Interregional Competitiveness to Increase Economic Development of the Islands of North Maluku Province

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Abstract. This study aims to analyze what economic sectors are the base sectors and contributions of the regency/city economic sector and classify competitiveness between regions of North Maluku province. Descriptive Methods Research. The object of research for regencies/cities in North Maluku. The data used are secondary and primary, Pdrb constant prices of regencies/cities, and North Maluku including in 2015-2019 constant prices. Techniques used *Location Quotient*, *Shift Share* Analysis, and Cluster Analysis. Research results. the district/city base sector has a competitive economic structure in North Maluku, there are Ternate cities, and there are 11 economic sectors that are based, while the *Shift Share* results have regional competitiveness; alternate the number of regional competitiveness in the sector as many as 12 sectors, East Halmahera the number of regional competitiveness in the sector as many as 10 sectors, Morotai Island the number of regional competitiveness in the sector as many as 7 sectors and. West Halmahera Regency Cluster Grouping Has the most cluster proximity to the region in North Maluku province. West Halmahera regency has a relationship with the regency/city of competitiveness development for the West Halmahera area

Keywords: Interregional Competitiveness, *Location* Quotient, *Shift Share (SS),* Economic Development Cluster Analysis

BACKGROUND

To achieve quality regional economic growth, a strong economic structure is needed, which is characterized by strong intersectoral linkages. Economic relations describe the relationship between the economy of one region and the environment of another region, which is considered an important determinant. On economic activity in the area. Intra-sectoral links (intercompany links within the same sector) and intersectoral links are a way to look at

relationships between regions, whether triggered by inputs (suppliers) or outputs (customers) (Malik,2016) .

Regional economic competitiveness must therefore be able to compete on a national scale as well as in the dimension of competitive energy between regional economies (Pujayanti, 2016). Due to market opportunities and globalization, which can lead to competition between new countries, a region's level of competitiveness is important. Materials will continue to have a significant impact on the national and regional economies if a nation is unable to increase its level of competitiveness. (Ruhana, 2012)

The definition of competitiveness is the ability of the economy to grow and improve people's living standards in an open trade framework without being faced with payment balance problems (balance of payments) (Berjalan et al., 2014). Regional competitiveness is another type of efficiency. This is the ability to attract the economy and keep a company going with stable conditions or a growing share of the market while keeping or raising the standard of living for everyone. The following things are part of the idea and definition of competitiveness in a country or region: 1. improving people's living standards; 2. being able to compete with other regions and countries, and 3. enhancing people's living standards. able to meet domestic and international obligations. 4. Can provide employment opportunities 5 Sustainable development, will not burden future generations (Nurhadi, 2012)

As part of the indicators of improving the quality of the population, the current economic development of North Maluku Province is not only measured by macroeconomic indicators, but also by social indicators, but several macroeconomic indicators such as economic growth and per capita income are fixed indicators of GRDP. Become a reference for measuring the economic performance of an area. High economic growth means that the higher the level of productivity, the income of the people in the area will increase, and the purchasing power of the people will also increase. This is the main reason for the author to examine the phenomenon and dynamics of competitiveness between regions in increasing economic development in an area. BPS North Maluku (BPS Maluku Utara, 2020

REVIEW OF LITERATURE

According to, the World Bank in Abdullah, dkk (2002) states a relatively similar thing where competitiveness refers to the magnitude and rate of change in the added value of the input unit achieved by the company. In other words, national competitiveness is a concept that measures and compares how well a country provides a certain climate that is conducive to maintaining domestic or global competitiveness to companies in its territory.

It is competitive as an economic ability to grow and improve people's living standards in an open trade framework without being faced with the problem of *balance of payment,* maintaining companies with stable conditions, and providing life for future generations(Mawardi (2007), Hunggis (2007) dan Martin (2003)

Daryanto (2004), To develop the competitive advantage of an area, four main factors and two supporting factors are determined, namely: condition production actors, market

demand, supporting industries and related industries, company strategy, structure and competition Peleisure, Th Role of Government

Development is carried out not only at the level but development can be carried out in a smaller scope, namely: regions, provinces, districts, and sub-districts. Often these developments carried out in smaller regions provide results that are able to support developments carried out in larger regions. To a lesser extent, development is carried out at the provincial level as well as at the district and city levels. (Widodo, 2006).

Regional economic development is a process in which local governments and their communities manage existing resources and form a pattern of partnerships between local governments and the private sector to create new jobs and stimulate the development of economic activity (economic growth) within the region. There are three basic core values of development undertaken by a. countries and regions, namely: Sufficiency, self-esteem, and freedom. All three are related to the fundamental human needs of almost all societies and cultures throughout time, as well as development policies based on the peculiarities of the region concerned by using human resources, institutions, and physical resources locally (Arsyad, (1999), Smith and Todaro (2013) and Subandi, 2008).

RESEARCH METHODS

The approach is talkative research with a descriptive method, describing and analyzing various matters related to various factors for the economic development of competitiveness between districts/cities in North Maluku province. The object of this study was focused on districts/cities in North Maluku. The method of collecting data related to the problem that will be discussed by the researcher in this study uses secondary obtained from related institutions or agencies such as, BPS North Maluku province Pdrb constant price year 2015-2019.

Analysis Methods *Location Quotient*:

$$LQ = \frac{Vik/Vk}{Vip/Vp}$$

Analysis *Shift Share (SS)* (Darwanto and Hafizrianda, 2010). As for the formula *Shift Share (SS)* as follows :

$$\Delta Yi = PRij + PPij + PPWij$$
Or in detail it can be stated:
$$Y'ij - Yij = \Delta Yij = Yij (Ra - 1) + Yij (Ri - Ra) + Yij (ri - Ri).$$

Cluster analysis is to formulate a problem by defining the variables used for the basis of clustering, then the right distance measure must be chosen. (Setiaji,2018.).

$$d(y, x) = \sqrt{\sum_{k=1}^{l} (y_k - x_k)^2}; \, l = 1, 2, 3,...n$$

Using spacing kuadrat Eucliden (squared Euclidean distance).

$$d^2(y, x) = \sum_{k=1}^{l} (y_k - x_k)^2; \, l = 1, 2, 3,...n$$

distance between two objects to –I and j-th objects

$$d_{ij} = \left[\sum_{k=1}^{l} |(y_k - x_k)^r| \right]^{1/r}$$

Two samples (X,Y) of a random variable

$$d_{mahalanobis}(X,Y) = \sqrt{(x-y)^T \Sigma^{-1}(x-y)}$$

$d_{mahalanobis}(X,Y)$ = jarak mahalanobis, Σ^{-1} = matrik varian kovarian

$$x = \begin{bmatrix} x_1 \\ x_2 \\ \vdots \\ x_n \end{bmatrix}, y = \begin{bmatrix} y_1 \\ y_2 \\ \vdots \\ y_n \end{bmatrix}$$

RESULTS AND DISCUSSION

1. Analysis *Location Quotient (LQ)*

Results of LQ analysis of West Halmahera Regency In the calculation of LQ in West Halmahera district There are 14 base sectors with two sectors having competitiveness in the LQ value greater than 1 (LQ>1) namely the Agriculture, Forestry and Fisheries sector and the Water Procurement, Waste Management, Waste and Recycling sector for the sector, there are 3 economic sectors not the base sector (LQ=0) the three sectors for West Halmahera district are imported through from other regions located in North Maluku.
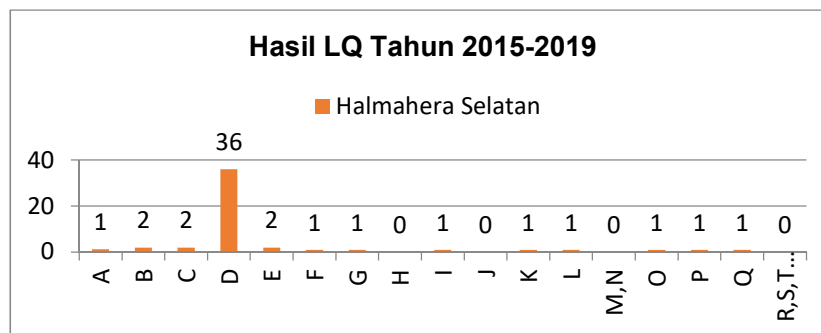
Fig.1. West Halmahera Regency LQ Results
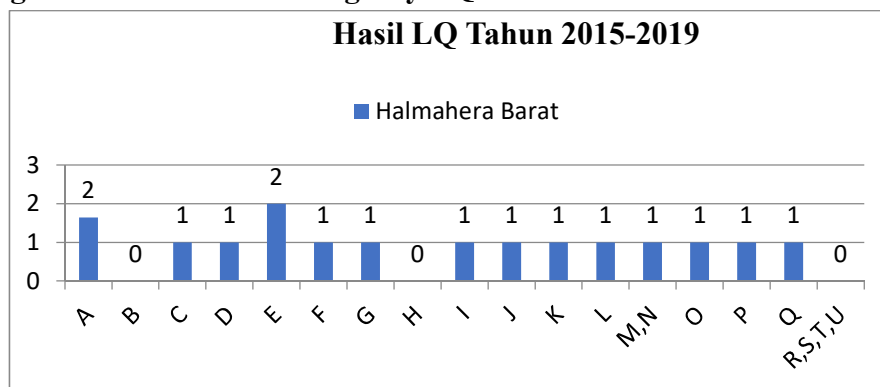
Source: GRDP Regency/City 2015-2019, Data processed,2020

In the South Halmahera area, there are 11 economic base sectors,and there are 9 economic sectors with LQ=1 value, these 9 sectors can only meet the needs within the South Halmahera district area. There are 4 economic sectors that have an LQ value of =2 or greater than 1 (LQ>1), these four economic sectors in addition to meeting the needs in the South Halmahera district area, these four sectors have competitiveness. The economic sector does not have a base sector there are 2 economic sectors in the southern Halmahera region.

**Figure.2.South Halmahera District LQ Results**

Source: GRDP Regency/City 2015-2019, Data processed,2020

The mining and mining sector of East Halmahera district is the base sector and has the selling value of the mining and quarrying sector to meet the needs within the region and export in other regions, there are 9 economic sectors of East Halmahera district in the base sector, but the sector only meets the needs within its territory, and the non-base sector or LQ=0 value as many as 7 economic sectors in East Halmahera district.

Fig.3. East Halmahera Regency LQ Results
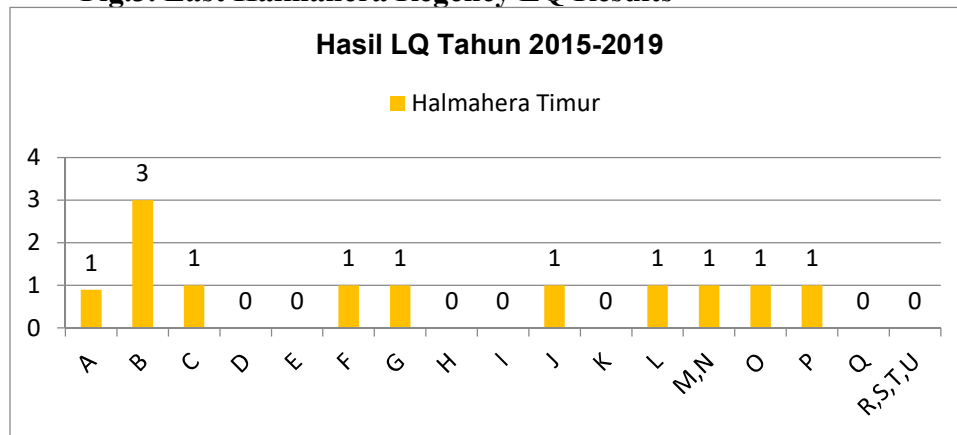
Source: GRDP Regency/City 2015-2019, Data processed,2020

Morotai island regency's economic sector is not a base sector as many as 7 economic sectors with a value of LQ=0, economic sectors are based on as many as 10 economic sectors but only the agriculture, forestry, and fisheries sectors which are the sectors with the highest LQ value with LQ value =2, are the economic structure of agriculture, forestry, and fisheries Mortai island is a sector that has competitiveness in the scan meet the needs in the region and export out of the island area mortai.

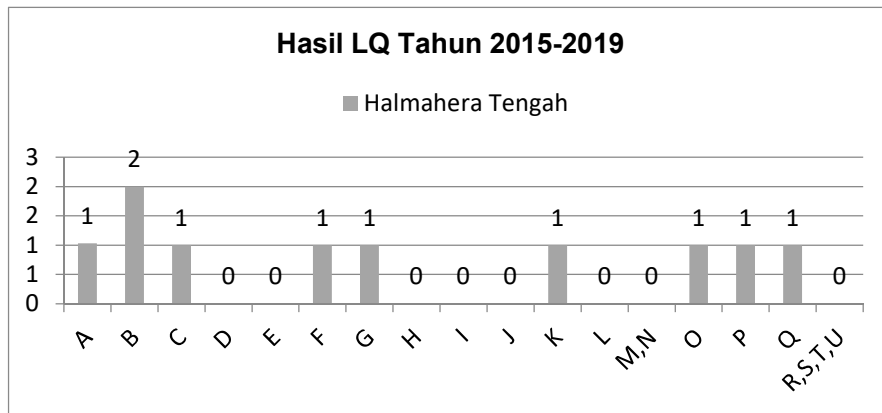**Fig.4. Morotai Island LQ Results**
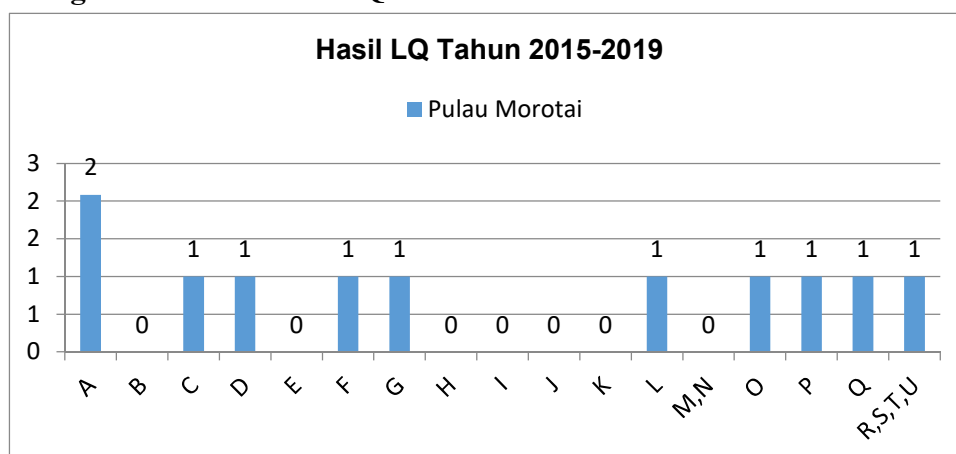
Source: GRDP Regency/City 2015-2019, Data processed,2020

The development of the economic sector of Central Halmahera district shows that the economic sector based on which there are 9 economic sectors, and 8 non-base economic sectors are caused by the value of LQ=0, in the basic sector eight economic sectors can only meet the

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needs in their area with a value of LQ=1, but in the Mining and Quarrying sector of Central Halmahera district it is ,the base sector and has daylight power with a value of LQ = 2 or greater than one.

Fig.4. Morotai Island LQ Results

Source: GRDP Regency/City 2015-2019, Data processed,2020

In the development of the economic sector of North Halmahera regency, only three economic sectors are non-sector, this is shown by the value of LQ=0, there are 14 economic sectors of North Halmahera regency are base sectors, but only the mining and quarrying sector has a value of LQ=2 or greater than one, then the mining and quarrying sector is a sector that has competitiveness in North Halmahera district if compared with other sectors.

Fig.6. North Halmahera LQ Results.
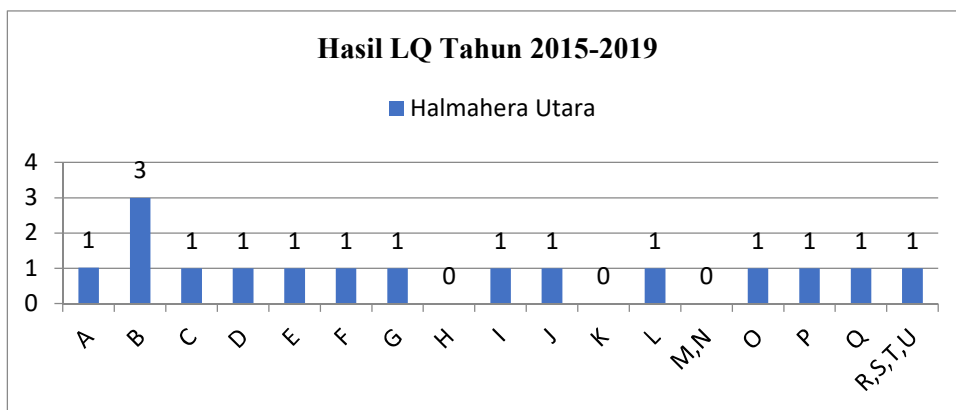
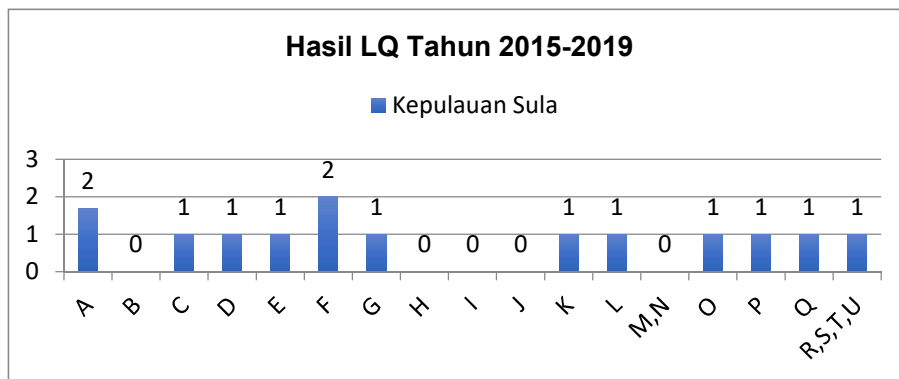Source: GRDP Regency/City 2015-2019, Data processed,2020

Sula islands district, Agriculture, Forestry and Fisheries sector, and construction sector, is a sector that has high competitiveness, the results of the LQ analysis of the two sectors have a value of LQ=2, there are 10 economic sectors of the Sula Islands Regency are based on sectors, but these 10 sectors cannot export to other regions.

Fig.7. Sula Islands LQ Results

Hasil LQ Tahun 2015-2019

■ Kepulauan Sula

Source: GRDP Regency/City 2015-2019, Data processed,2020

The regencies/cities that have the most base sectors are found in two cities, namely the city of Tidore islands and Ternate City. Ternate City's sector which is not the base sector is found in the Agriculture, Forestry, and Fisheries sector and the Mining and Quarrying sector these two sectors are not the leading sectors in Ternate City, as much as these two sectors are imported from other regions, it is said that Ternate City is very high service mobility. The economic sector has a high competitiveness there are 9 economic sectors of LQ value =2, and also the total sectors that are based in Ternate city are 19 economic sectors that are base sectors.

Fig.8. Ternate City LQ Results

Hasil LQ Tahun 2015-2019

■ Ternate
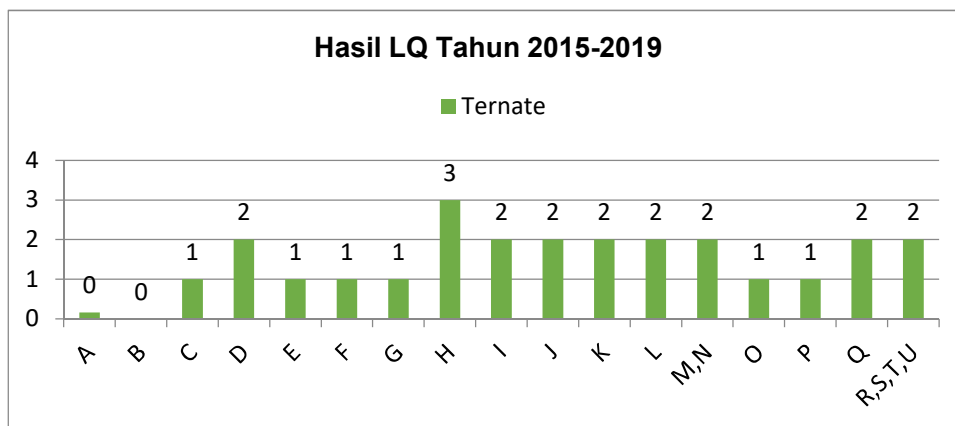
Source: GRDP Regency/City 2015-2019, Data processed,2020

As for the city of Tidore Apulian are 3 economic sectors that have high competitiveness, this is because these three sectors can meet the needs within the region and these three sectors make a leading sector and carry out exports outside the city of Tikep with a value of LQ=2, while the non-basic sector is found in the city of Tidore as many as 2 economic sectors, namely the Mining and Quarrying sector and the sector of providing accommodation and drinking food, with the value of LQ=0, if you look at the total economic sectors based in the city of Tidore Islands as many as 15 sectors.

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Fig.9. Tidore City LQ Results

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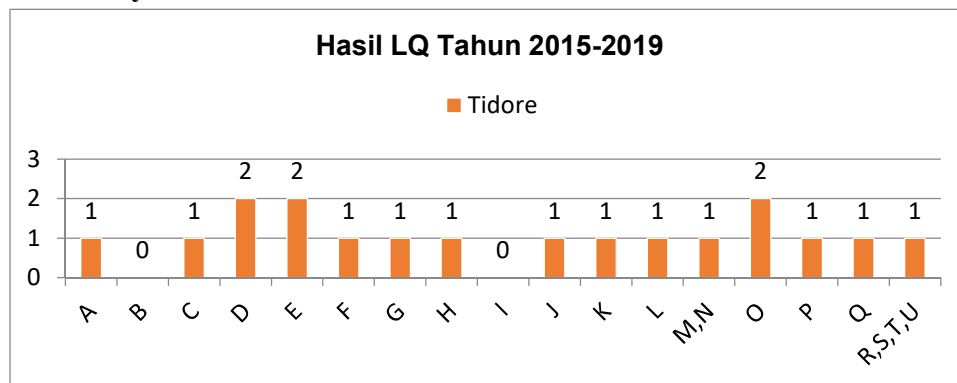
Source: GRDP Regency/City 2015-2019, Data processed,2020

2. ***Shift-Share (Compotitive Advantage)*** Analysis Results.

The results of the analysis and discussion of Shift-Share (*Competitive Advantage*) Differential shift / Regional Competitiveness, competitiveness are found in the agriculture, forestry, and fisheries sectors, found in the three (3) regencies/cities, namely West Halmahera, East Halmahera, and Sula Islands districts, Mining and Quarrying sector, districts/cities that have daylight power are found in Halmahera Selatan regency and Ternate city, even though Ternate City LQ results show the sector is not a base sector. The processing industry sector has only two districts, South Halmahera and Central Halmahera, while the Electricity and Gas Procurement sector has fairly good daylight power districts/cities, only found in Ternate city which does not have competitiveness in the Electricity and Gas Procurement sector.

Water procurement, waste management, and the waste and recycling sector are competitive developments found in the West Halmahera, South Halmahera, and Tidore Islands City areas. In the construction sector, three districts have competitiveness in improving the construction sector, namely; Central Halmahera, East Halmahera, and Morotai Island. The large trade and retail sector, car and motorcycle repairs, is competitive in all regencies and cities of north Maluku Province; however, it is not competitive in the Central Halmahera region.

Central Halmahera Regency, East Halmahera, Mrotai Island, and Ternate City—the four regencies/cities have competitiveness in the transportation and Warehousing sector of North Maluku. East Halmahera Regency and Ternate city have experienced the competitiveness of the Accommodation and Drinking Supply sector and have experienced a shortage and daylight power. For the Information and Communication sector, regencies/cities have competitiveness in North Maluku, there are East Halmahera, Pulau Morotai, Sula Islands, and Ternate City.

The financial services and insurance sectors are experiencing development, this is important in a technology-based world, but the most competitive financial services and insurance sectors are found in the East Halmahera region, the Sula Islands, and Ternate City. Real estate sector, corporate services sector Government Administration, Defense, and Compulsory Social Security sector, are these three sectors that have the least competitiveness in North Maluku,

regencies/cities have these three sectors are South Halmahera, West Halmahera, and Ternate City

Table1.1. Differential Shift Results of North Maluku Province Regencies/cities.

Business Field	Differential Shift/Regional Competitiveness								
	Halbar	Halsel	Halteng	Haltim	Morotai	Halut	Sula	Ternate	Tidore
A. Agriculture, Forestry, and Fisheries	1913	-87267	-12660	12248	11763	-10	20998	-1524	-11155
B. Mining and Quarrying	-92	363481	-8017	-22	-37	-304690	-420	477	-76
C. Processing Industry	-65748	619628	46818	-92040	-33457	-102911	-86236	-136984	-49903
D. Electricity and Gas Procurement	252	124	37	131	196	5	106	-582	141
E. Water Procurement, Waste Management, Waste and Recycling	52	-83	-26	-1	-5	366	-27	149	152
F. Construction	-1420	-15301	57850	16085	4780	7246	-2651	-3842	-2932
G. Large Trade and Retail, Car and Motorcycle repairs	5841	417	-7374	26437	3457	3387	3142	116241	19295
H. Transportation and Warehousing	-1330	-5418	4	740	3070	-2105	-1569	36784	-485
I. Provision of Accommodation and Food and Drink	-351	-1230	-74	130	-112	407	-202	533	147
J. Information and Communication	-5913	-6720	142	-3163	270	-5120	1248	43170	-4335
K. Financial Services and Insurance	-3725	-2381	-3131	986	-1406	-2435	29	13742	-1891
L. Real Estate	-85	45	-75	-32	-58	23	-183	1350	-131
M,N. Company Services	-167	-56	-27	-1	-22	-49	-207	4039	-755
O. Government Administration, Defense and Compulsory Social Security	680	-17869	-11496	-4267	-664	-2147	-16538	65016	17522
P. Education Services	538	434	1453	826	677	-240	2687	8917	-1567
Q. Health Services and Social Activities	-630	-2841	577	215	-205	-327	-749	11948	-226
R,S,T,U. Other Services	-385	-442	-264	-777	-407	-944	-837	7066	-1094

Source: BPS North Maluku. Research Results, 2020.

The education service sector is very important for the progress of the region and for shaping human resources, the education service sector has the most powerful power in West Halmahera, South Halmahera, Central Halmahera, East Halmahera, Morotai Island, and Ternate City. The Health Services and Social Activities sector is needed by the community. health services and the construction of health facilities are made by the local government, but the sector has competitiveness There are 3 districts that have daytime power in health services and social activities, namely, Central Halmahera, East Halmahera, Ternate City, and other service sectors. only the city of Ternate has the advantage of such competitiveness.

The development of the competitiveness of the regencies/cities of the North Maluku region, Ternate city has economic sectors that have a lot of competitiveness when compared to other regencies/cities, this can be seen by the results in the table. Differential Shift results / regional competitiveness there are 13 sectors that have positive values. **3. 3. Cluster Analysis Results**

Analysis of the competitiveness cluster of regencies/cities of North Maluku province. In table.1.2. Provides cluster 1 and 2 connectors that are closest to the districts/cities, namely; West Halmahera district and Morotai island have the same distance value of 1,312, . central Halmahera district and Morotai Island have the same distance value of 1,312

Tabel. 1.2. Agglomeration Schedule

Agglomeration Schedule						
Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	3	5	1.312	0	0	3
2	1	7	1.488	0	0	3
3	1	3	2.129	2	1	4
4	1	4	3.878	3	0	5
5	1	9	5.654	4	0	7
6	2	6	13.000	0	0	7
7	1	2	18.902	5	6	8
8	1	8	116.135	7	0	0

Sumber: SPPS IMB 20. Hasil Data diolah,2020.

West Halmahera Regency and Sula islands district from the Cluster analysis for the economic sector have the same distance value with a value of 1,488, West Halmahera Regency and Halmahera Regency have a distance value of 2,129, West Halmahera Regency and East Halmahera Regency with a distance value of 3,878, West Halmahera Regency and Tidore Regency and city with a distance value of 5,654. South Halmahera Regency and North Halmahera district the distance value is 13,000, for the distance value of 18,902 West

Halmahera district and South Halmahera regency. while the districts of west Halmahera and Ternate City have a distance value in the Cluster analysis of 116,135.

for cluster groups, namely Cluster 4, Cluster 3, and Cluster 2.
1. Cluster 4 is; consists of West Halmahera Regency, South Halmahera, North Halmahera, and Ternate City, When viewed in the Cluster Grouping, for Cluster 4, the West Halmahera area has the most cluster proximity to regencies/cities in North Maluku province.
2. Cluster 3, including; areas of West Halmahera, South Halmahera, and Central Halmahera.
3. Cluster 3, namely the West Halmahera Region, and Halmahera Selata, for Cluster 2, shows that West Halmahera has a relationship with regencies/cities, for the development of competitiveness in leading sectors.

CONCLUSIONS AND SUGGESTIONS
1. The base sector uses LQ analysis Showing that the regency/ city has a base sector to meet the needs of the region and export to meet regional competitiveness, the economic sector is there, the city of Ternate with 9 economic sectors, the South Halmahera district has 4 economic structures and the city of Tidore 3 economic sectors, is the base sector and has competitiveness.
2. The increase in the competitiveness of regencies/cities in North Maluku province shows sectors that have competitive advantages or competitiveness in regencies/cities, namely; firstly Ternate City is the city that has the most competitiveness in the economic sector, Second is East Halmahera Regency, Third is West Halmahera, Central Halmahera, Morotai Island and Sula Islands, Fourth South Halmara and Tidore Islands.
3. In the analysis of the Cluster, West Halmahera regency has a relationship with regencies/cities in North Maluku province, the development of competitiveness for west Halmahera regency, seeing with economic sectors as well as the economic sector of West Halmahera regency provides quite good competitiveness.

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