability of electricity is still limited so that it has not contributed more to the sector.

Research by Dharma and Djohan (2016) has concluded that inflation has a significant negative effect on economic growth while employment does not show a significant relationship. In fact, South Manokwari Regency has negative inflation rates in some sectors. Almost all sectors in South Manokwari has low rate of inflation during the period. Indeed, as a new regency the activities of sectors are still smaller in value compared to the older regency.

Table 5: LQ and DLQ Index of Manokwari & South Manokwari

No.	Industry Origins	LQ			DLQ		
		Manokwari (2010-2011)	Manokwari (2012-2017)	South Manokwari (2012-2017)	Manokwari (2010-2011)	Manokwari (2012-2017)	South Manokwari (2012-2017)
1.	Agriculture, Forestry, and Fishery	1.57	1.39	6.25	35.66	-4.67	1.00
2.	Mining and quarrying	0.13	0.13	0.02	0.60	1.06	0.99
3.	Processing industry	0.12	0.12	0.03	0.67	1.05	0.99
4.	Procurement of electricity and gas	2.60	2.60	3.37	1.03	0.97	1.04
5.	Water supply, waste management, waste, and recycling	2.98	2.98	0.00	0.68	1.05	1.00
6.	Construction	2.14	2.14	0.29	1.04	0.99	0.99
7.	Wholesale and retail, automobile and motorcycle repairs	2.08	2.08	0.21	1.16	0.97	1.00
8.	Transportation and warehousing	2.36	2.36	1.21	0.88	1.01	0.98
9.	Provision of accommodation and drinking	2.92	2.92	0.62	0.54	1.07	1.00
10.	Information and communication	2.62	2.62	0.14	0.87	1.00	0.98
11.	Financial services and insurance	2.84	2.84	0.45	1.04	0.94	0.97
12.	Real Estate	2.91	2.91	0.29	1.08	0.98	1.00
13.	Company services	2.48	2.48	0.87	0.65	1.05	1.00

No.	Industry Origins	LQ			DLQ		
		Manokwari (2010-2011)	Manokwari (2012-2017)	South Manokwari (2012-2017)	Manokwari (2010-2011)	Manokwari (2012-2017)	South Manokwari (2012-2017)
14.	Public administration, defense, and compulsory social security	2.18	2.18	2.27	0.65	1.06	1.00
15.	Educational services	2.10	2.10	1.44	0.08	1.14	1.00
16.	Health services and social activities	2.62	2.62	1.73	0.75	1.04	0.99
17.	Other services	2.19	2.19	4.14	-0.40	1.26	1.00

Source: Processed data, 2019

The results of LQ and DLQ analysis are presented in table 5 and are separated between before and after regional expansion. Based on the LQ index value, sectors that are not the base in Manokwari Regency are the Mining & quarrying sector and the Industrial sector with LQ values of 0.13 and 0.12. While based on DLQ value, there are six base sectors and 11 non base sectors. Sectors included in the base before the division of Manokwari Regency are Agriculture, Electricity & Gas, Water, Waste & Waste Management, Construction, Trade & Repair, Financial & Insurance Services and Real Estate.

After expansion, the condition of the base and non-base sectors did not change for Manokwari Regency based on the LQ method. Meanwhile, based on the DLQ method, five sectors before the division were the base sector, after the expansion was no longer a base sector. These sectors are the Electricity & Gas sector, Construction, Trade & Repair, Financial & Insurance Services and Real Estate.

The results of the LQ analysis in South Manokwari Regency show six sectors which are the base sectors, namely the sectors of Agriculture, Electricity & Gas, Transportation & Warehousing, Administration, Educational Services, Health & Social Services, and Other Services. While based on the DLQ method, 10 sectors that are the basis and seven sectors are non-base sectors. The non-base sectors include Mining & Excavation, Industry, Construction, Transportation & Warehousing, Information & Communication, Financial Services & Insurance and Health & Social Activities Services.

The results of DLQ show that some sectors experienced repositioning in the period before and after expansion. In South Manokwari Regency, sectors that are not the basis are indeed non-priority sectors in the early stages of new Regency development. The Mining & Excavation Sector, Industry, Construction, Transportation & Warehousing, Information & Communication, Financial Services & Insurance and Health Services & Social Activities are hampered in their development because they have been absent or limited and more available in the City of Manokwari and also due to road access to the location which is under repair and development. Previus study by Rahman (2016)

compared LQ and DLQ results between Regencies in Lombok Island. This study emphasized on the ranking of sectors between regions but not sector's productivity.

Shift Share Analysis is used to determine the performance or productivity of regional work, comparing it with larger regions and influencing growth through the amount of output. The presentation of the results of the analysis is distinguished between before and after regional division in Manokwari Regency and after the expansion of South Manokwari Regency. Based on the analysis using Shift Share (SS), it is known that in 2010 to 2017, the Manokwari Regency GRDP before the expansion experienced absolute value added or experienced an increase in the regional economic performance of Rp 55.66 billion. This can be seen from D_{ik} value with almost all economic sectors. The sectors have positive value except for Agriculture, Education Services and Other Services sectors.

Table 6: Reposition of Sectors of Manokwari Regency 2010-2017 (Billion Rupiahs)

Sectors	Proportional Shift (M_{ik})			Differential Shift (C_{ik})		
	All Periods (2010-2017)	Before Expansion (2010-2011)	After Expansion (2012-2017)	All Periods (2010-2017)	Before Expansion (2010-2011)	After Expansion (2012-2017)
1. Agriculture, Forestry, and Fishery	-	-	-	-	-	+
2. Mining and quarrying	-	-	-	+	+	+
3. Processing industry	-	+	-	-	-	+
4. Procurement of electricity and gas	+	+	-	-	-	-
5. Water supply, waste management, waste, and recycling	-	-	-	+	-	+
6. Construction	+	+	+	-	-	-
7. Wholesale and retail, automobile and motorcycle repairs	+	+	+	-	+	-
8. Transportation and warehousing	+	+	+	-	-	+
9. Provision of accommodation and drinking	+	+	+	-	-	-
10. Information and communication	+	+	+	-	-	-

Sectors	Proportional Shift (M_{ik})			Differential Shift (C_{ik})		
	All Periods (2010-2017)	Before Expansion (2010-2011)	After Expansion (2012-2017)	All Periods (2010-2017)	Before Expansion (2010-2011)	After Expansion (2012-2017)
11. Financial services and insurance	+	+	+	+	-	+
12. Real Estate	+	+	+	+	+	+
13. Company services	+	+	+	-	-	-
14. Public administration, defense, and compulsory social security	+	+	+	-	-	+
15. Educational services	+	+	+	-	-	+
16. Health services and social activities	+	+	+	-	-	-
17. Other services	-	-	+	+	+	-
Total positive	12	13	12	5	4	9
Total negative	5	4	5	12	13	8

Source: Processed data, 2019

Where: + = positive value

    - = negative value

The competitive economic sector (see positive C_{ik} figures) in Manokwari before division is the Mining & quarrying sector, Trade & Repair, Real Estate and Other Services. The sector shows an increasing level of competitiveness. Meanwhile, output produced from the industrial mix (see M_{ik} numbers) in the economy in Manokwari Regency before expansion, as a result of interactions between industrial activities that are interconnected with each other, only 4 sectors have a negative impact. These sectors include Agriculture, Mining & quarrying, Water, Waste & Waste Management and Other Services.

The role of the GRDP sector after the division in Manokwari Regency was seen in sectoral economic growth, which generally tends to improve with a total positive output value of Rp. 267.80 billion. The increase in the performance of the economic sector after the expansion was contributed by the Construction, Administration, Trade & Repair and Agricultural sectors. Whereas the competitive sector is shown by 9 sectors, with the highest level of competitiveness in the Administration, Agriculture and Mining & Quarrying sectors.

For sectors experiencing the highest industrial mix are the Construction and Administration sectors which are followed by other sectors, except the Agriculture, Mining & quarrying sector, Industry, Electricity & Gas, and Water, Waste & Waste Management. The output generated from the industrial mix in the economy of Manokwari Regency results from

interconnected activity interactions. Table 6 shows the overall situation both before and after expansion (2010-2017) in Manokwari Regency. During this period, the provincial economic growth showed a positive value in each economic sector in Manokwari Regency with a total value of Rp. 232.29 billion.

The agricultural sector during the period 2010-2017 has experienced a significant competitive decline followed by the construction and administration sectors. However, the construction sector during this period had the highest growth performance and was followed by the administration sector. Thus, the agricultural sector has experienced a continuous shift in both the division and all years in the period.

Table 7: Reposition of Sectors South Manokwari Regency after Expansion (2012-2017)

Sectors	Proportional Shift (M_{ik})	Differential Shift (C_{ik})
1.　Agriculture, Forestry, and Fishery	-	-
2.　Mining and quarrying	-	+
3.　Processing industry	-	-
4.　Procurement of electricity and gas	-	-
5.　Water supply, waste management, waste, and recycling	+	+
6.　Construction	+	+
7.　Wholesale and retail, automobile and motorcycle repairs	+	-
8.　Transportation and warehousing	+	-
9.　Provision of accommodation and drinking	+	+
10.　Information and communication	+	-
11.　Financial services and insurance	+	+
12.　Real Estate	+	-
13.　Company services	+	-
14.　Public administration, defense, and compulsory social security	+	+
15.　Educational services	+	-
16.　Health services and social activities	-	-
17.　Other services	+	-
Total positive	12	6
Total negative	5	11

Source: Processed data, 2019

Where: + = positive value

　　　- = negative value

The results of the Shift Share analysis for South Manokwari Regency are presented in table 7. The economic performance of South Manokwari Regency until 2017 reaches Rp. 23.91 billion with a negative value in the Electricity & Gas sector. In addition, half of the total output value of economic performance comes from the agricultural sector (Rp. 12.20 billion). For the

influence of provincial economic growth on South Manokwari Regency shows a positive value even though it is very small in value. Total output value of Rp. 25.01 billion where the largest value (Rp. 16.89 billion) comes from the agricultural sector. But for the competitive level the agricultural sector has decreased along with 7 other sectors. For the Water sector, Waste & Waste Management until 2017 has not yet contributed so it is still worth zero. Whereas for the sector of Provision of Accommodation & Food Drinking the level of competitiveness is worth zero because the value of the contribution to the sector is the same at the regency level with the Province.

The performance and reposition of the sectors before and after the division shows the position of the two regencies in the province's economy. The newly divided regency is bound to adjust its economic structure. In general, sector transformation starts from the agricultural sector to the industrial, trade and service sectors (Rasyid, 2016). Changing economic structure is characterized by a decline in the primary sector such as the agricultural sector. This is followed by an increase in the secondary sector, usually the industrial sector. The third change is the tertiary sector or service sector. In the period of five years, this study found that the two regencies has agriculture as leading sector yet its contribution is gradually declining. Nonetheless, Manokwari regency after division of regions showed rapid growth in the agricultural sector compared to provinces. This is more due to internal location factors such as good ownership of resources.

This study also found that in both regencies, real estate has positive values in both differential and proportional shifts. Housing and construction is quite high in both regencies. Based on BPS data (2018) the average expenditure per capita of the population for non-food (specifically for expenditure for housing and household facilities) is the highest

in Manokwari 64.42% and South Manokwari 64.29%.

The development of the GRDP contributing sector before and after the division for Manokwari Regency has not significantly changed. The decline in the value of output sector for the competitive level and industrial mix occurs in the agricultural sector, eventhough the agricultural sector has the highest performance after expansion. In contrast, the agricultural sector in the regency of South Manokwari actually experienced good performance and was influenced by economic growth in the agricultural sector at the provincial level. The condition of the agricultural sector before and after expansion has experienced a decline in performance. This finding has similar result with Khusaini (2015), which indicated that agriculture was no longer the backbone of the economy in that region. Meanwhile, the Construction sector in South Manokwari Regency experienced positive performance and its competitive level has increased. The opposite condition occurred in the main regency (Manokwari) after the division.

Based on DLQ calculations, each sector of GRDP in Manokwari Regency before and after the expansion experienced repositioning. Thus, the sector before expansion is the base sector, after the division becomes a non-base sector and vice versa. The opening of new administrative territories certainly opens employment opportunities in new definitive areas and contributes to the preparation of economic structures in new regions. However, for the parent regions, changes in the economic structure resulting from the division of territory do not necessarily have a positive impact. Some research related to the base and non-base sectors mostly focuses on the agricultural sub-sector in regions experiencing regional development including studies conducted by Kurniawan, Sudarti and Arifin

(2017), Riantika and Utama, (2017), Suarmanayasa, Susila and Bagia (2018), Sumayow, Pangemanan and Tangkere (2018), Umasugi and Amin (2019).

Based on the Shift Analysis method of the second GRDP of the Regencies, it is known that after the expansion of the Construction sector for Manokwari Regency is the sector with the best performance. The economic value of this sector reaches Rp. 135.81 billion. On the other hand, South Manokwari also experienced a positive growth in the Construction sector (Rp. 1.64 Billion). The Construction, Trade & Repair and Administration Sector is the sector with the best performance before the division in Manokwari Regency. Whereas, after the expansion, the sectors with the best economic performance are the Construction, Administration and Trade & Repair sectors. Thus, these are sectors that experience a shift or reposition after the division in Manokwari Regency.

The base sector, which was the main sector in Manokwari Regency after the division, had not changed much. The sector that was previously a base sector remains a base sector and sectors that were previously a non-base sector remain a non-base sector. Even the agricultural sector has experienced slowing growth due to the division of new administrative regions. Conversely, for the new region, South Manokwari, the agricultural sector will determine the economic structure of the region and become a leading sector. Compared to the parent regency, South Manokwari has a smaller number of base sectors because it is a newly growing area. Emphasizing on its initial growth, established growth sectors are especially in the health sector, education, public services and other services. As for the corporate sector, housing, transportation and finance have not been a priority for its economic activity.

With shift share analysis, sector shifts in parent regions and new areas can be recognized. Sector performance after regional expansion has been shown by the number of sectors with positive values which tend to increase. More sectors, before experiencing the division of new areas, were negative in the value of differential shifts (competitive advantage). Thus it can be concluded that regional expansion provides a competitive advantage to the GRDP sectors. Damanik (2016) has found that some sectors have competitiveness, although the sectors have a negative value in the calculation of proportional shift.

While for proportional shift (industry mix), before and after the division of new regencies, the number of positive and negative sectors did not experience significant changes. The number of positive value sectors has been more than the sectors with negative value (since before the division of regions). Thus there is no significant relationship between the division of region and the industrial mix. Proportionally, the sectors remain distributed equally as before the division. There is only one sector which has shifted to the negative direction in Manokwari Regency, namely electricity. This might be due to the opening of new autonomous regions which has reduced the contribution of the electricity sector.

Similar thing has occurred in South Manokwari, where the electricity and health sectors value has become negative for the industrial mix after the region becoming a new area. While for differential shifts, there are more sectors with negative values compared to positive values.

The finding of this study is that the division of a region changes the economic structure. Based on the results study of Pratama, Sukiyono and Arianti (2017) on the leading sector, regional expansion has shifted the structure of the economy which was initially superior in the agricultural sector after the division experienced changes in the leading sector. Then, to maintain best economic development of a region, local government

should recognize what leading sectors may take place before and after separation. According to Wahyudi (2017), emphasizing a policy to encourage the regional development should be in a row with the change in economic structures.

Unlike what has been studied by previous research using LQ and shift-share methods, this study has offer different approach to evaluate economic growth in the expansion areas by comparing this area with its neighbor/old region but at the same time compared with period to see sector's perform. This also suggest that there is possibility to a sector to have slower growth and hinder the development of a region. Therefore, policy making which ensure basic sectors to have positive proportional shift and differential shift could drive economic development planning in both regions.

CONCLUSION

This study analyse the patterns of GRDP sectors before and after regional division of Manokwari and South Manokwari from 2010 to 2017. Methods of analysis in this study is LQ and shift share analysis. These analysis show the performance and position of each sectors during the period. The results, in general, show that agricultural sector to some extent has been decreased in the two regions. But at the same time, agricultural sector become leading sector in the new region with slow growth. Implication of this study is that the division of regions would not create new leading sector if the potential sector in a new region is the leading sector in the older region. Therefore, policy making which ensure basic sectors to have positive proportional shift and differential shift could drive economic development planning in both regions. Next study in this topic would be on how leading sectors of new region has correlation to other economic indicators.

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