MAPPING THE ECONOMIC ENTREPRENEURSHIP POTENTIAL OF PROVINCE IN INDONESIA USING THE ARCGIS METHOD

Amirul Syah, Universitas Muhammadiyah Sumatera Utara
Nur M. Ridha Tarigan, Universitas Islam Sumatera Utara
Irtanto, Research and Development Agency East Java Province
Nabila, Universitas Sumatera Utara
Apip Supriadi, Universitas Siliwangi

ABSTRACT

The purpose of this study is to determine the characteristics of economic potential, map economic potential and formulate government policies in developing the economic potential of provinces in Indonesia. The data used are secondary data in the form of Gross Regional Domestic Products from 34 Provinces in Indonesia for the period 2014-2018. The analytical method used is growth & share analysis and overlay (arcgis). The results showed the characteristics of economic potential based on analysis of growth & share, namely high growth and share, namely DKI Jakarta, East Java and Banten, low growth and high share, namely North Sumatra, Riau, West Java, Central Java and East Kalimantan Provinces, Low growth and share, namely the provinces of Aceh, Jambi, South Sumatra, Bengkulu, Lampumh, Kep. Bangka Belitung, Kep. Riau, East Nusa Tenggara, West Kalimantan, South Kalimantan and West Papua and high growth and low share, namely West Sumatra Province, DI Yogyakarta, West Nusa Tenggara, Central Kalimantan, North Kalimantan, North Sulawesi, Central Sulawesi, South Sulawesi, Southeast Sulawesi , Gorontalo, West Sulawesi, Maluku, North Maluku and Papua.

Keywords: Mapping, Economic Potential, Arcgis Method.

INTRODUCTION

The enactment of the law encourages each region to further spur economic growth in order to improve the welfare of the community as part of the objectives of implementing regional autonomy, namely improving public services and advancing the regional economy. Regional development is an effort to spur socio-economic development, reduce disparities between regions and preserve the environment in a region. Regional development is very necessary because economic, cultural and geographical conditions differ from one region to another. Basically, regional development must be adjusted to the potential conditions and problems of the area concerned.

One of the problems in developing a country is the imbalance between regions. Inequality between regions can occur in developing countries and in developed countries. Although a country has economic growth that continues to increase, but it does not rule out the possibility that the country is still experiencing disparities between regions. However, it is important to understand that regional economic growth theory is the most important part in economic analysis because growth is one of the main elements of regional economic development and has broad

policy implications. The main objective of the analysis of economic growth is to explain why an area can grow fast and some grow slowly. Analysis of regional economic growth can also explain the relationship between economic growth and regional disparities Sjafrizal (2014).

A region will experience growth acceleration if it has the potential of the economic sector that is able to accelerate development and other sectors Kharisma and Hadiyanto (2018). For this reason, determining the potential of the economic sector in regional development is important as an effort to allocate available resources quickly. The potential growth of the economic sector in an area is believed to encourage the growth and development of other economic sectors of the local area and the economy of the surrounding area Jhingan (2012). In this case the potential economic development area is expected to also increase the absorption of labor and resources in the surrounding area and for the area of development the leading economic sector itself will increase exports of products and services produced. As an illustration of the magnitude of the economic potential of each province can be seen in the Table 1 below.

Table 1 GROSS REGIONAL DOMESTIC PRODUCT AT CONSTANT PRICES BY PROVINCE 2014 - 2018					
Province	**Gross domestic Regional Product (Billion Rupiah)**				
	Constant Price 2010				
	2014	**2015**	**2016**	*2017*	**2018**
ACEH	113,490.36	112,665.53	116,374..30	121..246.98	126,824.49
NORTH SUMATRA	419,573.31	440,955.85	463,715.46	487,531.23	512,765.63
WEST SUMATRA	133,346.84	140,719.47	148,134..24	155,916.49	163,995.21
RIAU	447,986.78	448,991..96	458,769.34	411,081.71	482,081.22
J AMBI	119,99L44	125,037.40	1,305,111.13	136,556.71	142,995.28
SOUTH SUMATRA	243,2!17.77	254,044..88	266,857.40	281,511.01	298,569.34
BENGKULU	36,201.15	38,066.01	40,016.54	42,073.52	44,111.16
LAMPUNG	189,797.49	199,536.92	2,119,793.73	220,625.57	232,214..28
PEM BANGKA BELITUNG	44,159.44	45,962..30	47,848.37	49,986.85	52,212.09
PEM RIAU	146,325.23	155,131.35	162,853..M	166,11L36	173,689.13
DKI JAKARTA	1,373,389.13	1,454,563.85	1,539,916.88	1,635,366.58	1,736,195.62
WESTJAVA	1,149,216.00	1,201,232.34	1,275,619.24	1,343,864.43	1,419,689.12
CENTRAL JAVA	764,959.15	806,765.09	849,099.35	893,750M	941,283.28
IN YOGYAKARTA	79,536.08	83,474.45	81,685.81	92,..302..02	98,026.56
EAST JAVA	1,262,684..50	1,331,316.10	1,405,563.51	1,482,299.58	1,563,756.37
BANTEN	349,351.23	368,377.20	381,835.09	410,04S.92	433,884..32
BALI	121..781.57	129,126.56	137,296.45	144,944..69	154, lS0.98
WEST NUSA TENGGARA	73,312..96	89,337.99	94,524..2!1	94,639.54	90,323.42
EAST NUSA TENGGARA	54,101.97	567,111.79	59,678.01	*62,124..n*	65,941.41
WEST KALIMANTAN	101,114..96	112,346.76	118,183.21	124,294..36	130,584..09
CENTRAL KALIMANTAN	73,724..52	78,890.97	83,900.24	89,54L20	94,595.74
SOUTH KALIMANTAN	100,779.40	110,863.12	115,743.57	121..855.76	128,106.38
EAST KALIMANTAN	446,029.05	440,616.36	439,003.83	452,74L91	464,823.49
NORTH KALIMANTAN	47,696.35	49,315.75	51,064..74	54,534..51	57,825.84
NORTH SULAWESI	66,360.76	70,425.33	74,764..66	79,485.47	84,258.69
CENTRAL SULAWESI	11,677.53	82,781.20	91,014..56	97,474..86	103,617.69
SOUTH SULAWESI	233,988.05	250,802..99	269,40L31	288,814..17	309,243.63
SOUTHEAST SULAWESI	68,2!1L78	72,993.33	77,74S.51	83,00L82	88,328.52
GORONTALO	20,715.80	22,068.80	23,507.21	25,090.34	26,722..59
WAST SULAWESI	24,195.65	25,964.43	21,524..77	2!1,347.19	31,116.59
MALUKU	23,567.73	24,859.20	26,284..23	21,813.96	2!1,465.36
NORTH MALUKU	19,208.76	20,380.30	21,556.68	23,210.86	25,050.12
WEST PAPUA	50,259.91	52,346.49	54,71L28	56,902..62	60,453.56
PAPUA	121..39L23	130,31L60	142,224..93	148,822.52	159,728.93
GDP	8,603,635.94	9,033,168.67	9,498,832..97	9,995,624..90	10,526,756.19

Source: Central Bureau of Statistics

One of the targets for long-term regional economic development is a shift in the regional economic structure that occurs due to the progress of regional development. Not all sectors in the economy have the same growth ability. Therefore, development planning utilizes basic sectors that are considered to be able to encourage economic growth Cahyono and Wijaya (2014). Based on the description above, to find out the identification of the PDRB position and the distribution of each province in an Indonesian map, the researchers are interested in examining the Mapping of Economic Potential of Provinces in Indonesia with the Arcgis Method.

LITERATURE REVIEW

Regional development is an effort to spur social economic development, reduce disparities between regions and preserve the environment. The purpose of regional development contains two interrelated sides. On the socio-economic side, regional development is an effort to provide welfare for the quality of life of the people. On the other hand ecologically the development of the region also aims to maintain environmental balance as a result of human intervention Rizani, (2017). The reason why it is necessary to develop an area in a certain area is usually related to the problem of demographic imbalance, high costs or costs of production, a decrease in the standard of living of the community, underdeveloped development or the presence of very urgent needs.

Development can be interpreted as an activity to add, improve or expand. The concept of regional development in Indonesia was born from an iterative process that combines the basics of theoretical understanding with practical experiences as a form of its dynamic application. Regional development is the implementation of national development in an area that is adjusted to the physical and social capabilities of the region and obeys applicable laws and regulations. Regional development has two meanings, namely objective and subjective areas. An objective area is an area that planners are divided into several development areas, while a subjective area is a region formed on the basis of an alleged way of recognizing problems. Thus the development of the region can be interpreted as an increase in the activities of the elements in the area that includes social economic and ecological institutions in an effort to improve the level and quality of the community's inhalation.

The theory of economic growth Husna (2013), distinguishes the growth theory contained in macro theory, but this region's economic growth theory emphasizes its attention to the economic growth of a particular region and not to a country as is usual in the macroeconomic analysis. In addition, regional economic growth theories explicitly include the location and spatial elements in their analysis. Economic growth is one indicator of the success of development in an economy. The welfare and progress of an economy is determined by the amount of growth indicated by changes in national output. The existence of changes in output in the economy is a short-term economic analysis Wiguna & Budhi (2019).

There are three main determinants of economic growth for a nation, namely (i) capital accumulation which includes all forms or types of new investments invested in land, physical equipment, and human resources, (ii) population growth which increases the number of labor force in the coming year, (iii) technological progress (Todaro et al., 2003)

Economic growth is an increase in the long-term capacity of a country to provide various economic goods to its population. The increase in capacity itself is determined or made possible by the progress or adjustments to technological, institutional and ideological adjustments to the various existing circumstances Badan (2019).

The characteristics of modern economic growth, Kuznet are as follows (Todaro et al., 2003):

1. The rate of population growth and product per capita where that if the population increases it must be accompanied by an increase in the amount of income per capita.
2. Increased productivity in which increased economic growth It appears in per capita products, especially an increase in the quality of inputs that increase efficiency or productivity per unit of input.
3. The rate of structural change in which these changes include the transition of agriculture to non-agricultural activities, from industry to services, from individual companies to legal entities and changes in the work status of workers.
4. Urbanization where this growth is characterized by more and more people in developed countries moving from rural areas to urban areas.
5. Expansion of developed countries where this growth is characterized by modern science and knowledge began to develop, the industrial revolution that had occurred in the UK is now shifting and spreading to Erofa and Japan.

The process of economic growth is influenced by economic factors that depend on natural resources, human resources, capital, technological organizations, division of labor and scale of production, while non-economic factors that depend on social factors, human factors, political and administrative factors Badan (2019).

Economic growth is defined as an increase in GDP regardless of whether the increase is greater or smaller than the rate of population growth or whether changes in economic structure occur or not Husna (2013). If you want to know the level of economic growth we must compare national income from year to year. In comparing it, it must be realized that changes in the national income value that occur from year to year are caused by two factors, namely changes in the level of economic activity and changes in prices. The influence of the second factor is caused by the assessment of national income according to the prices in effect in the year concerned. An economy is said to experience growth or development if the level of economic activity achieved is higher than the previous time (Daryanto et al., 2012).

RESEARCH METHOD

The data collection method used is the method of library study, which is studying reading materials related to research. The type of data is secondary data in the form of time series with observation periods of 2014 - 2018, the data used are Gross Regional Domestic Product (GRDP) at constant prices by province. Data analysis methods are Growth & Share Analysis and over lay analysis.

Growth & Share analysis is used to identify the characteristics of the dominant, declining, slow/low economic sector and potential in the regency/city economic development in West Java and to determine the economic development policy of the regency/city area in West Java. The Growth & Share analysis approach uses a matrix divided into 4 quadrants, viz (Table 2).

Table 2 GROWTH & SHARE ANALYSIS	
Share	
Quadrant II	Quadrant I
Declining	Dominant
Growth	
Slow/Low	Potential
Quadrant III	Quadran IV

Based on the picture above it is known that:

1. Quadrant I, dominant (high growth & share), which is the economic sector that contributes to and a high growth rate for GDRP.
2. Quadrant II, decreases (low growth & high share), which is the economic sector that contributes to high GDRP but on the other hand the growth tends to decrease.
3. Quadrant III, low / slow (low growth & share), which is the economic sector that contributes to and low GDRP growth.
4. Quadrant IV, potential (high growth & low share), namely the economic sector whose contribution is low but on the other hand its growth tends to increase in contributing added value to the GDRP.

Digital data analysis technique using map overlay techniques on maps. This technique aims to describe the economic information of each province in Indonesia quantitatively based on secondary data analysis.

RESULTS AND DISCUSSION

By using growth & share analysis information is obtained about the position of economic potential for each province in Indonesia, as shown in Table 3.

Table 3 CHARACTERISTICS OF PROVINCIAL ECONOMIC POTENTIALS IN INDONESIA 2014 - 2018						
Province	Average		Growth & Share			
			Quadrant I	Quadrant II	Quadrant III	Quadrant IV
	Growth	Share	High Growth & Share	Low Growth & High Share	Low Growth & Share	High Growth & Low Share
ACEH	2.58	1.24			■	
NORTH SUMATRA	5.16	4.88		■		
WEST SUMATRA	5.42	1.56				■
RIAU	2.03	4.86		■		
JAMBI	5.06	1.38			■	
SOUTH SUMATRA	5.16	2.82			■	
BENGKULU	5.17	0.42			■	
LAMPUNG	5.15	2.21.			■	
PEM BANGKA BELITUNG	4.35	0.5			■	
PEM RIAU	4..83	1.69			■	
DKI JAKARTA	6.0l.	16.23	■			
WESTJAVA	5.36	13.42		■		
CENTRAL JAVA	5.31	8.93		■		
IN YOGYAKARTA	5.33	0.93				■
EAST JAVA	5.57	14.78	■			
BANTEN	5.56	4.09	■			
BALI	6.2	1.44				■
WEST NUSA TENGGARA	5.66	0.93				■
EAST NUSA TENGGARA	5.07	0.63			■	

Province	Growth	Share				
WEST KALIMANTAN	5.07	1.24			🟦	
CENTRAL KALIMANTAN	6.39	0.88				🟨
SOUTH KALIMANTAN	4.7	1.22			🟦	
EAST KALIMANTAN	1.19	4.73		🟫		
NORTH KALIMANTAN	5.59	0.55				🟨
NORTH SULAWESI	6.18	0.79				🟨
CENTRAL SULAWESI	8.78	0.93				🟨
SOUTH SULAWESI	7.28	2.83				🟨
SOUTHEAST SULAWESI	6.57	0.82				🟨
GORONTALO	6.65	0.25				🟨
WAST SULAWESI	7.0l.	0.29				🟨
MALUKU	5.92	0.28				🟨
NORTH MALUKU	6.59	0.23				🟨
WEST PAPUA	4..86	0.58			🟦	
PAPUA	6.42	1.47				🟨
Average	5.42	2.94				

Source: Data processed

Based on the data in Table 2, we can see the position of each province in Indonesia, namely:

1. High growth and share, namely DKI Jakarta, East Java and Banten Provinces.
2. Low growth and high share, namely the Provinces of North Sumatra, Riau, West Java, Central Java and East Kalimantan.
3. Low growth and share, namely the provinces of Aceh, Jambi, South Sumatra, Bengkulu, Lampumh, Kep. Bangka Belitung, Kep. Riau, East Nusa Tenggara, West Kalimantan, South Kalimantan and West Papua.
4. High growth and low share, namely the Provinces of West Sumatra, DI Yogyakarta, West Nusa Tenggara, Central Kalimantan, North Kalimantan, North Sulawesi, Central Sulawesi, South Sulawesi, Southeast Sulawesi, Gorontalo, West Sulawesi, Maluku, North Maluku and Papua

Having known the potential position of each province in Indonesia, to give a clearer picture, a 4-quadrant matrix is made as below Table 4:

Table 4 ANALYSIS OF GROWTH & SHARE OF PROVINCIAL ECONOMIC POTENTIAL IN INDONESIA 2014 - 2018		
Share		
QUADRANT II (Declining)	**QUADRANT I (Dominant)**	
North Sumatra	DKI JAKARTA	
WEST JAVA	EAST JAVA	**Growth**
CENTRAL JAVA	Banten	
EAST KALIMANTAN		

QUADRANT III (Low)		QUADRANT IV (Potential)	
ACEH		West Sumatra	
JAMBI		IN YOGYAKARTA	
South Sumatra		Bali	
Bengkulu		WEST NUSA TENGGARA	
Lampung		CENTRAL KALIMANTAN	
PEM Bangka Belitung		NORTH SULAWESI	
PEM RIAU		SOUTHEAST SULAWESI	
EAST NUSA TENGGARA		GORONTALO	
WEST KALIMANTAN		WAST SULAWESI	
SOUTH KALIMANTAN		MALUKU	
WEST PAPUA		NORTH MALUKU	
		PAPUA	

Paying attention to the growth & share analysis matrix explains that the characteristics of provinces in Indonesia in giving their roles to development in Indonesia are different. There are provinces that include quadrants I, II, III and IV. Of course this is the concern of the government in developing the economic potential that exists in the provinces in Indonesia Prishardoyo (2008). Therefore, to increase the role of the province in development in Indonesia, it is necessary to know the capabilities and strengths of the economic potential contained in each province (Sjafrizal, 2014; Kharisma & Hadiyanto, 2018; Rizani, 2017; Alkadri, 1999; Yulianita, 2010; Roosmawarni, 2017; Ayubi, 2014; Febryani, 2017; Ma'ruf & Wihastuti, 2008; Pantow et al., 2015; Malinda, 2014).

Furthermore, to facilitate the government in determining provincial targets that need to be prioritized based on the opportunities and potential of the province, the next stage is to map in the form of overlay (Wiguna & Budhi, 2019; Todaro et al., 2003; Badan, 2019; Arsyad, 1995; Arief, 2015; Basuki & Gayatri, 2009) as follows Figure 1:
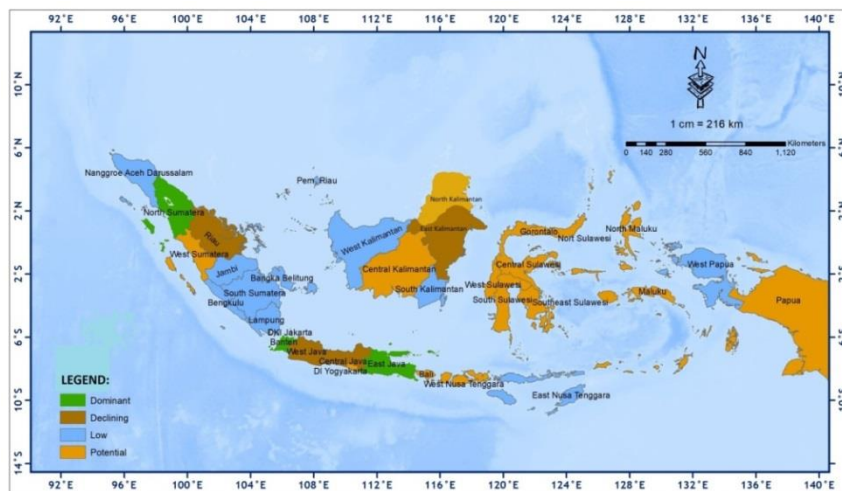

FIGURE 1
THE ECONOMIC POTENTIAL MAP OF PROVINCE IN INDONESIA

On the map of the potential for the development of provinces in Indonesia that the development priorities in the future so that development is more evenly distributed, then based on the potential that is owned, the top priority is the province in the potential area (high growth and low contribution. So that the potential of the province can be increased again contribution, there are several policies that must be done, namely:

1. Maintaining the economic potential of the provinces in Indonesia
2. Increasing economic potential growth, through empowering the leading economic sectors in each province
3. Provide guidance and assistance in managing the economic potential of the provinces in Indonesia.

CONCLUSION

Conclusion of economic potential based on growth & share analysis, viz

1. High growth and share, namely DKI Jakarta, East Java and Banten Provinces.
2. Low growth and high share, namely the Provinces of North Sumatra, Riau, West Java, Central Java and East Kalimantan.
3. Low growth and share, namely the provinces of Aceh, Jambi, South Sumatra, Bengkulu, Lampung, Kep. Bangka Belitung, Kep. Riau, East Nusa Tenggara, West Kalimantan, South Kalimantan and West Papua.
4. High growth and low share, namely the Provinces of West Sumatra, DI Yogyakarta, West Nusa Tenggara, Central Kalimantan, North Kalimantan, North Sulawesi, Central Sulawesi, South Sulawesi, Southeast Sulawesi, Gorontalo, West Sulawesi, Maluku, North Maluku and Papua

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