



Food Commodity Competitiveness and Accessibility in Barlingmascakeb

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Abstract

Barlingmascakeb is an institution formed from 5 regions that seeks to improve regional cooperation in exploiting the economic potential between regions. The five members are included in the 11 regions with the highest poverty in 2017 in Central Java. To find out the potential of each region, Klassen Typology, LQ, MRP, overlay, shiftshare E-M, CQ are used. The results of the Klassen Typology show that Cilacap Regency, Banyumas, Purbalingga, Kebumen are included in high growth and high income. LQ shows Banjarnegara Regency has one superior food commodity, one commodity in Purbalingga Regency, one commodity in Banyumas Regency, four in Cilacap Regency and ten commodities in Kebumen Regency. MRP shows that the commodity of paddy rice is growing rapidly in four Regencys, soybean commodities in four Regencys, green bean commodities in two Regencys, egg-broiler commodities in three Regencys, broiler commodities in four Regencys, duck commodities in four Regencys. Overlay shows dominant food commodities growth in Banjarnegara Regency 2 commodities, Purbalingga 4 commodity Regency, Banyumas Regency 5 commodities, Cilacap Regency 4 commodities, Kebumen 6 commodity Regency. Shiftshare EM shows a competitive and specialized sector in Banjarnegara Regency there are 9, Banyumas Regency there are 12, Cilacap Regency there is 1, Purbalingga Regency there are 4, Kebumen Regency there are 5. CQ shows that Purbalingga Regency has a favorable position in interacting with the Regency members of Barlingmascakeb regional institutions.

Key words : Food Commodities, Accessibility, Competitive Advantages

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INTRODUCTION

Barlingmascakeb is a one of the regional cooperation institution oriented to improve regional marketing in the southwestern region of Central Java. Barlingmascakeb is an acronym of name for 5 cooperating Regencys, namely Banjarnegara Regency, Purbalingga Regency, Banyumas Regency, Cilacap Regency, and Kebumen Regency. The establishment of the Barlingmascakeb was based on a joint decree by the Banjarnegara Regency, Purbalingga Regency, Banyumas Regency, Cilacap Regency, and Kebumen Regency Number 130, A in 2003, number 4 in 2003, number 36 in 2003, number 48 in 2003, number 16 in 2003. Barlingmascakeb aims to improve and develop communication, coordination and regional cooperation in the implementation of regional development and utilize regional potential through the spirit of togetherness between regions with the same principles of interests and goals. In other words, this institution stand to synergizes development between each of regions member through regional economic potential.

Table 1. Percentage of Poor Population on Java Island in 2015-2017

Province	2015	2016	2017
DKI Jakarta	3,61	3,75	3,77
Jawa Barat	9,57	8,77	8,71
Jawa Tengah	13,32	13,19	13,01
D.I. Yogyakarta	13,16	13,10	13,02
Jawa Timur	12,28	11,85	11,77
Banten	5,75	5,36	5,45

Source : Badan Pusat Statistik, 2018

BPS (2018) record that in 2015 to 2016, the poverty rate of Central Java Province is the highest poverty rate among other Province in Java Island. Although in 2017 Central Java Province managed to reduce the percentage of poor people in the region (Table 1) but the poverty rate is still in a high rate. 11 of 35 city or Regency in Central Java with the highest poverty rates in 2017 are Wonosobo Regency, Kebumen Regency Brebes Regency, Purbalingga Regency, Rembang Regency, Pemalang Regency, Banjarnegara Regency, Banyumas Regency, Klaten Regency, Sragen Regency, Cilacap Regency.

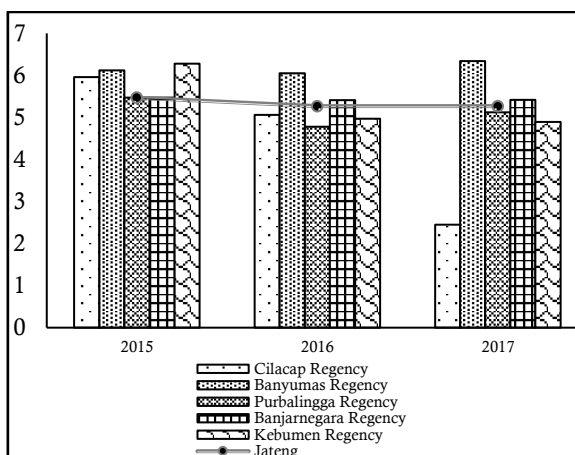


Figure 1. Barlingmascakeb GRDP Growth Rate for 2015-2017

Source : Badan Pusat Statistik, 2018

Although we know that the all member of Barlingmascakeb is include in 11 highest poverty rate city or Regency in Central Java Province, in the other side regional income of Barlingmascakeb's is higher than Central Java Province (see figure 1). By looking GRDP growth rate data in figure 1, this condition indicates that accessibility in regional economic development hasn't optimal yet. In other words, all the potential possessed by the region has not been maximally developed for the economy.

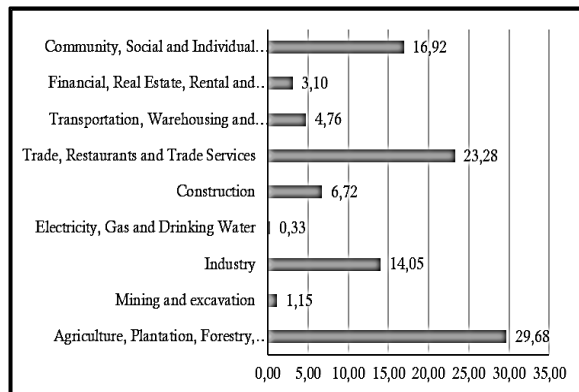


Figure 2. Population Aged 15 Years and Over Who Work According to Major Employment in Central Java 2017

Source : Badan Pusat Statistik, 2018

The main sector of livelihoods in Central Java province is agricultural sector, which amounted to 29,68 percent in 2017 (see figure 2). Likewise in Barlingmascakeb, the agricultural sector is on average almost in the first rank people's livelihood. The agricultural sector has a strategic role in national economic development. Not only as a main provider of food, industrial raw materials, feed and bioenergy, absorbing labor, sources of livelihood and sources of foreign exchange, but also plays a role as a driver of regional development and is also a driver of populist economic development (Simamora, Sirojuzilam, & Supriadi, 2013). Agricultural sector includes rice, secondary crops, cerealia plants, horticulture plants, sugar cane, tobacco, patchouli, castor oil, sesame, fibrous plants, cattle, goats, sheep, pigs, horses, chickens, wood, rattan, bamboo, fish, stone, sand, etc. Considering that in the essence of the concept of an economic area which aims to encourage the acceleration of development in a region, regional economic development in the region of the Barlingmascakeb regional

institution should be carried out in a planned, integrated, and integrated manner with respect to potential superior commodities, accessibility between Regencys, and economic linkages between regions. By achieving that, it can be a solution in facing various challenges and demands for a more competitive future. With all paradigm, thats ideals goals can be realize in a moment.

Many previous study have been conducted to identify the economic potential of the region. Some studies will be reviewed down below. First research from Hariyanti & Utha (2016). They conducted a study the basis of sectors regional development at 33 provinces in Indonesia using the Typology Klassen and analysis of Location Quotient (LQ). The results of the study is the rank of the province that dominates the highest contribution of each sector compared nationally for the agricultural sector, which the highest rank is followed by West Sulawesi, Central Sulawesi, Lampung, Bengkulu and NTT province. As for the mining sector there are 13 provinces that dominate this sector and the highest national contribution is Riau province followed by East Kalimantan, Papua, South Kalimantan. The manufacturing sector, 5 provinces lead this sectors and the highest contribution in the sector of manufacturing /processing industry in the first rank is the Riau Archipelago followed by Banten, West Java province. According to Hariyanti & Utha (2016), gas and water sector, lead by 11 province, the highest national contribution is Banten Province followed by West Java province, Aceh, Bali province. Construction sector, 15 provinces lead this sector, and the highest contributions is North Sulawesi followed by DKI Jakarta, DI Yogyakarta. Trade, hotel and restaurant are lead

by 17 provinces and the highest contribution nationally and the highest rank is Bali Province followed by East Java province and North Maluku Province. Transportation and communication sector, have lead by 10 province. The highest provincial contribution for Transportation and communication sector is West Sumatra, followed by South Kalimantan, North Sulawesi, Jakarta, and Bali province. But in Financial/Banking sector only have two provinces that dominate and the highest contribution nationally are Jakarta province followed by DI Yogyakarta province. In Service sector, there are 22 provinces dominate and the highest contribution nationally are North Nusa Tenggara province, followed by Gorontalo, Bengkulu, DI Yogyakarta, West Sumatra. Finally, the provinces that lead the business development in Indonesia is the province of Central Sulawesi, Gorontalo, Papua, West Sumatra, Riau, East Kalimantan, South Kalimantan and West Kalimantan. The eighth of province has the contribution of each sector are very high as well as against the growth rate of the sector.

Second, study from Puspaningtyas, Zauhar, & Mindarti (2016) which conducted a study local economic potential as the basis for economic development plan in Blitar. By using the location quotient and shift share (LQSS) and interactive planning, the results of the study is identified the potential of economic competitiveness, which is agricultural sector; trade, hotels and restaurants; and the manufacturing sector. The planning process viewed from the principles of sustainability, monitoring and evaluation are still macro conducted by Bappeda in every quarter. The absence of strict sanctions, explicit noncompliance of the

planning documents, result in monitoring or evaluation by a formality that seems done partially, a mere formality, and less integrated.

Next research from Misbah, Mulyo, & Darwanto (2019) which conducted a study in order to identify the leading commodities of livestock subsector in Riau Islands Province and to find out the growth structure using the Location quotient (LQ), dynamic location quotient (DLQ), Klassen Typology (KT) and shift-share analysis (SSA) to analysis. The results of the study are (i) at the subsector level shows that livestock becomes the leading subsector of agriculture in Riau Islands Province, (ii) pigs are the leading commodity in the livestock subsector in the Riau Islands Province, (iii) the growth structure of leading commodities (pigs) are the same as the subsector level.

Hardiani & Lubis (2018) conducted a study on leading sector of Jambi City using the Location Quotient, Shift Share, Klassen Typology and Overlay. The results of the study, electricity and gas procurement sector, building, large and retail trade, car and motorcycle repairs are four priority sectors in Jambi City.

Next research conducted by Tatiana, Firdaus, Siregar, & Hariyoga (2015). The aim of this research was to analyze the investment climate as well as determine sectors driving the success of development in Bengkulu province Bengkulu (9 counties and one city) using the Quotients Klassen, Location quation (LQ), shiftshare, fiscal capacity and regression. The results of the study, areas which have base sector in agricultural capable of developing and developed despite its ability to attract FDI and domestic investment is relatively low. While the natural resources areas such as mining that become center of domestic and foreign investment, was not able to develop into advanced and fast growing areas. Land and

infrastructure ownership becomes the dominant factor affecting the investment climate in the Province of Bengkulu. Yuliadi (2013) conducted a study issues and challenges in South Coastal Community Development using the location quotient (LQ), shift-share, and typology classes. The results of the study is making the planning model of promotion system and integrated investment to realize the equality of development economic at beach are in Yogyakarta.

Munandar & Winarko (2015) conducted a study by using the decision tree to classify the level of development based on indicators of regional gross domestic product (GDP). Three decision tree algorithms are J48, NBTree and REPTree. The results of the study is focusing on Tangerang City and Tangerang Regency. As for the Central Java Province, Kendal, Magelang, Pemalang, Rembang, Semarang and Wonosobo are an area with a quadrant of development also on the status of the region is relatively underdeveloped.

Research from Hatta & Astuti (2018) talked about a study to analysis the degree of inequality in terms of distribution of economic growth and increased income among the five Regencys/cities in Parepare Leading Region (Ajatappareng Region, Indonesia) using Klassen Typology Approach, and providing advice and policy strategy. From Klassen Typology, the results showed that the leading sectors is Procurement Electricity and Gas sector, contained in Pinrang and Parepare. Klassen Typology Approach classifying the Regency/city in the Ajatappareng Region included in the

relatively disadvantaged areas (Relatively Backward Region).

Tallo et al (2018) conducted a study on the economic growth and sector contribution of regional income in 21 regencies and 1 city in East Nusa Tenggara Province using the klassen typology analysis, Statistic Location Quotient, Dynamic Location Quotient and Shift Share Classic and Shift Share Esteban Marquillas. The results of the study that 54% of the regions in NTT are included in stagnant typology. Based on the combined results of 3 methods (LQ, Shift Share Classical and Shift share Esteban) shows that the Mining and Quarrying, Agriculture, Forestry, and Fisheries sectors are the leading sectors in NTT region. South of Timor Tengah Regency, East Flores, Sikka, Ngada, West Mangarai and Southwest Sumba have no leading sector. The relationship between the region typology and the leading sector shows that Kupang is in the first quadrant with 13 leading sectors, while the other areas are still lagging.

Adão, Kolesár, & Morales (2018) conducted a placebo exercise in which estimate the effect of a shift-share regressor constructed with randomly generated sectoral shocks on actual labor market outcomes across U.S. Commuting Zones. According to Adão, Kolesár, & Morales (2018), they showed that the standard economic models predict the changes in regional outcomes is depend on observed and unobserved sector-level shocks through several shift-share covariates. Their model implies that the residual in shift-share regressions is likely to be correlated across regions with similar sectoral composition, independently of their geographic location, due to the presence of unobserved sectoral shifters affecting the outcome.

Such correlation is ignored by inference procedures typically used in shift-share regressions, such as standard errors which is clustered on geographic units. To illustrate the importance of this shortcoming, they implement a placebo exercise. So that, we can study the effect of randomly generated sector-level shocks on actual changes in labor market outcomes across CZs in the United States. Adão, Kolesár, & Morales (2018) found that traditional inference procedures severely overreject the null hypothesis of no effect. They derived novel inference procedures that yield correct rejection rates. It has become standard practice to report cluster-robust standard errors in regression analysis whenever the variable of interest varies at a more aggregate level than the unit of observation. Practice guards against potential correlation in the residuals that arises whenever the residuals contain unobserved shocks that also vary at the same level as the variable of interest. The result of the research recommended that researchers report confidence intervals in shift-share designs that allow for a shiftshare structure in the residuals, such as one of the two confidence intervals that they've proposed. Jovovic, Draskovic, Delibasic, & Jovovic (2018) conducted a study of supply chain.

They proposed tools to help how to achieve regional development pathways and how to design the framework as base for finding trade-offs between all dimensions of notion sustainable development. The overarching aim is to meet wider economic and social needs, while limiting environmental impact and realizing reductions in harmful emissions. The institutional component has been recognized as the most important for achieving trade-of

between economic issues, and environmental ones.

RESEARCH METHOD

This research will be conducted by quantitative method. This research analyzes quantitative data to identify economic potential in Barlingmascakeb. So that, this research was carried out in Banjarnegara Regency, Purbalingga Regency, Banyumas Regency, Cilacap Regency, and Kebumen Regency. The data needed in this study include food production data, sectoral growth, sectoral income, and secondary data with the research period is among 2013-2015. The data obtained from the Central Statistics Agency of Central Java Province and the Indonesian Bureau of Statistics.

While the tools of analysis used in this study are: first, Klassen Typologi, the typology of the Klassen area basically divides the area based on two main indicators, there are regional economic growth and regional per capita GRDP.

Table 2. Typology Klassen Criteria

	$y_i > y$	$y_i < y$
$r_i > r$	Fast Advancing Region and Fast-Growing Region	Fast Advancing Areas
$r_i < r$	Depressed Forward Regions	Relatively Disadvantaged Areas

Noted :

- y = Provincial per capita GRDP
- r = provincial GDP growth
- y_i = Regency / city per capita GRDP
- r_i = regency / city GRDP growth

Second, Location Quotient (LQ). LQ is a method to determine the leading sectors in a region by comparing the role of a sector in a

region with the role of the sector at a broader level. LQ analysis resulted in a sector that has a comparative advantage in the areas being analyzed. Location Quotient (LQ) Analysis measured by using the following formula *Static Location Quotient* (SLQ) promoted by Bendavid-Val (1991):

Noted:

X_r	= commodity production i in each study area
RV_r	= The total amount of food commodity production in the study area
X_n	= The amount of commodity production i in the reference area
RV_n	= The total amount of food commodity production in the reference area

There are three conditions that can be characterized from the results of SLQ calculations, there are: (1) $SLQ > 1$, superior commodities, in addition to meeting their own needs for export potential to other regions. The area is specialized in these commodities (base). (2) $SLQ = 1$, commodities can only meet needs in their own area. (3) $SLQ < 1$, not superior, the region does not specialize in these commodities. The third method used is Dynamic location quotient (DLQ). DLQ is an index that calculate at the growth rate of a leading sector or food commodity in a region. DLQ Dinc Theory (2002). The formulation is as follows:

$$DLQ_{i,j} = \left[\frac{(1 + g_{ij}) / (1 + g_j)}{(1 + G_{iN}) / (1 + G_N)} \right]^t$$

Noted:

SLQ_t	= static location quotient in the current year
SLQ_{t-1}	= static location quotient the previous year

Based on the results of DLQ calculations, it shows the concentration of an activity in a region over a period of time with two criterias, first $DLQ < 0$, the growth of commodities i to the rate of growth in sub-Regency commodity production is lower than the rate of regency growth the same as the Regency. Second, $DLQ > 0$, meaning that the growth of commodity i to the rate of production growth in the sub-Regency is higher than the rate of growth of the total production of the Regency, and in the future this food commodity is expected to be superior.

Then the fourth method used is Growth Ratio Model (GRM). The Growth Ratio Model is a comparison of the growth of an activity both on a broad scale and on a smaller scale. According to Field and Mac Gregor (1993) in Maulana (1999), there are two growth ratios in the analysis: (a) Regional Growth Ratio (RGs), which calculated as:

$$RGs = (\Delta E_{ij} / E_{ij}(t)) / (\Delta E_{ir} / E_{ir}(t))$$

Noted:

RGs	= Comparison between the rate of growth in the of commodity production i in the sub-Regency and the rate of growth in the amount of commodity production i in the Regency
ΔE_{ij}	= changes in the amount of commodity production i in the sub-Regency in the period t and $t + n$

ΔE_{ir} = changes in the amount of commodity production i in the Regency

E_{ij} = Amount of commodity production i in sub-Regency area

E_{ir} = The amount of commodity production i in the Regency

If $RGr > 1$ (RGr are said to be positive), it means that the growth in the amount of commodity production i in the sub-Regency is higher than the growth in the amount of production of the commodity i in the Regency. If $RGr < 1$ (RGr are said to be negative), then the growth in the amount of commodity production i in the sub-Regency is lower than the growth in the amount of production of the commodity i in the Regency. (b) Ratio of Growth of Reference Area (RGr), calculated as

$$RGr = (\Delta E_{ir}/E_{ir}(t)) / (\Delta E_r/E_r(t))$$

Noted:

RGr = Comparison between the rate of growth in the number of commodity production i in the Regency with the rate of growth in the total production of food commodities in the Regency

E_{ir} = changes in the amount of commodity production i in the Regency in the time period t and $t + n$

E_r = changes in total production of food commodities in the Regency

E_{ir} = Amount of production i in sub-Regency area

E_r = Total production of food commodities in the Regency

If $RGr > 1$ (RGr is said to be positive), it means that the growth in the amount of commodity production i in the Regency is higher than the growth in the total production of food commodities in the Regency. If the $RGr < 1$ (RGr is said to be negative), it means that the growth in the amount of commodity production i in the Regency is lower than the growth in the total production of these food commodities in the Regency.

The fifth used is Overlay Analysis. This analysis is intended to see a description of potential economic activities or sectors or commodities and contribution criteria. There are four possibilities in the overlay analysis (Yusuf Maulana, 1999), there are: (1) Growth (+) and contribution (+), indicate that an activity is very dominant both in terms of growth and in terms of contribution. (2) Growth (+) and contribution (-), indicate that an activity has rapid growth but its contribution is small. This activity can be increased by its contribution to be pushed into a dominant activity. (3) Growth (-) and contribution (+), indicate that an activity whose growth is slow but its contribution is large. This activity is very possible which is a declining activity. (4) Growth (-) and contribution (-), indicate that an activity is not potential either from growth criteria or contribution criteria. Sixth, Esteban Marquillas *Shiftshare* Methods (SS-EM). A modification of classic shift share analysis.

Modifications include defining the position or competitive advantage as the third component and the creation of the fourth component, namely the influence of location.

Table 3. Shiftshare Esteban Marquillas's Criterias

	$r_{ij} - r_{in} > 0$	$r_{ij} - r_{in} < 0$
$E_{ij} - E'_{ij} > 0$	Special Competitive	Non-competitive specialized
$E_{ij} - E'_{ij} < 0$	Competitive Not specialized	Not competitive Not specialized

The last method used is Connectivity Quotient (CQ) Analysis. CQ analysis is used to describe intercity access in a region. The calculation of CQ is done in the following way (Bendavid-Val, 1991: 160), calculate the distance from one Regency to another in a region, calculate the total distance for all Regencys, then divide by the number of Regencys to get a regional average, share the total distance from each Regency with the regional average to get the connectivity quotient value. The measurement criteria for connectivity quotient, namely if $CQ < 1$, means the level of accessibility of a city is higher. And vice versa, if $CQ > 1$, it means the level of accessibility of a city is lower.

RESULTS AND DISCUSSION

From the calculation obtained some results that can be summarized as follows. Based on the criteria for the Barlingmascakeb region typology in 2013-2015, it can be concluded that Cilacap Regency, Banyumas Regency, Purbalingga Regency, Kebumen Regency include in first quadrant or fast-growing and fast-growing regions (high growth and high income).

Table 4. Typology Klassen Barlingmascakeb Period 2013-2015

	$Y_i > Y$	$Y_i < Y$
$r_i > r$	Cilacap Regency, Banyumas Regency, Purbalingga Regency, Kebumen Regency	Banjarnegara Regency
$r_i < r$	-	-

In other words, the four Regencys have economic growth rates in above the Barlingmascakeb's economic growth and per capita GRDP in above Barlingmascakeb's average per capita income. Banjarnegara Regency is included in quadrant II or developed but depressed (high income but low growth). In other word Banjarnegara Regency has an average economic growth rate lower than the average growth of Barlingmascakeb GRDP and GDP per capita higher average above Barlingmascakeb's GDP per capita.

Members of Barlingmascakeb, which are regional cooperation areas, have benefited positively from the establishment of the Regional Cooperation Institute. The most visible benefit is by facilitating progress among members of the Barlingmascakeb region, actual results can be seen from GRDP data. This is supported by research conducted by (Gunawan & Gunawan (2008). The study concluded that Cilacap District was the only region included in the Fast Forward Region and Fast-Growing Area. Whereas the other regions are included in the Region category with low GRDP per capita but high GDRP growth and low per capita GRDP and low GDRP growth.

In addition, the progress of the Barlingmascakeb member area can be seen from

the growing infrastructure. With better infrastructure, it will certainly facilitate and facilitate inter-regional mobility among Barlingmascakeb members. One infrastructure that plays an important role in improving the economy in Barlingmascakeb is road infrastructure.

Table 5. Percentage of Regency Roads in Good Condition for 2014-2016

Regency	2014	2015	2016
Purbalingga	72,55	74,98	79,7
Banyumas	60,44	65,86	67,94
Banjarnegara	54,5	55,15	58,8
Kebumen	51,3	44,8	57,5
Cilacap	52,9	47,55	56,93

Source: BPS, 2017

The highest percentage of district roads is Purbalingga Regency, followed by Banyumas Regency, Banjarnegara Regency, Kebumen Regency, and Cilacap Regency (see table 5). Increasing road infrastructure facilities is the main capital in efforts to improve regional economic conditions. This is supported by research conducted by Kennedy (2018) was concluded that the availability of road and bridge infrastructure is very necessary to facilitate distribution and reduce the price of goods which will later have an impact on increasing income.

Then, based on the results of the calculation of Barlingmascakeb's static location quotient (SLQ) for food commodities in 2013-2015, it can be concluded that: corn commodity is a superior commodity in Kebumen Regency, the commodity of paddy rice is a superior commodity in Cilacap Regency, paddy rice commodities are superior commodities in Kebumen Regency.

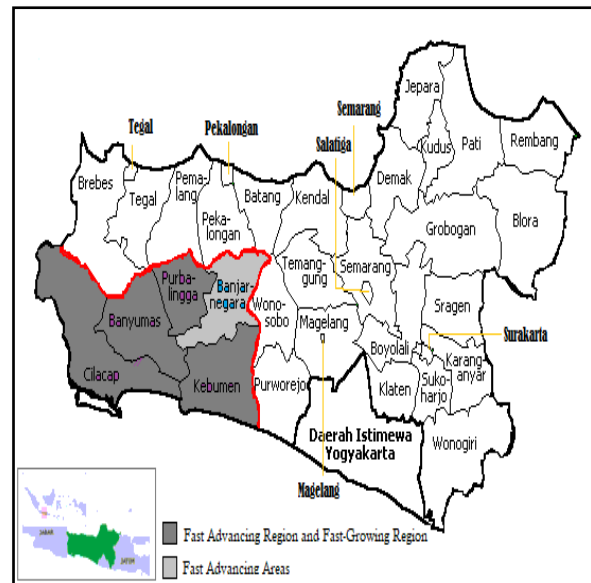


Figure 3. Typology Klassen Barlingmascakeb Period 2013-2015

Cassava commodity is a superior commodity in Kebumen Regency, soybean commodity is a superior commodity in Kebumen Regency, green bean commodity is a superior commodity in Kebumen Regency, peanut commodity is a superior commodity in Kebumen Regency, the commodity of egg chicken is a superior commodity in Banyumas Regency, commodity of egg chicken is a superior commodity Banjarnegara Regency, commodity of egg duck is a superior commodity in Kebumen Regency, the commodity of free-range chicken is a superior commodity in Purbalingga Regency, commodity of broiler is a superior commodity in Cilacap Regency, duck commodity is a superior commodity in Cilacap Regency, beef commodities are the leading commodities in Kebumen Regency, the commodity of buffalo is a superior commodity in Cilacap Regency, goat commodity is a superior commodity in Kebumen Regency, sheep commodity is a superior commodity in Kebumen Regency.

Table 6. Average of Static Location Quotient (SLQ) in Barlingmascakeb Period 2013-2015

Commodity	SLQ				
	Banjarnegara	Purbalingga	Banyumas	Cilacap	Kebumen
Corn	1,00	1,21	0,34	1,63	2,69
Rice Paddy	0,19	0,62	0,64	6,05	3,49
Rice Fields	0,24	0,19	0,38	5,35	6,01
Cassava	0,86	0,75	0,33	2,79	3,68
Soy	0,04	0,08	0,42	4,34	8,82
Green Beans	0,00	0,01	0,04	2,92	12,48
Peanuts	0,44	0,59	1,06	2,26	4,24
Egg Chicken	0,00	0,55	2,83	0,00	1,72
Chicken Egg Race	2,02	0,88	0,07	0,00	0,02
Egg Duck	1,19	0,69	0,85	0,00	2,41
Kampung Chicken	0,22	3,00	0,61	2,88	0,00
Broiler	0,28	0,88	1,55	3,09	1,35
Duck	0,12	0,81	0,83	5,14	3,51
Cow	0,57	0,54	0,36	1,65	7,33
Buffalo	0,36	1,10	0,90	4,81	1,30
Goat	0,37	1,48	0,63	1,15	5,42
Sheep	0,70	0,89	0,24	1,05	6,71

Source : Data Processed

Next result from Based on the results of the Barlingmascakeb food commodity by using dynamic location quotient (DLQ) in 2013-2015, which have DLQ value > 0 or in the future food commodities are expected to be superior because the ratio between the production growth rate in the regency is higher than the growth rate of Barlingmascakeb's production, among others : corn commodities are expected to be prime comodities in the future in Purbalingga Regency, Cilacap Regency, Kebumen Regency; the commodity of paddy rice is expected to be superior in the future in Pubalingga Regency; field rice commodities are expected to be superior in the future in Cilacap Regency and Kebumen Regency; cassava commodities are expected to be superior in the future in Purbalingga Regency,

Cilacap Regency and Kebumen Regency; soybean commodities are expected to be superior in the future in Banjarnegara Regency, Purbalingga Regency, and Cilacap Regency; green bean commodities are expected to be superior in the future in Banjarnegara Regency, Kebumen Regency; peanut commodities are expected to be superior in the future in Purbalingga Regency, Banyumas Regency, and Cilacap Regency; the commodity of village chicken eggs is expected to be superior in the future in Purbalingga Regency, Cilacap Regency, and Kebumen Regency; the commodity of egg chicken is expected to be superior in the future in Banjarnegara Regency, Purbalingga Regency, and Kebumen Regency; the commodity of egg duck is expected to be superior in the future in Banjarnegara Regency; the commodity of free-range chicken is expected to be superior in the future in Banjarnegara

Regency, Banyumas Regency, and Cilacap Regency; broiler commodities are expected to be superior in the future in Purbalingga Regency and Kebumen Regency; duck commodities are expected to be superior in the future in Purbalingga Regency; cattle commodities are expected to be superior in the future in Purbalingga Regency and Cilacap Regency; buffalo commodities are expected to be superior in the future in Purbalingga Regency, and Cilacap Regency; goat commodities are expected to be superior in the future in Purbalingga Regency; the commodity of sheep is expected to be superior in the future in Purbalingga Regency and Cilacap Regency. Both static and dynamic location quotient describes potential

commodities in terms of both the contribution and growth of each commodity. Ibrahim (2018) concluded that the ownership of economic potential is able to accelerate development. Commodities that can meet the consumption needs of their own region and can export to surrounding areas in all members of the Barlingmascakeb region, which is corn commodity. Whereas there is absolutely no superior commodity in the future in Barlingmascakeb which is always showing progress during the 2013-2015 period. In this case the sector is the base sector or expected to be superior in the future influenced by land area, technology, climate, weather, air temperature, irrigation, fertilizer, human, machinery, etc.

Table 7. Average of Dynamic Location Quotient (DLQ) Barlingmascakeb Period 2013-2015

Commodity	DLQ				
	Banjarnegara	Purbalingga	Banyumas	Cilacap	Kebumen
Corn	-0,053	0,087	-0,004	0,096	0,184
Rice Paddy	-0,084	0,187	-0,079	-0,009	-0,119
Rice Fields	-0,293	-0,266	-0,523	0,139	0,023
Cassava	-0,022	0,166	-0,235	0,008	0,026
Soy	4,540	0,370	-0,031	0,085	-0,172
Green Beans	0,126	-0,571	-0,311	-0,280	0,030
Peanuts	-0,327	0,266	0,004	0,148	-0,046
Egg Chicken	0,000	0,246	-0,030	0,004	0,108
Chicken Egg Race	0,026	0,150	-0,041	-0,056	1,344
Egg Duck	0,054	-0,021	-0,005	-0,096	-0,246
Kampung Chicken	0,274	-0,080	0,322	0,400	0,000
Broiler	-0,520	0,788	-0,007	-0,129	0,282
Duck	-0,071	0,210	-0,069	-0,022	-0,138
Cow	-0,022	0,229	-0,116	0,013	-0,121
Buffalo	-0,030	0,290	-0,093	0,069	-0,452
Goat	-0,010	0,281	-0,103	-0,033	-0,181
Sheep	-0,129	0,362	-0,055	0,039	-0,095

Source : Data Processed

Next discussion is based on the calculation of the Growth Ratio Model (MRP) of Barlingmascakeb food commodities in

2013-2015. First for commodities which is included in classification 1 (dominant growth food commodities) or the value of RPr (+) and

RPs (+). Food commodities at the Barlingmascakeb level have rapid growth and similarly at the Regency level, among others : dominant rice commodity growth in Purbalingga Regency, Banyumas Regency, Cilacap Regency, Kebumen Regency; dominant soybean commodity growth in Purbalingga Regency, Banyumas Regency, Cilacap Regency, Kebumen Regency; dominant green bean commodity growth in Banjarnegara Regency, Kebumen Regency; dominant commodity of egg-broiler growth in Banjarnegara Regency, Banyumas Regency, Kebumen Regency; dominant broiler commodity growth in Purbalingga Regency, Banyumas Regency, Cilacap Regency, Kebumen Regency; dominant duck commodity growth in Purbalingga Regency, Banyumas Regency, Cilacap Regency, Kebumen Regency. Second, the food commodities which is included in classification 2 or the value of RPr (+) and RPs (-). This classification based on these food commodities at the Barlingmascakeb level have rapid growth but at the Regency level slow, among others: corn commodities are in Banjarnegara Regency, Purbalingga Regency, Regency; field rice commodities are found in Banjarnegara Regency, Purbalingga Regency, Banyumas Regency, Cilacap Regency; commodity of cassava is found in Banjarnegara Regency, Purbalingga Regency, Banyumas Regency, Cilacap Regency; peanut commodities are found in Banjarnegara Regency, Purbalingga Regency, Banyumas Regency, Cilacap Regency, Kebumen Regency; the commodity of egg chicken is found in Banjarnegara Regency, Purbalingga Regency, Cilacap Regency; egg duck commodities are found in Purbalingga

Regency, Regency; the commodity of free-range chicken is in Purbalingga Regency, Cilacap Regency; duck commodities are found in Cilacap Regency, Kebumen Regency; beef commodities are found in Banjarnegara Regency, Banyumas Regency; buffalo commodities are found in Banjarnegara Regency, Banyumas Regency, Kebumen Regency, goat commodities are found in Banjarnegara Regency, Purbalingga Regency, Banyumas Regency, Cilacap Regency, Kebumen Regency, lamb commodities are found in Banjarnegara Regency.

Next one, is food commodities by using the Growth Ratio Model of Barlingmascakeb in 2013-2015 which is included in classification 3 (potential commodities that are feasible to be developed in the region to support food security) or the value of RPr (-) and RPs (+). This classification noted by these food commodities at the level of Barlingmascakeb it has slow growth but at the Regency level it has rapid growth, among others : lowland rice commodities that are feasible to be developed in Banjarnegara Regency; soybean commodities that are feasible to be developed in Banjarnegara Regency; green bean commodities that are feasible to be developed in Purbalingga Regency, Banyumas Regency, and Cilacap Regency; commodity of egg chicken that is suitable to be developed in Purbalingga Regency; broiler commodities that are feasible to be developed in Banjarnegara Regency; duck commodities that are feasible to be developed in Banjarnegara Regency.

The fourth classification based on the calculation of the growth ratio model of Barlingmascakeb food commodities in 2013-2015 or based on the value of RPr (-) and RPs (-), so that the food commodities at the Barlingmascakeb level have slow growth and so

at the Regency level other: corn commodities are found in Banyumas Regency, Cilacap Regency, Kebumen Regency; field rice commodities are found in Kebumen Regency; commodity of cassava is found in Kebumen Regency; the commodity of egg chicken is found in Banjarnegara Regency, Banyumas Regency, Kebumen Regency; the commodity of free-range chicken is in Banyumas Regency,

Kebumen Regency; duck commodities are found in Banjarnegara Regency, Banyumas Regency; cattle commodities are found in Purbalingga Regency, Cilacap Regency, Kebumen Regency; buffalo commodities are found in Purbalingga Regency, Cilacap Regency; sheep commodities are in Purbalingga Regency, Banyumas Regency, Cilacap Regency, and Kebumen Regency. See table 8 for detail classification.

Table 8. Growth Ratio Model (MRP) Barlingmascakeb Period 2013-2015

Commodity	MRP				
	Banjarnegara	Purbalingga	Banyumas	Cilacap	Kebumen
Corn	2	2	4	4	4
Rice Paddy	3	1	1	1	1
Rice Fields	2	2	2	2	4
Cassava	2	2	2	2	4
Soy	3	1	1	1	1
Green Beans	1	3	3	3	1
Peanuts	2	2	2	2	2
Egg Chicken	4	2	4	2	4
Chiken Egg Race	1	3	1	3	1
Egg Duck	4	2	4	2	2
Kampong Chicken	2	2	4	2	4
Broiler	3	1	1	1	1
Duck	3	1	1	1	1
Cow	2	4	2	4	4
Buffalo	2	4	2	4	2
Goat	2	2	2	2	2
Sheep	2	4	4	4	4

Source : Data Processed

For next method is Overlay analysis. Overlay analysis is carried out for each region. Overlay analysis calculation results as follows: (a) Based on the calculation of the overlay of the food commodities of Banjarnegara Regency in 2013-2015 which is included in the positive growth criteria and positive contributions, among others, there are in the

commodity of maize, and the commodity of egg chicken. (b) Based on the results of the calculation of the overlay of Purbalingga Regency food commodities in 2013-2015 which are included in the positive growth criteria and positive contributions, among others, there are in the commodity of maize, commodity of chicken, commodity of goat. (c) Based on the

calculation results of the 2013-2015 Regency Banyumas food commodity overlay which is included in the positive growth criteria and positive contributions, among others, there are peanut and broiler commodity commodities. (d) Based on the calculation of the overlap of food commodities in Cilacap Regency in 2013-2015 which are included in the positive growth criteria and positive contributions, among others, the commodity of paddy rice, field rice commodities, cassava commodities, soybean commodities, peanut

commodities, commodity chicken, commodity chicken broiler, duck commodity, goat commodity. (e) Based on the calculation of the food commodity overlay in Kebumen Regency in 2013-2015 which included positive growth criteria and positive contributions, among others, there were rice paddy commodity, soybean commodity, green bean commodity, peanut commodity, egg duck commodity, broiler commodity, duck commodity. , commodity of buffalo, commodity of goat.

Table 9. Overlay in Barlingmascakeb Period 2013-2015

Commodity	Banarnegara		Purbalingga		Banyumas		Cilacap		Kebumen	
	RPS	LQ	RPS	LQ	RPS	LQ	RPS	LQ	RPS	LQ
Corn	4,72	1,00	4,23	1,21	-2,22	0,34	-3,03	1,63	-9,99	2,69
Rice Paddy	-0,57	0,19	1,07	0,62	1,06	0,64	0,92	6,05	1,70	3,49
Rice Fields	2,81	0,24	3,24	0,19	3,47	0,38	0,01	5,35	-0,66	6,01
Cassava	1,56	0,86	1,70	0,75	3,76	0,33	0,79	2,79	-1,80	3,68
Soy	-0,96	0,04	0,11	0,08	1,27	0,42	1,41	4,34	0,92	8,82
Green Beans	1,58	0,00	-1,43	0,01	-0,26	0,04	-	2,92	1,65	12,48
Peanuts	2,13	0,44	0,94	0,59	0,62	1,06	0,67	2,26	0,53	4,24
Egg Chicken	0,00	0,00	42,50	0,55	-6,74	2,83	0,02	0,00	-51,50	1,72
Chiken Egg	1,41	2,02	-1,43	0,88	2,58	0,07	-	0,00	76,24	0,02
Race							0,60			
Egg Duck	-0,51	1,19	7,30	0,69	-2,41	0,85	4,57	0,00	3,77	2,41
Kampong	0,42	0,22	1,44	3,00	-0,12	0,61	0,00	2,88	0,00	0,00
Chicken										
Broiler	-1,88	0,28	4,48	0,88	1,64	1,55	0,13	3,09	5,12	1,35
Duck	-2,62	0,12	1,90	0,81	1,81	0,83	0,17	5,14	1,95	3,51
Cow	28,94	0,57	-17,79	0,54	38,26	0,36	-	1,65	-15,98	7,33
Buffalo	1,61	0,36	-0,17	1,10	1,15	0,90	-0,01	4,81	5,12	1,30
Goat	0,44	0,37	3,07	1,48	0,55	0,63	0,27	1,15	0,17	5,42
Sheep	5,93	0,70	-4,62	0,89	-0,03	0,24	-	1,05	-0,49	6,71
							0,29			

Source : Data Processed

MRP and Overlay analysis is useful to find out the dominant commodities in the Barlingmascakeb area. Dominant commodity in terms of income is a commodity with high productivity. Sjafrizal (2008) illustrated that a

region with a higher growth rate of production than other regions increases its superiority. These advantages can be driven by natural resource factors, but many other factors can also encourage a region to have a dominant

commodity. For examples human resources, government policies, business innovation, technology, machinery, and others.

Shiftshare Esteban Marquillas (SS-EM) Analysis calculation results as follows based on the calculation of Shiftshare Esteban Marquillas Banjarnegara Regency in 2013-2015, the competitive and specialized sector is the sector of agriculture, forestry and fisheries, mining and quarrying sector, retail and wholesale trade, car and motorcycle repair, transportation and warehousing sector, sector company services, government administration sector, mandatory defense and social security, education services sector, health services sector and social activities, and other service sectors.

Based on the calculation of shiftshare esteban marquillas in Banyumas Regency in 2013-2015. competitive and specialized sectors are the mining and quarrying sector, water supply sector, waste management, waste and recycle, construction sector, retail and wholesale trade, car and motorcycle repair , transportation and warehousing sector, supply and food supply sector, financial and insurance services sector, real estate sector, government administration sector, mandatory social security and defense, education service sector, health services sector and social activities, and other service sectors.

Based on the calculation of shiftshare esteban marquillas in Cilacap Regency in 2013-2015, a competitive and specialized sector is the mining and quarrying sector. Based on the calculation of shiftshare esteban

marquillas in Purbalingga Regency in 2013-2015, the competitive and specialized sectors are agriculture, forestry and fisheries, the water supply sector, waste management, waste and remediation, transportation and warehousing government administration, defense and guarantee social obligation.

Based on the results of shiftshare esteban marquillas in Kebumen Regency in 2013-2015, competitive and specialized sectors are agriculture, forestry and fisheries, the large and retail trade sector, car and motorcycle repair, the education services sector, the health services sector and social activities, and other service sectors. The economic competitiveness of a region is a reflection of the power of the region's economy as a whole (PPSK Bank Indonesia & LP3E FE Unpad, 2008). Research from Soebagiyo, Triyono, & Cahyono (2013) stated that the mapping of regional competitiveness as a whole shows regions that have high competitiveness that have an economic base that comes from the wealth of natural resources or regional economic activities based on industrial sector and service sector.

The development of Barlingmascakeb region should be carried out by spurring the performance of the economic sector in order to be able to grow rapidly and make a large contribution in the formation of GRDP. Mainly investments, incentives, and other economic policies need to be directed at economic activities from sectors that have absolute advantages as well as being a specialization for each region. Detail result for Shiftshare Marquillas in Barlingmascakeb 2013-2015 can be seen in Table 10.

Table 10. Shiftshare Esteban Marquillas in Barlingmascakeb 2013-2015

Sector	Banjarnegara	Banyumas	Cilacap	Purbalingga	Kebumen
Agriculture, forestry and fisheries	Competitive, specialized	Not Specialization, Competitive	Not Competitive, Not Specialized	Competitive, specialized	Competitive, specialized
Mining and excavation	Competitive, specialized	Competitive, specialized	Competitive, specialized	Specialized, Not Competitive	Specialized, Not Competitive
Processing industry	Competitive, not specialized	Not Specialization, Competitive	Specialized, Not Competitive	Not Specialization, Competitive	Competitive, not specialized
Procurement of electricity and gas	Not Competitive, Not Specialized	Not Competitive, Not Specialized	Not Competitive, Not Specialized	Not Competitive, Not Specialized	Not Competitive, Not Specialized
Water supply, waste management, waste and recycle	Competitive, not specialized	Competitive, specialized	Not Competitive, Not Specialized	Competitive, specialized	Competitive, not specialized
Construction	Competitive, not specialized	Competitive, specialized	Competitive, not specialized	Competitive, not specialized	Competitive, not specialized
Wholesale and retail trade, car and motorcycle repair	Competitive, specialized	Competitive, specialized	Competitive, not specialized	Not Specialization, Competitive	Competitive, specialized
Transportation and warehousing	Competitive, specialized	Competitive, specialized	Not Competitive, Not Specialized	Competitive, specialized	Specialized, Not Competitive
Provision of accommodation and food for drinking	Competitive, not specialized	Competitive, specialized	Competitive, not specialized	Competitive, not specialized	Not Competitive, Not Specialized
Information communication	Competitive, not specialized	Specialized, Not Competitive	Competitive, not specialized	Not Competitive, Not Specialized	Competitive, not specialized
Financial and insurance services	Not competitive, specialized	Competitive, specialized	Competitive, not specialized	Not Competitive, Not Specialized	Specialized, Not Competitive
Real estate	Competitive, not specialized	Competitive, specialized	Not Specialization, Competitive	Not Competitive, Not Specialized	Not Competitive, Not Specialized
Company services	Competitive, specialized	Competitive, not specialized	Competitive, not specialized	Not Specialization, Competitive	Competitive, not specialized
Government administration, defense and social security are mandatory	Competitive, specialized	Competitive, specialized	Competitive, not specialized	Competitive, specialized	Specialized, Not Competitive

Educational services	Competitive, specialized	Competitive, specialized	Not Specialized, Not Competitive	Specialized, Competitive	Not	Competitive, specialized
Health services and social activities	Competitive, specialized	Competitive, specialized	Not Specialization, Competitive	Specialized, Competitive	Not	Competitive, specialized
Other services	Competitive, specialized	Competitive, specialized	Not Specialization, Competitive	Competitive, specialized		Competitive, specialized

Source : Data Processed

Next method is Connectivity Quotient (CQ). Based on the results of the calculation of connectivity quotient, it can be concluded that: (a) Purbalingga Regency has a favorable position in interacting with the other members of the Barlingmascakeb regional institutions. This can be seen from the CQ value of Purbalingga Regency which is the lowest

among other region. (b) Kebumen Regency has a disadvantaged position in interacting with the other member Regencys of the Barlingmascakeb regional institution. This can be seen from the CQ value of Kebumen Regency being the highest among others region.

Table 11. Connectivity Quotient Barlingmascakeb Period 2013-2015

Region	Banjarnegara	Purbalingga	Banyumas	Cilacap	Kebumen	Total	CQ	Rank
Banjarnegara	0	45	65	100	137	347	1.19	4
Purbalingga	45	0	20	55	82	202	0.69	1
Banyumas	65	20	0	53	80	218	0.75	2
Cilacap	100	55	53	0	91	299	1.03	3
Kebumen	137	82	80	91	0	390	1.34	5

Source : Data Processed

CONCLUSION

From identification that has been done using the Klassen Typology method, LQ, MRP, overlay, shiftshare E-M, CQ, we can conclude that each member of Barlingmascakeb has a superior sector each of which is different from one another. Thus it can be directed at regional integration especially in the economy. The needs of one region will be fulfilled by other regions but still within the scope of Barlingmascakeb.

The base commodity of Barlingmascakeb among period 2012-2015 is the corn sector. But when predicted in the future, corn has not been said to be superior. So that there is still much

that can be developed from Barlingmascakeb. In addition, four of the five members of Barlingmasakeb, namely Cilacap Regency, Banyumas Regency, Purbalingga Regency, Kebumen Regency, chose the average economic growth that was higher than the average economic growth of Central Java province. In terms of commodity growth in the four Barlingmascakeb member areas there is only rice paddy, broiler and duck. Seen from sectoral competitiveness and comparative side among the five members of the Barlingmascakeb region, there agriculture, forestry sector fishries, mining and excavation

sectors, wholesale trade land trade, car and motorcycle repair sector.

This needs the role of the local government, for example by optimizing the function of counseling to farmers or called GAPOKTAN ((bahasa) Gabungan Kelompok Tani, an institution of several farmer groups that join and work together to increase economies of scale and business efficiency (Minister of Agriculture Regulation, Number 273/Kpts/ot.160/4/2007). GAPOKTAN focused in providing information on market access to farmers, using superior seeds, adopting technology as needed, maintaining price stability and fertilizer distribution to farmers. In addition, there is still a need to improve the quality of economic supporting infrastructure between the five regions (Banjarnegara Regency, Banyumas Regency, Kebumen Regency, Cilacap Regency and Purbalingga Regency), such as road quality, road width, electricity lighting, and supporting policies such as planting location points investment, as well as adequate regional layout. Thus, it is expected that economic resource mobility between Banjarnegara Regency, Banyumas Regency, Kebumen Regency, Cilacap Regency, and Purbalingga Regency will be more smooth so that interactions between the three regions are expected to be able to boost the economic performance of each region and ultimately provide effective spread to the surrounding .

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