

ANALISIS OF ECONOMIC STRUCTURE OF REGENCIES IN ACEH PROVINCE (A CASE STUDY IN BANDA ACEH, SABANG, AND ACEH BESAR)

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ABSTRACT

This study aims at determining the potential economic growth zones: Banda Aceh city, Sabang, and Aceh Besar regencies in Aceh province. The economic structure concerns regional and interregional specialization in the period of 2000 to 2006. This study combines two research approaches both qualitative and quantitative e.g., shift-share and regional specialization. The data used are in the form of secondary data and are taken from the Central Beaurou of Statistics and Regional Government Board at the province and regencies or cities. The results of the shift-share analysis are on regional growth average of the three areas. They are positive with the highest value of Aceh Besar regency and the lowest at Sabang. For the real impact of regional economic growth, the shift-share value is positive during the observation period. Specialization index calculation results indicate a decrease in the average value of specialization indexes between regencies and cities in this region, namely from 0.065 to 0.478 in 2000 to 0.413 in 2006. Among the areas within the region it should take advantage of the excellent potential sectors in the region when trading among the three regions that have the strength in different commodities.

Key words: *Shift share, region specialization index.*

INTRODUCTION

A country can be said to advance or develop if the GDP (Gross Domestic Product) is high followed by a high level of income per capita as well. To increase the GDP is not an easy task because a country must plan in advance, for making the program related to the future structure of the economy. To ensure the national development in order that they can work in harmony, it needs the alignment among the sectoral developments in the regional development.

Regional development in various countries has shown progress and positive development for the society. The preparation for the development plans and policies should be applicable in all areas. In that case, they must always consider the abilities and potential of each region as well as finding the urgent problems to be solved. By doing so, the efforts such development can take place within each region that is really appropriate

for the condition of each region. This means that the improvement of sectoral development that will spread throughout the region as far as possible should be linked to regional development efforts, both to solve urgent problems and develop potential resources imbedded within their respective regions. However, the main problem in regional development should be focused on the development policies based on the relevant regional particularities (endogenous development) using the potential of human resources, institutional and physical resources of local or regional (Arsyad 2005, p. 108).

Aceh Besar regency, for example, has people who are still dominant on agricultural sector. Thus, the local governments should be more focused on this sector as the leading sectors. By doing so, the productivity and incomes of farmers can be improved. As a

result, the living standard of farmers can be made better.

The current City of Sabang Free Port Zone, for another example, is an area or regional free trade port and, therefore, the government should focus more on services and industrial sectors. However, because so far the City of Sabang is a tourist destination, it is more appropriate when focusing more on regional development in tourism sector, both natural and marine tourism. In addition, the city of Banda Aceh is the provincial capital status as a regional administrative center and this would become the economic center in services or public services other than as a trade center area of the provincial capital. Geographically, these three areas will be mutually beneficial when they do the cooperation among the three regions to achieve comparative advantage.

Changes in national economic structure will result in a change in the economic structure of provinces and regencies. This indicates that the existence of a significant linkage between national economic developments and the regional economy can be as a result of the trickle down effect. Obviously, the impact given by the change in economic structures toward a national to regional economic provides different magnitude depending on the regional economic structure itself (the various intraregional linkages).

The structure is both the economic structure that can move the economy towards other sectors of the economy that resulted in growth in the economy. Regional development is an effort to change the fate of the region, namely the attempt to change a bad past into a better era and an ongoing effort to create better be better. It entails the intention to create a more happy future for the following generations.

Carrying out the development is not only by formulating the ideals and intent statement, but also by planning and development programs. With our own development plans, it will be easy to see the vision and the goals of the development. By doing so, the government can achieve the

results and expectations of what would be achieved related to the need of the each region. To ensure that national development can run in harmony, it requires alignment between sectoral developments and regional development, in an effort to promote development sectors in such regions. This will enhance the development of regions with their own various sectors.

As presented in Table 1 (Appendix 1), it can be seen that in Banda Aceh, the tertiary sector is the sector that provides the highest contribution to GDP. In 2002, trade, hotels, and restaurants accounted for 35.67 percent in 2002 and 29.00 percent in 2007. Next, the city of Sabang has larger contribution of primary sector; especially the agricultural sector amounted to 21.84 percent in 2002 and 19.90 percent in 2007. Even though tertiary sector, especially in trade, hotels, and restaurants, they also contributed to 20.16 percent in 2002 and 23.95 percent in 2007. Meanwhile, Aceh Besar regency, especially the primary sector in agriculture, is the greatest contributing to reach 38.12 percent, while in 2007 decreased to 32.69 per cent.

The third area has done businesses to realize new and sustainable economic forces that are called Basajan Regional Cooperation (Banda Aceh, Sabang, Jantho). The scope of cooperation will include infrastructure, information, and technology, the field of natural resource management, the field of human resource management. The mission of cooperation especially in the development of tourism in the hope that the cultural tours, nautical, tsunamis and natural attractions in the region of Basajan appropriate for the respective regions with the potential for improving their income.

THEORETICAL FRAMEWORK

The problem of economic growth has become a classic discussion in the literature of economics. In general, the theory of economic growth is usually associated with a trend or long-term economic potential and growth path. At the regional level of economic growth, the theory basically

discusses the reason why a region can grow faster than the national economy, while others cannot.

In arithmetic theory, the source of growth can be identified as everything which is caused by the growth model and changes in labor productivity. Changes in productivity growth explain the differences among the countries or regions, while the technology itself can affect productivity. Adi Sasmita (2005, p. 141) states that, based on the experience of various countries, it can be put forward some key principles in the implementation of regional development planning. The key principles include, e.g., (1) Planning should be based on the effective ability to carry out development, (2) awareness and political support for a policy must be constantly nurtured, (3) the use of instruments or facilities for planned development area should be coordinated, and (4) a national balance in development among regions must be maintained.

The main purpose of economic development, besides creating the highest growth, is also to remove or reduce the degree of poverty, inequality and unemployment (Todaro, 2003, p. 195). In addition, Meier (1989, p. 6) argues that economic development is the same as the process of increasing real income per capita. In other words, economic development is no longer viewing the economic growth as the goal of development but, in fact, focusing on the quality of the development process (Kuncoro 2004, p. 63). Economic activities can be divided into production activities, consumption activities involving the use of spatial structure for the activities of domestic life. Meanwhile, production activities include the activities of the agricultural sector, industrial sector, and the tertiary sector (Adisasmita 2005, p. 99).

One of the important indicators to analyze the economic development that occurred in a country is economic growth. This size, in fact, also provides the signal of the extent to which economic activity occurs within a certain period that has resulted in additional revenue for the community. Thus,

by economic growth, it is expected that the income of the people as the owners of production factors will increase (Susanti et al 1995, p. 2). Economic growth in a broader sense includes another essential factor in the development process. This factor relates to the fact that population growth occurs in developing countries, in relation to the growth rate of production of goods and services.

The high economic growth is needed to accelerate regional economic structure towards a balanced and dynamic economy. This is characterized by strong industrial and advanced, robust agricultural base and a well-balanced sectoral growth. Economic growth is also needed to mobilize and spur development in other fields as the development strength in order to increase the income of the people and overcome the social and economic inequality. In that case, economic growth is an illustration of the impact of development policies implemented, especially in the economic field. It is the growth that is formed from various economies, which indirectly shows the degree of the sectors but not directly describes the level of economic changes that have occurred. For any region in a country, this indicator is important for the government to see the success of development that has been achieved and is also useful for them to determine the direction of development in the future.

Azis (1992, p. 347) explains that economic growth is generally also accompanied by the shift of jobs from relatively low-productivity activities to higher ones. In other words, potential economic growth tends to increase the productivity by the workers and increase the scale of the business units. Subsequently, (Ananta 1993, p. 2) also argues that to see these fluctuations in real economic growth from year to year, it can be illustrated through the presentation of GDP at constant prices periodically, i.e. positive growth indicates the economy improvement. On the contrary, negative growth indicates decrease in economic growth which is usually

accompanied by the accumulation process or the process of using state resources and fund economic growth rate will be measured through indicators of GDP or GNP growth (= GNP) from year to year. As for how to calculate the rate of economic growth can be a way transactions are carried out annually.

Changes in Economic Structure.

In the economic development, structural change always occurs in a country or region. As such, the definition of economic structures, in this case, can be described as a division of the two economic areas. First, a division can be based on three central sectors, namely agriculture, industry and services sector. Second, it is based on the primary sector/sectors to complement primary/tertiary ones, i.e. the primary sector comprising agriculture, forestry, fisheries, and mining, the secondary sector consists of processing industries, water and electricity industry, building industry, while the tertiary sector consists of the field of transport and communications, government, trade and private services (Mahyudi, 2004, p. 175).

Kuznets conducted a study regarding changes in economic structure in development. His research not only shows the changes in percentage of residents working in various sectors and sub sectors in economic development, but also shows the changes of the contribution of various sectors of national production. Kuznets made some conclusions related to the pattern of change in the contribution of various sectors of development economics which implies that: (1) production of the agricultural sector experienced a slower growth than the development of national production, while (2) accretion rate of industrial sector production faster than the rate of production growth national and (3) lack of change in the role of services sector in the national production means that the rate of growth of service sector is equal to the rate of growth of national production (Sukirno 2006, pp. 143-146).

According to Mahyudi (2004, p. 176) changes in the role of economic structure in

the formation of national income is caused by three factors. These factors are (1) Legal existence of Engel's (Law of Engel's) of elasticity of income, the higher income because of continuous development made will increase the consumption of industrial goods and consumption of agricultural goods are relatively fixed.; (2) A change in production structure that is "compulsory" and "inductive" continuously; (3) The existence of "comparative advantage" in agriculture products for developing countries, while countries that have developed have comparative advantage in industrial products sector.

According to Sukirno (2006, pp. 159-160), complexion of ten kinds of changes in economic structure happens in the development process of developing countries. These changes are divided into three groups namely, (1) changes in economic structure which is seen as a change in the process of accumulation, (2) changes in the economic structure which was seen as changes in resource allocation processes, and (3) changes in economic structure is seen as changes in demographics and distribution process

Blair (1991) argues that there are several factors besides the composition of industries within a region that affects a shift in economic structure of a region, namely (1) Occupational structure. Some economists argue that a portion of the process of economic development is a change and the production of goods to the activities of science. This shift requires a change in the structure of office or employment (occupational structure), (2) ownership structure that provides a significant influence on the growth of a region.

If a company's ownership structure, industry, resources are dominated by local residents, it will stimulate economic change in a region more quickly. Yrt, it will have a negative impact if the ownership structure is dominated by people who live outside this area. The ownership structure also affects the prospects of growing independence of a region, (3) market structure. A good market

structure will have a positive impact on the welfare of a society. This means that the market structure can directly stimulate the entrepreneurial climate (entrepreneurship) public area, (4) political and social structure. Political and social structure affects economic growth as well as prospects and development strategies, and (5) Demographic structure. Age composition, sex (gender) and education level would affect the development process in a region more quickly.

Shift-Share Analysis

In this research, shift-share analysis is used for analyzing and finding out the shift and the role of the local economy. It is used to examine the economic structure and shift the way of the growth of the sectors in the region compared to the same sector at a higher level of regional (provincial) or national level. Thus, it is an analysis that uses indicators measuring the relative progress of a particular variable across regions compared to the other wider regions. The data are not uniform and sometimes are not specified. As such, the shift is analyzed in accordance to the existing data of the overall shift. This analysis can be used to assess the shift in regional economic structure in relation to the improvement of higher local economic growth. Regional economy is then dominated by slow-growth sectors and it will grow below the growth rate.

The overall economic growth rate is an average growth of each sector. In that case, the higher valuation in the sector of economic structure is the greater contribution to the economic growth. For example, if a sector has a dominant role but low in growth, it will hamper the overall growth rate. Conversely, if the sector has high growth rate, it will also cause a higher rate of growth. Thus, shift-share analysis is important for among other things: (1) it provides a picture of the economic structure changes that occurred; (2) it allows beginners to learn quickly about economic structure, and (3) it gives economic growth and changes in economic structure accurately. Esteban Marquilla (EM) has redefined the

classic equation of shift-share competitive with road re-define and creates the fourth component of the allocation (allocation effect).

RESEARCH METHODS

1. Krugman Regional Index.

For analyzing the inter-city regencies in the region of Banda Aceh, Sabang and Aceh Besar regencies, the regional divergence of Krugman method is used to calculate the difference of economic structures. Krugman (in Kuncoro, 2004: 227-228) defines the index as follows.

$$SI_{jk} = \frac{\sum_{i=1}^n \frac{E_{ij}}{E_j} - \frac{E_{ik}}{E_k}}{n}$$

Where:

SI_{jk} : Specialization Index of regencies j and k

E_{ij} : GDP in sector i for regency territory of j

E_j : Total GDP for regency territory of j

E_{ik} : GDP in sector i for regency territory of k

E_k : Total GDP for regency territory of k
 $i : 1, \dots, n.$

The measurement criteria entail the stipulation as follows. When the regional specialization index is close to zero, the two regions of j and k do not have a specialization. When the regional specialization index is approaching two, the two regions of j and k have the specialization. So, when the specialization index value is greater than one, it can be considered a sector/sub sector that has a specialization.

2. Shift-Share Analysis Model.

This classic shift-share method divides the total change (d) that occurred during the period caused by the things such as national growth (national growth, share effect) (n), the industry-mix (compositional mix, proportionality shift, a structural component) (m), and competitive position (competitive position effect, shift differential, regional

share) (c). Therefore, for the industry or sector *I* in region *j* can be formulated as follows.

$$d_{ij} = n_{ij} + m_{ij} + c_{ij} \quad (1)$$

Where:

- d_{ij} = total change of *i* in region *j*.
- n_{ij} = growth size nationally the same as sector addition of *i* in region *j*.
- m_{ij} = composition change of the sector of *i* nationally towards regional indicator change of *j* of the same sector.
- c_{ij} = difference in growth in national level in sector *i* with the regional indicator *j*.

Based on the data above, it can be explained that *d* is the actual regional growth subtracted by the expected growth. This can be drawn in the equation as the following with *E* regional variable output.

$$D_{ij} = E_{ij} - E_{ij} \quad (2)$$

$$n_{ij} = E_{ij} r_{as} \quad (3)$$

$$m_{ij} = E_{ij} (r_{i.as} - r_{as}) \quad (4)$$

$$c_{ij} = E_{ij} (r_{ij} - r_{i.as}) \quad (5)$$

In a condition that *r_{ij}*, *r_{i.as}* and *r_{as}* represents regional and national growth level, so that it can be described as the following.

$$r_{ij} = (E_{ij} - E_{ij}) / E_{ij} \quad (6)$$

$$r_{i.as} = (E_{i.as} - E_{i.as}) / E_{i.as} \quad (7)$$

$$r_{as} = (E_{as} - E_{as}) / E_{as} \quad (8)$$

Where:

- E_{ij} = the output of economic sector of *i* in region of *j*,
- $E_{i.as}$ = the output of economic sector of *i* at the national level,
- E_{as} = shows the total output at the national level.

All variables were measured based on the base year, while *an* * indicates that output is measured based on the analysis at the end of the year. Equation 3 illustrates the relative growth of the national regional. Equation 4 shows the industry-mix and competitive position. Equation 5 shows that it can be evaluated against specific industrial sectors in *i* or it is assumed that it is the overall

economic sectors and in the evaluation of the overall regional. Classical shift-share equations for sector *i* in region *j* can be postulated as the following.

$$d_{ij} = E_{ij} r_{ace} + E_{ij} (r_{i.as} - r_{ace}) + E_{ij} (r_{ij} - r_{i.as}) \quad (9)$$

To see a net shift of economic or industrial sector of *i* in region *j* in the classical share shift analysis, it can be obtained by differentiating between changes in regional output volume that actually happened in *j* and component changes that occur when the growth is estimated to be equal to the national growth rate national in *j*. This net shift can be formulated as follows.

$$d_{ij} - n_{ij} = M_{ij} + c_{ij} \quad (10)$$

or

$$d_{ij} - (E_{ij} r_{ace}) = E_{ij} (r_{i.as} - r_{ace}) + E_{ij} (r_{ij} - r_{i.as}) \quad (11)$$

The influence of industry-mix, that is equation 4 for the sector to be positive when the output *i* sector grew faster than the total output at the national level (*r_{i.as}* > *r_{ace}*), or the other way around, its influence on the industry-mix will be a negative value when *r_{i.as}* < *r_{ace}*. Competitive position, equation 5, for sector *i* in the region is positive, zero or negative depending on whether the regional output growth in this sector was faster than (*r_{ij}* > *r_{i.as}*), equal (*r_{ij}* = *r_{i.as}*), or slower than (*r_{ij}* < *r_{i.as}*) output growth in economic sectors or whether industries are the same at the national level. On the other hand, positive or negative values, the competitive composition has indirectly a meaning that the regional share of national output in the economic sector or industry in a position of increase or decrease during the period of analysis.

DATA ANALYSIS AND DISCUSSION

Shift Share Analysis.

The value of national growth (national growth effect) - *N_{ij}*, shows how the influence of national economic growth (represented by the province) to the economy of Aceh Besar

regency having positive values (N_{ij}) in every economic sector with a total output value of Rp.344, 060 billion. This means that a positive value (N_{ij}) growth in Aceh Besar regency is relatively better than the province of Aceh. In terms of sectoral growth, Aceh Besar regency compared with the relative growth rates of economic sectors are equal in Aceh province that shows that the level of economic sectors in Aceh Besar regency level is relatively higher. This excludes the building sector and trade, hotel and restaurants. Negative growth in the sector of Aceh Besar regency, in the sectors of electricity and clean water as well as the processing sector, the negative growth is also happening at this sector in the province of Aceh, as found in Table 1.2 (Appendix 2).

Meanwhile, the output of industry produced in the economy is as a result of the interaction between industrial activities where the activities are related to each other and this resembles other activities that have the most negative impact. In Aceh Besar regency, the positive industry mix happens from the biggest impact that is the service sector, transport and communication sector, mining and quarrying sector. The negative impact is only on three sectors in the processing sector, agricultural sector, and building sector. For competitive economic value (C_{ij}), when the value is positive, it indicates that regional economic competitiveness has increased during the period of analysis and vice versa. When it is the negative values, it indicates decrease competitiveness. Competitive economic sector (number of positive c_{ij}) in Aceh Besar regency during the observation period consisting of only two: trade, hotels, restaurants, and construction sectors.

Another negative for the overall sector was contributed to the biggest decline in Aceh Besar regency that is the processing sector, service sector and mining sector and multiplication, transport and telecommunications sectors, the agricultural sector, financial sector, renting and business services sector and the electricity, gas and water net.

The real impact of regional economic growth (d_{ij}) is when shift-share value in which when it is positive during the observation period. Thus, it increases the performance of the economy. The opposite occurs when there is a decline in economic performance, therefore it is negative.

Aceh Besar regency's overall performance of the regional economy is increased by 206.177 billion rupiah. It can be seen from the values d_{ij} which is positive for most sectors of economic activity, except for the processing sector and electricity sector, gas and water supply which has decreased (negative). The increase in economic performance is contributed by the following four largest sectors: trade, hotels and restaurants, services, agriculture and building. On the contrary, the City of Banda Aceh showed positive values (N_{ij}) in every economic sector with a total output value of Rp.287, 689 billion. In terms of sectoral growth, Banda Aceh compared to the relative growth rates of economic sectors at the same level of Aceh province, it shows that the majority of economic sectors are relatively higher in provinces, except for the building sector and processing sector and the sector finance, leasing and business services. The negative growth is in the sector in the city of Banda Aceh in the agricultural sector, where negative growth also occurred in the processing sector in Aceh Province (see Table 1.3 in Appendix 3).

In the region of Banda Aceh, the positive industry mix occurs resulting from the biggest impact that is the transport and communication sector, service sector, and trade, hotels and restaurants. The negative impact is only on three sectors in the processing sector, agricultural sector, and building sector. Competitive economic sector (number of positive c_{ij}) is in Banda Aceh during the observation period. This consists of only three: the financial sector, renting and business services sector, building sector, and the processing sector.

In Sabang area, the positive industry mix occurs from the impact of the greatest service sector, financial sector, renting and

business services and transport and communication sector. The negative impact is only on three sectors in the processing sector, agricultural sector and building sector. Competitive economic sector (number of positive *cij*) is in the city of Sabang during the observation period. This consists only of four: the trade sector, manufacturing sector, building sector, and agricultural sectors. Another negative mix for the overall sector was contributed to the biggest decline in Sabang that is the services sector, financial sector, renting and business services, transport and telecommunications sectors, mining and quarrying, and electricity, gas and water supply.

Analysis of Regional Specialization Index.

Specialization index calculation result indicates a decrease of the average index of specialization among the regencies, totaled 0.065 from 0.478 in 2000 to 0.413 in 2006. This decrease leads to the existence of the similarity of economic structure among regions are not too significant though. The detailed inter-regional specialization of Basajan areas (Banda Aceh, Sabang, Aceh Besar) in the province of Aceh can be seen in the Table 1.4 (Appendix 4).

In 2000, as described in Table 1.5 (Appendix 5), the City of Banda Aceh was a city that had the highest average index across regencies or cities in this region that is 0.534 and Sabang specialization index is the lowest that is 0.474. This value shows that there are economic sectors in the City of Banda Aceh which is relatively different from Sabang and Aceh Besar regencies. The cities of Sabang and Aceh Besar regency have a similarity in economic structure when compared to the city of Banda Aceh. The regional specialization index value, on average in 2006, shows that there is a decrease of specialization in Banda Aceh in which it was still highest in the Aceh Besar regency, followed by the city of Sabang. In 2006, the average among the regencies or cities in the region totaled 0.431. This means that there is no significant difference compared to the average value of specialization index in 2000

which totaled 0.478. Specialization among the areas in the region showed a decrease in Basajan inters regencies or cities for seven years (2000-2006) that is totaled -0.065. It can be seen that sectors of the economy during the study period has no difference among the areas in the region of Basajan. Instead, it leads to the similarities in terms of their development.

Banda Aceh's economy, as described in Table 1.6 (Appendix 6), has difference compared to the regency of Aceh Besar and Sabang which is at the highest index in 2000 totaled 0.534. However, after 2006 it is totaled to 0.439, from this, it leads to similarities between the economic sectors of the regencies or cities. The indexes are not too different compared to the economic sectors in the regencies of Aceh Besar and Sabang. It shows a relatively not too different. Thus, it can be seen that there is a similarity between the regencies or cities when compared to the city of Banda Aceh.

CONCLUSIONS AND IMPLICATIONS

First of all, the result of shift-share analysis is *Nij* average of the three regions is positive. This means that it has higher growth compared to the province of Aceh, with the highest value of Aceh Besar regency and the lowest Sabang. The real impact of regional economic growth (*dij*) is shift-share value in which when it is positive during the observation period, it increases the performance of the economy, and the opposite occurs when decline in economic performance is negative. In general, both the regency or city governments in the region of Basajan have positive value that indicates that there is an increase of economic performance.

Secondly, the sectors have grown in a positive shift in share for the City of Banda Aceh, including the financial sector, renting and business services, transport and communication sector, service sector. For the sectors in the regencies of Aceh Besar and Sabang, it shows positive growth, indicating that both regions have in common in the sectors that support the economy. The

similarity between the sectors of Sabang and Aceh Besar Regency which shows positive value can be seen in trade, hotels, restaurants, service sector, and agriculture sector.

Thirdly, specialization index calculation results indicate the decrease of the average index of specialization among the regencies in this region totaled 0.065 from the average index value of 0.478 in 2000 to 0.413 in 2006. Specialization among the areas in the region showed a decrease Basajan inter regency / city for seven years (2000-2006) amounted to -0.065. It can be seen that sectors of the economy during the study period there was no difference among the areas in the region of *Basajan*. Instead, it leads to the similarities in their development.

Fourthly, Banda Aceh's economy has differences compared to the regencies of Aceh Besar and Sabang which can be viewed at the highest specialization index numbers for 2000 that is totally of 0.534. However, it decreases after 2006 that is totaled 0.439. This indicator leads to the existence of similarities in the economic sectors of the regencies or cities. The indexes are not too far compared to the regencies of Aceh Besar and Sabang's sectors of economy. This shows that they are relatively not different. In other words, there is similarity among the regencies or cities compared to Banda Aceh.

Based on the results above, suggestions can be offered as the following. First, for local governments across regencies or cities in the region should take advantage of *Basajan* potential which is, in fact, excellent in the sector of trade. Thus, it induces an interaction among the three regions which have potentially different commodities. Second, the local government or local government regencies should improve the existing infrastructure to better stimulate the economy of the three regions. This is intended to create efficiency. Third, this study can be used as the early economic indicators for local governments in the three regions so that they can do economic surveys to provide a comprehensive picture for the regions of Banda Aceh, Sabang, and

especially Jantho as the capital of Aceh Besar Regencies (*Basajan*).

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Appendix 1

Table 1
Percentage Distribution of GDP in Three Regencies Based on Constant Price in the
Period of 2000– 2007

No	Sectors	Regencies/ Cities					
		Banda Aceh		Sabang		Aceh Besar	
		2002	2007	2007	2007	2002	2007
1	Primary	10.7	4.88	23.33	21.58	40.6	35.86
	1. Agriculture	10.7	4.88	21.84	19.90	38.12	32.69
	2. Mining and Drilling	0	0	1.49	1.68	2.49	3.17
2	Secondary	13.53	12.66	30.52	28.85	26.12	14.21
	3. Processing Industries	3.53	3.91	8.09	7.51	15.53	3.30
	4. Electricity and Clean Water	0.58	0.71	0.83	0.92	0.23	0.24
	5. Building/ Construction	9.42	8.05	21.6	20.42	10.36	10.68
3	Tertiary	75.77	82.45	46.15	49.57	33.27	49.92
	6. Trade, hotels, and restaurants	35.67	29.00	20.16	23.95	12.19	20.50
	7. Transportation and telecom.	23.58	20.54	6.35	6.63	9.85	8.46
	8. Companies of Finance, rents, and services	2.4	13.71	3.11	3.24	0.89	1.03
	9. Services	14.12	19.20	16.53	15.75	10.34	19.93
		100	100	100	100	100	100

Source: Central Beuro of Statistics of Aceh
Province

Appendix 2

Table 1.2
Analysis of Classic Shift-Share of Aceh Besar Regency Period of 2000-2006

Job Field (Sector/subsector)	Growth rate of Sector i		Components			Economic Structure Change
	ACEH BESAR	ACEH	National Growth	Industry Mix	Competitive Advantage	
	(r_{ij})	(r_{in})	(N_{ij})	(M_{ij})	(C_{ij})	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Agriculture	0,086	0,127	134052,489	-61820,254	-23380,585	48851,650
2. Mining and Drilling	0,000	1,075	8639,961	30623,487	-39263,448	0,000
3. Processing Industries	-0,730	-0,326	53336,928	-126795,937	-91088,151	-164547,160
4. Electricity and Clean Water	-0,067	0,520	816,488	979,558	-2027,396	-231,350
5. Building/ Construction	0,324	0,078	34888,641	-23404,585	36366,404	47850,460
6. Trade, hotels, and restaurants	1,045	0,299	42347,146	11229,176	133520,038	187096,360
7. Transportation and telecom.	0,228	0,518	30283,636	36055,409	-37145,985	29193,060
8. Companies of Finance, rents, and services	0,397	1,127	3191,077	12023,775	-9856,552	5358,300
9. Services	0,341	0,625	36503,859	59920,439	-43818,477	52605,820
TOTAL	1,625	4,044	344060,224	-61188,932	-76694,152	206177,140
Percentage of Growth of D_{ij}			166,876	-29,678	-37,198	100,000

Source: processed from GDP of nine economic sectors

Appendix 3

Table 1.3
Analysis of Classic Shift-Share of Banda Aceh 2000-2006

Job Field (Sector/subsector)	Growth rate of Sector i		Components			Economic Structure Change
	BANDA ACEH	ACEH	National Growth	Industry Mix	Competitive Advantage	
	(r_{ij})	(r_{in})	(N_{ij})	(M_{ij})	(C_{ij})	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Agriculture	-0,218	0,127	30507,751	-14069,093	-44602,608	-28163,950
2. Mining and Drilling	0,000	1,075	0,000	0,000		
3. Processing Industries	0,197	-0,326	10041,545	-23871,401	22207,065	8377,210
4. Electricity and Clean Water	0,206	0,520	1461,764	1753,709	-1940,793	1274,680
5. Building/ Construction	0,291	0,078	26563,654	-17819,877	23952,193	32695,970
6. Trade, hotels, and restaurants	0,123	0,299	106434,370	28223,160	-79097,460	55560,070
7. Transportation and telecom.	0,345	0,518	67675,124	80573,361	-49620,955	98627,530
8. Companies of Finance, rents, and services	9,622	1,127	2754,849	10380,096	98955,764	112090,710
9. Services	0,445	0,625	42250,934	69354,161	-32048,985	79556,110
TOTAL	11,01	4,04	287.689,991	134.524,117	(62.195,778)	360.018,330
Percentage of Growth of D_{ij}			79,91	37,37	-17,28	100,00

Source: processed from GDP of nine economic sectors

Appendix 4

Table 1.4
Analysis of Classic Shift-Share of Sabang 2000-2006

Job Field (Sector/subsector)	Growth rate of Sector i		Components			Economic Structure Change
	KOTA SABANG	ACEH	National Growth	Industry Mix	Competitive Advantage	
	(r_{ij})	(r_{in})	(N_{ij})	(M_{ij})	(C_{ij})	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Agriculture	0,144	0,127	5800,252	-2674,871	411,648	3537,030
2. Mining and Drilling	0,568	1,075	342,957	1215,579	-734,096	824,440
3. Processing Industries	0,145	-0,326	2179,774	-5181,898	4336,784	1334,660
4. Electricity and Clean Water	0,467	0,520	197,707	237,193	-44,520	390,380
5. Building/ Construction	0,124	0,078	5892,846	-3953,138	1147,342	3087,050
6. Trade, hotels, and restaurants	0,656	0,299	4643,368	1231,280	7005,992	12880,640
7. Transportation and telecom.	0,354	0,518	1606,958	1913,229	-1113,976	2406,210
8. Companies of Finance, rents, and services	0,388	1,127	774,179	2917,058	-2420,957	1270,280
9. Services	0,161	0,625	4421,941	7258,538	-8666,679	3013,800
TOTAL	3,01	4,04	25.859,98	2.962,97	-78,46	28.744,49
Percentage of Growth of D_{ij}			89,97	10,31	-0,27	100,00

Source: processed from GDP of nine economic sectors

Appendix 5

Table 1.5
Regional Specialization Index of regencies/Cities in 2000

	Aceh Besar	Kota Banda Aceh	Kota Sabang	Average
Aceh Besar		0,876	0,548	0,474
Kota Banda Aceh	0,876		0,727	0,534
Kota Sabang	0,548	0,727		0,425
				0,478

Source: Research results processed, 2006

Appendix 6

Table 1.6
Regional Specialization Index of Regencies/Cities in 2006

	Aceh Besar	Kota Banda Aceh	Kota Sabang	Average
Aceh Besar		0,688	0,394	0,361
Kota Banda Aceh	0,688		0,630	0,439
Kota Sabang	0,394	0,630		0,439
				0,413

Source: Research results processed, 2006