



## The Profile of Pekalongan as a Center of Economic Growth at Tangkallangka Strategic Areas

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### ABSTRACT

This study aims to analyze leading sectors, economic interactions and development strategies of Pekalongan as center of economic growth at Tangkallangka Strategic Areas. Data used in this research are primary and secondary ones. Methods used for data collection are interviews, questionnaires and documentation. Data are then analyzed using location quotient, growth ratio model, overlay, gravity, and SWOT analysis. The results show that Pekalongan has some leading sectors which have competitive and comparable potentials in infrastructures, trades and finances. Pekalongan has the greatest spatial interaction with Batang. Aggressive strategies are used in developing Pekalongan.

**Keywords:** Regional Development, Growth Center, Klassen Typological Analysis

**JEL Classifications:** B22, D60, O18

## 1. INTRODUCTION

Regional autonomy gives local government authority to implement rules and govern its regions in managing its natural resources, human resources, and financial matters. It is important that local government is responsible to implement its regional economic development goals in line with the national ones, that is, creating rapid economic growth, reducing poverty, income differences and unemployment levels (Todaro, 1994). Regional economic development should enable local people to improve motivations to have a higher rate of economic growth through local economic potential empowerment by developing activities due to local strengths and the existing opportunities to improve community welfare.

One policy used by government to narrow the gaps between regions is the implementation of regional development policies through the concept of central areas, based on potentials owned by particular regions. The implementation of these policies is expected to balance the growth rate and per capita income between regions that eliminate or at least narrow the gaps of

economic development between Java and outside regions of Java, including West and East regions of Indonesia (Kuncoro, 2004).

Central Java Province through Central Java Provincial Regulation No. 8 of 1992 amended with Central Java Provincial Regulation No. 21 of 2003 on National Spatial Plan (RTRWN) determines regions serving as areas for cooperation between districts/cities to develop strategic regional cooperation. One of the results of these policies is several areas are categorized in Tangkallangka Strategic Areas consisting of Batang, Pekalongan, Pemalang and Kajen. Pekalongan is the growth center of Tangkallangka Strategic Areas.

Pekalongan as the growth center of Tangkallangka Strategic Areas has a strategic location as located on the northern coast line connecting Jakarta-Semarang-Surabaya. Due to the position of economic structure point of view and Klassen typological analysis, Pekalongan is categorized into region with rapid development and growth that its per capita average gross domestic product (GDP) and average economic growth is higher than those of Tangkallangka Strategic Areas (Table 1).

**Table 1: Values of Klassen typological analysis in Pekalongan of 2005-2011**

Year	GDP per kapita		Category	Growth rate (%)		Category
	Pekalongan	Tangkallangka		Pekalongan	Tangkallangka	
2005	6,371,500	3,595,442	High (+)	3.82	3.66	High (+)
2006	6,536,291	3,667,813	High (+)	3.06	3.38	Low (-)
2007	6,572,157	3,838,630	High (+)	3.80	4.08	Low (-)
2008	6,778,844	3,981,908	High (+)	3.73	4.29	Low (-)
2009	7,063,671	4,143,750	High (+)	4.78	4.40	High (+)
2010	7,415,999	4,337,585	High (+)	5.51	4.92	High (+)
2011	7,809,172	4,555,220	High (+)	5.45	5.08	High (+)
Average	6,935,376	4,017,193	High (+)	4.31	4.26	High (+)

Source: BPS, Processed secondary data. GDP: Gross domestic product

Due to the position of economic structure of Pekalongan, it is interesting to analyze the economic interactions of Pekalongan as a growth center of Tangkallangka areas with those incorporated districts/cities. Pekalongan as the growth center of Tangkallangka Strategic Areas is expected to encourage the economic growth and spread its influences to the surrounding regions, that is, by developing the economic leading sectors based on potentials and the existing resources.

### 1.1. Research Questions

Based on the background above, some research questions arise as follows:

1. Which economic leading sectors have the potentials to be developed in Pekalongan?
2. How are the economic interactions of Pekalongan with the surrounding regions at Tangkallangka Strategic Areas?
3. What strategies are used to develop Pekalongan as growth center at Tangkallangka Strategic Areas?

## 2. LITERATURE REVIEW

### 2.1. Regional Economic Development

Regional economic development is a process in which local governments and communities manage the existing resources and form a partnership pattern between private sectors to create new job opportunities and stimulate economic development (economic growth in that region) (Arsyad, 1999). The main issues in regional development lie on the emphasis of policy development based on particular characteristics of related region with local physical resource potentials. This orientation leads us to make initiatives from that region in the process of development to create new job opportunities and stimulate the development of economic activities.

### 2.2. Synergized Fast Track Growth Theory

Fast track growth theory is introduced by Samuelson. Each country/region has sectors/commodities with great or lower potentials. They need to be figured out and fast developed either natural potentials or sectors with competitive advantage. It means that with similar capital requirements, those sectors may provide greater added values, produce in no time and give significant contributions to economy. To guarantee markets, products must be able to present and compete in international markets. The development of other sectors also improves the whole economic growth (Nugroho, 2014).

Sectors are synergized by making them interrelated and mutually supportive. Thus, one sector growth may encourage others and vice versa that economy may grow more rapidly.

### 2.3. Gravity Model

Gravity model is a model used to estimate potential attractions at a location compared with other locations. This model is often used to see the relationship between location potentials, potential influences, and location attractions.

For example, there are two cities (city X and Y) which locations are close each other. Interactions between those two cities are interesting to figure out that interactions are determined by several factors. The first factor is size of those two cities that may be measured with the population number, number of jobs, total revenues, number or wide of infrastructures, number of facilities for public interests, and others. Since data of population size are easy to gather, it makes them more frequently to use as a measuring device. Population size is not arbiter since it is directly associated with a variety of sizes mentioned above. The second factor affecting interactions is distance between city X and Y. Distance influences people to travel since distance takes time, efforts and costs.

## 3. RESEARCH METHODOLOGY

The population in this study is 8 Strategic Areas in Central Java. The sample of this research is Tangkallangka Strategic Areas. While, the variables of this research include economic growth, GDP, economic sectors, and distance.

### 3.1. Data Collection Methods

Data collection methods used in this study are interviews that data are collected face-to-face and through direct questions and answers between data collection attendants and respondents, questionnaires that data are gathered through lists of written questions to obtain information from respondents, and documentations that data are taken through the study of written books either in numbers or descriptions.

### 3.2. Data Analysis Methods

#### 3.2.1. Location quotient (LQ) analysis

LQ analytical device compares sector roles within a region with those of higher regional level. This analysis is conducted to identify internal potentials owned by the region on basic and non-basic sectors.

### 3.2.2. Growth ratio model (GRM) analysis

GRM analysis is an alternative analytical device that may be conducted in regional and city planning resulted from the modification of shift-share model of analysis. GMR approach is divided into two:

- a. Growth ratio of referential regions (GRr)  
In this case GRr compares the growth rate of activity of referential regions (Tangkallangka Strategic Areas) with the total growth rate of activities (GDP of Tangkallangka Strategic Areas).
- b. Growth ratio of the studied region (GRs)  
In this case, GRs compares the growth rate of activity of the studied region (Pekalongan) with that of sectors in referential regions (Tangkallangka Strategic Areas).

### 3.2.3. Overlay analysis

Overlay analysis is used to determine the leading sectors by combining the analytical device with the objectives to sort out the best analytical results in the forms of possibilities or merely the desired results. In this study, overlay analysis is the summary of LQ analytical results and GRM, that is, GRr and GRs.

### 3.2.4. SWOT analysis

In this study, SWOT analysis quantitatively examines phenomena of strength, weakness, opportunity, and threat factors available in Pekalongan as growth center at Tangkallangka Strategic Areas as well as formulation of the chosen regional development strategies.

## 4. RESEARCH RESULTS

### 4.1. LQ Analysis

Based on LQ analysis results during observation period (Table 2), it shows that in Pekalongan there are five sectors which become the basic sectors ( $LQ > 1$ ). Those five sectors have the average LQ of 1.10 for electricity, gas, and water supply, 2.04 for infrastructures, 1.18 for trades including hotels and restaurants, 2.05 for transportation and communication, and 1.52 for finance, leasing and company services.

### 4.2. GRM Analysis

Table 3 presents calculation results of GRM for a period of seven years (2005-2011) in Pekalongan. Based on that Table 2, it shows that sectors with positive values of GRr and GRs in Pekalongan are

infrastructures, trades including hotels and restaurants, finances, leasing, company services and others. Those four sectors are the obtrusive sectorial activities at both levels of Pekalongan and Tangkallangka Strategic Areas.

Sectorial Activities which growth rate meet the requirements of second criteria or sectors with positive (+) GRr and negative (-) value of GRs, meaning that at the level of Tangkallangka Strategic Areas, factors which have obtrusive growth but not at the level of Pekalongan are electricity, gas and water.

Sectorial activities which growth rate meet the requirements of third criteria or sectors with negative (-) GRr and positive (+) value of GRs, meaning that at the level of Tangkallangka Strategic Areas, sectors which have less obtrusive growth but not at the level of Pekalongan are transportation and communication. While sectorial activities which growth rate meets the requirements of fourth criteria or sectors with negative (-) GRr and GRs is agriculture. At both level of Tangkallangka Strategic Areas and Pekalongan, this sector has less obtrusive growth rate.

### 4.3. Overlay Analysis

Based on Table 4, it shows that in Pekalongan three sectorial activities that meet the requirements of first criteria are infrastructures, trades, and finances. Those three sectors have positive values of GR<sub>p</sub>, GRs, and LQ, meaning that those sectorial activities has higher growth rate and contribution at the level of Tangkallangka Strategic Areas. It also means that in Pekalongan, those three factors have more competitive and comparable potentials than similar activities at the level of Tangkallangka Strategic Areas.

Overlay analysis results show that sectorial activities in Pekalongan which meet the requirements of the second criteria are transportation. It means that this sector is more obtrusive than similar activities at the level of Tangkallangka Strategic Areas, both in term of growth and contribution. In other words, transportation is the most specific economic activities in Pekalongan at Tangkallangka Strategic Areas.

Overlay analysis results which show sectorial activities meeting the requirements of the third criteria are agriculture, meaning that this sector has low sectorial growth in Tangkallangka Strategic Areas. Sectorial growth in Pekalongan is lower than that in Tangkallangka Strategic Areas as well as the sectorial contribution.

**Table 2: Analysis results of LQ according to GDP of AHDK of 2000 Pekalongan in 2005-2011**

Number	Sector	LQ							
		2005	2006	2007	2008	2009	2010	2011	Average
1	Agriculture	0.56	0.50	0.45	0.42	0.39	0.36	0.37	0.43
2	Mining and excavation	-	-	-	-	-	-	-	-
3	Processing industries	0.83	0.83	0.84	0.84	0.85	0.84	0.83	0.84
4	Electricity, gas, and clean water	1.09	1.14	1.13	1.11	1.07	1.07	1.06	1.10
5	Infrastructures	1.99	2.02	2.04	2.04	2.04	2.06	2.06	2.04
6	Trades (hotels dan restaurants)	1.16	1.17	1.16	1.19	1.20	1.20	1.18	1.18
7	Transportation dan communication	2.02	2.04	2.08	2.07	2.05	2.03	2.02	2.05
8	Finance, leasing and company services	1.48	1.52	1.55	1.54	1.52	1.51	1.50	1.52
9	Other services	0.91	0.92	0.91	0.91	0.93	0.96	0.97	0.93

Source: BPS, Processed secondary data. LQ: Location quotient, GDP: Gross domestic product

**Table 3: GRM coefficient of Pekalongan GDP in 2005-2011**

Number	Sector	GRr		GRs	
		Real	Mark	Real	Mark
1	Agriculture	0.49	(-)	-2.80	(-)
2	Mining and excavation	-	-	-	-
3	Processing industries	0.86	(-)	1.05	(+)
4	Electricity, gas, and clean water	1.70	(+)	0.89	(-)
5	Infrastructures	1.42	(+)	1.11	(+)
6	Trades (hotels dan restaurants)	1.14	(+)	1.08	(+)
7	Transportation dan communication	0.88	(-)	1.04	(+)
8	Finance, leasing and company services	1.13	(+)	1.05	(+)
9	Other services	1.66	(+)	1.15	(+)

Source: BPS, Processed secondary data. GDP: Gross domestic product, GRr: Growth ratio of reference regions, GRs: Growth ratio of the studied regions, GRM: Growth ratio model

**Table 4: Overlay analysis on Pekalongan GDP city in 2005-2011**

Number	Sektor	GRr		GRs		LQ		Overlay mark
		Riil	Mark	Real	Mark	Real	Mark	
1	Agriculture	0.49	(-)	-2.80	(-)	0.43	(-)	(-)(-)(-)
2	Mining and Excavation	0.98	(-)	-	-	-	-	-
3	Processing Industries	0.86	(-)	1.05	(+)	0.84	(-)	(-)(+)(-)
4	Electricity, gas, and clean water	1.70	(+)	0.89	(-)	1.10	(+)	(+)(-)(+)
5	Infrastructures	1.42	(+)	1.11	(+)	2.04	(+)	(+)(+)(+)
6	Trades (hotels dan restaurants)	1.14	(+)	1.08	(+)	1.18	(+)	(+)(+)(+)
7	Transportation dan communication	0.88	(-)	1.04	(+)	2.05	(+)	(-)(+)(+)
8	Finance, leasing and company services	1.13	(+)	1.05	(+)	1.52	(+)	(+)(+)(+)
9	Services	1.66	(+)	1.15	(+)	0.93	(-)	(+)(+)(-)

Source: BPS, processed secondary data. GDP: Gross domestic product, GRr: Growth ratio of reference regions, GRs: Growth ratio of the studied regions, LQ: Location quotient

**Table 5: Gravity analysis results of Pekalongan in 2005-2011**

Year	Batang (8 km)	Pemalang (35 km)	Pekalongan (28 km)
2005	57,909,664,010,824,900	4,237,463,764,953,740	6,040,486,280,681,070
2006	54,831,837,210,934,400	4,225,410,342,791,290	5,785,308,082,831,710
2007	57,289,099,297,660,800	4,707,508,200,991,960	6,604,122,842,893,160
2008	61,693,286,350,704,700	5,202,732,155,407,310	7,225,285,749,176,500
2009	67,112,861,508,050,400	5,794,051,948,224,070	7,945,350,050,665,430
2010	77,043,290,866,683,800	5,887,730,044,419,890	8,599,633,051,268,260
2011	87,054,963,833,679,500	6,575,564,446,481,130	9,652,659,360,585,900
average	66,133,571,868,362,600	5,232,922,986,181,340	7,407,549,345,443,150

Source: BPS, Processed secondary data

It means that this sector has less competitive and comparable potentials than similar activities at the level of Tangkallangka Strategic Areas.

#### 4.4. Gravity Analysis

Based on Table 5, it shows that the greatest spatial interaction is between Pekalongan and Batang. This is due to distance proximity between them which is only 8 km away. These interactions then increase due to the population number of each region. From the Table 4, it can also be seen that the greatest value is in Batang with 66,133,571,868,362,600, meaning that the closet relationship with Pekalongan is Batang. While the value of Pemalang is 5,232,922,986,181,340 and Pekalongan is 7,407,549,345,443,150.

#### 4.5. SWOT Analysis

In this study, SWOT analysis quantitatively examines phenomena on factors with their strengths, weaknesses, opportunities, and threats of economic development in Pekalongan (Table 6).

## 5. CONCLUSIONS

- Based on the results of overlay analysis on LQ and ratio model, the growth during 2005-2011 shows that Pekalongan has three leading sectors with positive value of GRr, GRs and LQ. Those three sectors have competitive and comparable potentials in infrastructures, and trades (hotels and restaurants), and finances (company leasing and services)
- Based on gravity analysis during 2005-2011 shows that Pekalongan has the greatest spatial interactions with Batang with average interaction value of 66,133,571,868,362,600 while the least spatial interaction is with Pemalang with average interaction value of 5,232,922,986,181,340
- The development strategy for Pekalongan as the center of economic growth is strategy which supports aggressive growth policies (SO strategy), such as:
  - Leading product marketing development with promotion or exhibition of products
  - Small and medium industrial development by utilizing capital fund for small and medium companies

**Table 6: SWOT matrix of Pekalongan**

	Strengths (S) Having economic structure classified into developed and rapid growing region Having superior product (batik of Pekalongan) with national and international markets (export) Having 3 leading sectors with competitive and comparable potentials: Infrastructures, trades including hotels and restaurants, and finances including leasing and company services Having many small and medium industries Supporting transportations, communications, and technologies	Weaknesses (W) Activity structures are still centered in main city areas Decreasing rice harvests and productions Decreasing number of workers Batik Raw materials are still imported Limited workers with qualified skills
Opportunities (O) As one main objective of business activities Regional autonomy has positive impacts to the whole development of Pekalongan Regional economic development of surrounding regions has positive impacts to Pekalongan economy The existence of promotions and exhibitions of superior products The availability of capital assistance for small and medium manufacturers	SO strategies Developing markets of superior product (batik of Pekalongan) with the existence of product promotions atau exhibitions (S2, O4) Developing small and medium industries by utilizing capital assistance for small and medium business (S4, O5, S2) Maximizing leading sectors for the development of economic growth (S3, O1) Utilizing government authority to optimize the existing resources (S1, S5, O2)	WO strategies Utilizing lands Optimally through the development of agricultural commodities (W2, O1) Expanding job opportunities by establishing new industrial areas and providing financial assistance for small manufacturers (W1, O1, O3, O5) Supporting national products by giving capital assistance for small manufacturers (W4, W5, O5)
Treaths (T) Many investors leave Pekalongan to the developed surrounding regions Easily competed by other regions since administratively Pekalongan has limited territory The entrance of high competitive foreign products The decrease number of Batik manufactures The industrial activities has potential to produce waste disposal	Strategi ST Promotions of Pekalongan to attract investors (S1, S2, S5, T1, T2) Better management of leading sectors to compete with others (S3, S5, T3, T4) Leading sector product differentiations (S2, S3, T1, T3) Management and development of Small and medium industries (S4, S5, T1, T3)	Strategi WT Improving product promotional activities which encourages manufactures to export their products (W4, T3, T4) Improving supports and supervisions for skilled workers to produce high competitive products (W5, T1, T3, T4)

Source: Processed primary data

- c. Maximizing the leading sectors to improve the economic growth
- d. Utilizing government authority to optimize the existing resources.

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