Analysis of economic growth trend in various sectors in toba samosir district

Henrykus Sihaloho¹, Cyprianus PH Saragi², Ramses Simbolon³
Faculty of Agriculture, Universitas Katolik Santo Thomas Sumatera Utara, Medan, Indonesia

E-mail: henrykussihaloho@gmail.com

Abstract. This work aims to acquire the overview of economic growth trend on several sectors and to identify the potency of the economic growth through the description of conditions that will be developed. This research finds that the agricultural sector and the industrial sector constitute the main structure of the GRDP of Toba Samosir District in 2009-2013 on the basis of the Constant Price of 2000 and accounted for more than two thirds of the Toba Samosir District's GRDP. The price base applies relatively higher than the agricultural sector and the average contribution of the two sectors in the formation of the Toba Samosir District GRDP was more than two thirds of all sectors. The large value of GRDP in the industrial sector and the agricultural sector showed the ability of large economic resources of both sectors. In Toba Samosir District, there were three sectors that had LQ value more than 1, namely the agricultural sector, the industrial sector, and the electricity, gas and water sectors. The LQ value greater than 1 indicated that the growth rate of the three sectors in Toba Samosir District was greater than the growth rate of the same sector in North Sumatera Province. The LQ value of the agricultural sector on the basis of the constant price of 2000 in 2013 was almost twice the value of the LQ in the industrial sector. This figure means that in North Sumatera Province the ability of economic resources in the agricultural sector was almost twice as good as the industrial sector.

Keywords: analyses, economy growth, sector, various

1. Introduction
Analysis of the economic growth rate per sector of an area is always interested to conduct. This study can be used as an analytical material in determining and directing development programs to achieve high efficiency and effectiveness [1]. Therefore, the assessment of development programs and policies that have been implemented should be made to know the extent of success is achieved so far by measuring the magnitude of outputs and outcomes as a result of the implementation of the development program and policy [2]. The results of the evaluation would be able to describe the achievements of programs and policies that have been implemented and are being implemented in order to provide direction for designing programs and policies that will be implemented in the future. This study aims to find an overview of the economic growth trends of various sectors and to identify economic growth.
potential that described the conditions that will be developed in Toba Samosir District. One economic indicator that is necessary to measure the performance of an area's economic growth is GRDP [3-4]. GRDP is one of the important indicators for knowing the economic conditions in an area within a certain period, whether at current prices or basis of constant prices [5]. GRDP is basically the amount of added value produced by all business units in a particular area, or is the total value of final goods and services produced by all economic units in an area [6]).

GRDP at current prices describes the added value of goods and services that are calculated by using prices in the current year, while GRDP at constant prices describes the added value of goods and services which are calculated by using prices that are valid for one particular year as the base year. GRDP according to current prices is used to determine the ability of economic resources, shifts, and the economic structure of an area. Meanwhile, constant GRDP is used to determine economic growth in real terms every year or economic growth that is not affected by price factors. GRDP can also be used to determine price changes by calculating GRDP deflators (implicit index changes). The implicit price index is the ratio between GRDP according to current prices and GRDP according to constant prices [6-7].

Since 2004, GRDP data of Indonesia is presented by using the 2000 base year and included the data periods since 2000. The change of the base year from 1993 to 2000 were carried out because the structure of the Indonesian economy had gotten significant changes in the period, including price developments, production commodity coverage, and consumption and the type and quality of goods and services produced. During the annual GRDP data release, data was still very temporary. Data changed to temporary in the next year. Data changed to final (fixed number, no star) in the third year since the data was published [8].

This study uses Location Quotient (LQ) to determine the concentration or dominance of a particular industry or sector in a region (Toba Samosir District) in comparison to a larger reference or benchmark region (North Sumatera Province) [9]. LQ are a simple tool used to determine the spatial distribution (clustering/dispersal) of a phenomenon in a district, compared to an entire region (used for spatial data, human geography, economic) [10]. In more exact terms, LQ is a ratio that compares a region to a larger reference region according to some characteristic or asset [11]. Following accepted economic theory, an LQ greater than 1 indicates that an area has proportionately more workers than the larger comparison area employed in a specific industry sector [12]. Utilizing the LQ is powerful way to identify growth opportunities and comparative regional advantages [13].

2. Materials and methods
Determination the location of this research in Toba Samosir District was done purposively. In order to describe the growth rate per sector in the Toba Samosir District, then a description of "Analysis of Economic Growth Trend in Various Sectors in Toba Samosir District" is descriptive. The analytical method which was used to measure the economic growth,that basically can describe the relationship between the regional economy and the surrounding environment, namely the LQ analysis method, Growth Ratio Model, and Overlay. The data which was used to conduct "Analysis of Economic Growth Trend in Various Sectors in Toba Samosir District" were the GRDP data of the Toba Samosir District, GRDP of North Sumatera Province, GRDP per capita, and productivity of food crops for rice, corn, soil, and tubers. All data used were secondary data taken from the Central Bureau of Statistics of the Toba Samosir District and North Sumatera Province in 2013 and 2014 which include "2012 Wetland Statistics," "2008-2012 Toba Samosir District Domestic Product," "Regional Domestic Products Gross of North Sumatera Province 2009-2013," "Toba Samosir In Figures 2013," "Toba Samosir In Figures 2014," "North Sumatera In Figures 2013," and "North Sumatera In Figures 2014" [14-16].
The LQ analysis method was used to analyze the growth rate per sector in Toba Samosir District and North Sumatera Province (see Figure 1). LQ analysis method used the pattern below:

$$LQ = \frac{\frac{V_{ik}}{V_k}}{\frac{V_{ip}}{V_p}}$$  \hspace{1cm} (1)

Where:
- $V_{ik}$: Output value (GRDP) for sector $i$ study area $k$ (district/city for example) in the formation of the Real Regional Domestic Product (PDRR) of the study area $k$.
- $V_k$: Total Gross Regional Domestic Product of all sectors in the study area $k$.
- $V_{ip}$: Output value (GRDP) in sector $i$ of the reference area $p$ (province for example) in the formation of the PDRR reference area $p$.
- $V_p$: Total Gross Regional Domestic Product of all sectors in the reference area $p$.

The results of the LQ calculation would provide a description of the extent of the growth rate of certain sectors, for example the agricultural sector in the study area (in this case in the District of Toba Samosir) compared to the rate of growth of the agricultural sector in the reference area (in this case North Sumatera Province). There are three descriptions that could be obtained from the calculation of the LQ value:

- The LQ value in sector $i$ was less than 1. This value indicated that the growth rate of sector $i$ in the study area $k$ was less than the growth rate of the same sector as the reference area $p$. Thus, sector $i$ was not a leading sector of the study area $k$ and was not a prospective economic base to be further developed by the study area $k$.
- LQ value in sector $i$ was equals to 1. This value indicated that the growth rate of sector $i$ in the study area $k$ was the same as the growth rate of the same sector as the reference area $p$; and
- The LQ value in sector $i$ was higher than 1. This value indicated that the growth rate of sector $i$ in the study area $k$ was higher than the growth rate of the same sector as the reference area $p$. Thus, sector $i$ was the leading sector of the study area $k$ and was an economic basis for further development by the study area $k$.

In this study, referring to the book "2009-2013 Toba Samosir Gross Domestic Product," the GRDP is calculated according to the business field classification. Thus GRDP in this context was the sum or aggregation of all gross value added which was generated by each business activity or field. In calculating this GRDP, all business fields are grouped into nine economic sectors, according to the division used in calculating Gross Domestic Product (GDP) at the national level. This division is in
Regional income data is one of the macro indicators that can show the condition of the regional economy every year. The benefits that can be obtained from this data are:

- The nominal price of the GDP applies to show the ability of economic resources produced by a regional area. A large GRDP value shows the ability of large economic resources, and vice versa.
- Regional income (PR) current prices indicate income that is possible to be enjoyed by residents of a region.
- Constant price (real) GRDP can be used to indicate the overall economic growth rate or every sector every year.
- Distribution of GRDP prices apply based on the sector that indicates the structure of the economy or the role of each economic sector in a region. Economic sectors that play a major role show the economic base of a region.
- GRDP and PR per capita at current prices indicate the value of GRDP and PR of each residents.
- GRDP and PR Perkapita at constant prices are useful to find out the real economic growth per capita of a region's population.

3. Results and discussion

The location and geographical location, the actual development of the agricultural sector, and the 2013 Toba Samosir District GRDP was quoted from "Toba Samosir in Figures 2014" (BPS Kabupaten Toba Samosir, 2014) with a slight editorial change.

3.1. Location and Geographical Condition

Toba Samosir District is in 2003'–2040 'North Latitude and 98056’–99040’ East Longitude. Toba Samosir District, which has an area of 220,180 ha, is located between five districts, namely Simalungun District in the north, Labuhan Batu District and Asahan District in the east, North Tapanuli District, and Samosir District in the west. Toba Samosir District is located in the highland region, with altitudes between 900-2,200 meters above sea level, with various topography and land contours, namely flat, sloping, sloping, and steep. The soil structure is unstable and is located in tectonic and volcanic earthquake areas.

3.2. Agriculture

Most of the population of Toba Samosir District depends on agriculture. It can be seen from the vast expanse of agriculture, especially rice fields. One of the pillars of the development of Toba Samosir District is the creation of 'advanced agriculture'. It shows the strong will of the local government in improving the welfare of farmers. Agriculture is the mainstay sector for Toba Samosir District in promoting the regional economy.

In Toba Samosir District, plantation crops are generally businesses that are managed independently by the people. Plantation crops managed by plantation companies are still relatively small. Coffee is a mainstay commodity of smallholder plantation crops that have good prospects. Judging from the planting area, coffee plants are smallholder plantations with the widest planting area compared to other plantation crops. The area of coffee plants in 2013 was 4,487.85 ha. Unlike other smallholder plantations, coffee plants are scattered throughout the sub-district. Habinsaran Sub-District is an area that has the largest coffee plantation area, which are 1,025.36 ha with a production of 1,312.14 tons in 2013. Livestock is generally also managed and cultivated by the community as a household business. Livestock can be classified into large livestock, small livestock, and poultry. The big livestock are cows, buffaloes and horses, while the small livestock are goats, sheep, and pigs. Then, poultry are chickens and ducks. In 2013, the number of big livestock, such as cows as much as 1.448, and buffaloes as much as 9.553, and horses as much as 66. The small livestock populations such as goats had been decreased. The number of goats in 2013 was 2.228, while the number of sheep and pigs increased to 820 and 26.851.

Fisheries business in general is also a household business, both as cultivation and fishing activity. Fish cultivation is carried out in ponds, rice fields, floating net, heavy water ponds, and hatcheries, while
fishing are carried out in the waters, rivers, and swamps. In 2013 the number of households that cultivated was 2,994 households, while those carrying out fishing activities were 2,513 households. Fish production in 2013 amounted to 11,174.6 tons consisting of 1,052.9 tons of fishing and 10,121.7 tons of cultivation. The largest production of forest products was Eucalyptus and Pulp of 37,228.42 tons and 178,676.11 m³ respectively.

3.3. **GRDP of Toba Samosir District**

Toba Samosir District GRDP based on the current price in 2013 amounted to 5,010,987.22 million rupiahs. Based on the constant price in 2000, the GRDP in 2012 of Toba Samosir District was 2,057,483.38 million rupiahs. In the past five years only contributed less than 7% to the GRDP of Toba Samosir District. Whereas, the sector also provided relatively constant donations within two years (2011 and 2012). The three sectors of the Toba Samosir District GRDP on the basis of the Constant Price in 2000. Both sectors accounted for more than two-thirds of the GRDP of this district. Although the value of the agricultural sector and industrial sector increased every year, the contribution of the two sectors tended to decrease slightly in the last five years (2009-2013). Conversely, the total contribution of the other seven sectors tends to increase every year. As an additional information, there are two sectors which contribution to GDP was relatively constant in 2010, 2011, and 2012, namely the transportation and communication sector and the mining and excavation sector. Meanwhile, the financial, leasing, and business services sector also provided relatively constant donations within two years (2011 and 2012). The three sectors in the past five years only contributed less than 7% to the GRDP of Toba Samosir District. Whereas, the growth rate of the industrial sector was getting closer to the agricultural sector. In 2013 the growth rate was slightly in the last five years (2009-2013).

### Table 1. The value sector contribution of GRDP Toba Samosir District in 2009-2013 based on the constant prices in 2000.

| Sector | 2009    | 2010    | 2011    | 2012 | 2013 |
|--------|---------|---------|---------|------|------|
|        | (Rpmilyar) | (%) | (Rpmilyar) | (%) | (Rpmilyar) | (%) | (Rpmilyar) | (%) |
| Agriculture | 606,71 | 36.33 | 636,18 | 36.11 | 662,45 | 35.72 | 692,05 | 35.37 | 719,81 | 34.99 |
| Industry | 582,63 | 34.89 | 610,51 | 34.65 | 641,66 | 34.60 | 674,51 | 34.47 | 707,64 | 34.39 |
| Trade, Hotels, Restaurants | 155,29 | 9.30 | 165,10 | 9.37 | 176,27 | 9.50 | 188,22 | 9.62 | 198,30 | 9.64 |
| Construction | 70,58 | 4.23 | 77,79 | 4.42 | 84,72 | 4.57 | 92,67 | 4.67 | 100,22 | 4.87 |
| Transportation and Communication | 59,33 | 3.55 | 63,21 | 3.59 | 66,53 | 3.59 | 70,32 | 3.59 | 74,57 | 3.62 |
| Finance, Rental and Company Services | 48,84 | 2.92 | 51,81 | 2.94 | 54,68 | 2.95 | 57,80 | 2.95 | 61,14 | 2.97 |
| Electricity, Gas and Water | 16,66 | 1.00 | 18,24 | 1.04 | 19,52 | 1.05 | 21,00 | 1.07 | 22,67 | 1.10 |
| Mining & Excavation | 5,41 | 0.32 | 5,99 | 0.34 | 6,32 | 0.34 | 6,68 | 0.34 | 7,10 | 0.35 |
| Total | 1,670,06 | 100 | 1,761,93 | 100 | 1,854,52 | 100 | 1,956,87 | 100 | 2,057,48 | 100 |

Note: *) = temporary number; **) = very temporary numbers; ***) = community, social and individual services. Source: BPS of Toba Samosir District (2013, 2014) (data processed).

Table 1 above showed that the agricultural sector and industrial sector were the main building structures of the Toba Samosir District GRDP on the basis of the Constant Price in 2000. Both sectors accounted for more than two-thirds of the GRDP of this district. Although the value of the agricultural sector and industrial sector increased every year, the contribution of the two sectors tended to decrease slightly in the last five years (2009-2013). Conversely, the total contribution of the other seven sectors tends to increase every year. As an additional information, there are two sectors which contribution to GDP was relatively constant in 2010, 2011, and 2012, namely the transportation and communication sector and the mining and excavation sector. Meanwhile, the financial, leasing, and business services sector also provided relatively constant donations within two years (2011 and 2012). The three sectors in the past five years only contributed less than 7% to the GRDP of Toba Samosir District. Whereas, the growth rate of the industrial sector was getting closer to the agricultural sector. In 2013 the growth rate
of the two sectors was relatively the same, this figure showed that there has been a transformation of the economic structure in Toba Samosir District from primary (agriculture) to secondary (industrial) based. In contrast to the value and contribution of the sector in the 2009-2013 Toba Samosir District GRDP based on 2000 constant prices (Table 1), the value and contribution of the industrial sector in the 2009-2013 Toba Samosir District GRDP at current prices was relatively higher than the sector agriculture. When it was summed up, the average contribution of the two sectors in the formation of GRDP in the District was more than two thirds of all sectors. The high GRDP value in the industrial sector and the agricultural sector showed the greatest economic capacity of the two sectors.

Based on Table 2, although the GRDP of the agricultural sector increased every year, but the contribution of this sector proportionally tended to decrease. Conversely, the value and contribution of the industrial sector increased. Proportionally, there were two sectors that consistently increased every year, namely the services and construction sectors. Although it had decreased in 2011 compared to 2010, the proportion of financial, leasing, and business services contributions tended to increase, and also in mining and excavation sector. From 2009-2010, the proportion of the mining and excavation sector tended to increase, but in three years later were in the same number, which was 0.44%. The significant difference occurred in transportation and communications and financial services, leasing, and services sectors. Both sectors showed a tendency to decrease in the last 5 years. The same case occurred in the electricity, gas, and water sectors. Except for 2009-2010, this sector decreased in the three years later.

Table 2. The value and contribution of the sector in the Tobasa District GRDP in 2009-2013 at current prices

| Sector                      | 2009        | 2010        | 2011        | 2012(*) | 2013(**) |
|-----------------------------|-------------|-------------|-------------|---------|---------|
|                             | (Rp milyar) | (%)         | (Rp milyar) | (%)     | (Rp milyar) | (%)     |
| Agriculture                 | 1,298,11    | 42,47       | 1,459,33    | 42,55   | 1,663,23   | 43,12   | 1,912,79   | 43,52   | 2,196,92   | 43,84   |
| Industry                    | 806,42      | 26,38       | 873,51      | 25,47   | 943,83     | 24,47   | 1,030,12   | 23,44   | 1,128,94   | 22,53   |
| Trade, Hotels, Restaurants  | 303,19      | 9,92        | 345,29      | 10,07   | 387,29     | 10,04   | 448,29     | 10,20   | 514,42     | 10,27   |
| Services***                 | 226,79      | 7,42        | 265,12      | 7,73    | 306,61     | 7,95    | 359,48     | 8,18    | 422,60     | 8,43    |
| Construction                | 188,11      | 6,15        | 225,69      | 6,58    | 270,27     | 7,01    | 325,62     | 7,41    | 388,74     | 7,76    |
| Transportation and          | 97,61       | 3,19        | 108,78      | 3,17    | 118,73     | 3,08    | 131,21     | 2,99    | 147,87     | 2,95    |
| Communication               |             |             |             |         |           |         |           |         |           |         |
| Finance, Rental and         | 91,88       | 3,01        | 100,82      | 2,94    | 110,66     | 2,87    | 123,66     | 2,81    | 138,85     | 2,77    |
| Company Services            |             |             |             |         |           |         |           |         |           |         |
| Electricity, Gas and Water  | 32,38       | 1,06        | 36,35       | 1,06    | 39,99      | 1,04    | 44,63      | 1,02    | 50,38      | 1,01    |
| Mining &                    | 12,40       | 0,41        | 14,88       | 0,43    | 16,98      | 0,44    | 19,42      | 0,44    | 22,27      | 0,44    |
| Excavation                  |             |             |             |         |           |         |           |         |           |         |
| Total                       | 3,056,88    | 100         | 4,429,77    | 100     | 3,857,58   | 100     | 4,395,21   | 100     | 5,010,99   | 100     |

Note: * = temporary number; ** = very temporary numbers; *** = community, social and individual services
Source: BPS of Toba Samosir District (2013, 2014) (data processed).

Like Toba Samosir District, the agricultural sector and the industrial sector are still the main building structures of the North Sumatera Province's GRDP at the 2000 Constant Price (Table 3). But both sectors accounted for less than half of North Sumatera Province's GRDP. Here, the growth rate of the two sectors also tends to decrease in the last five years. Another six sectors increased in growth rates every year, except the mining and excavation sector.
In contributions case, the contribution value of the trade, hotels, and restaurants sector is increasingly close to the contribution of each agricultural sector and industrial sector. If the trend is still the same in two years later, the contribution of the trade, hotels, and restaurants sector will exceed the contribution of the agricultural sector or industrial sector. The contribution value of the trade, hotels, and restaurants sector can leave these two sectors, if Department of Tourism in Toba Samosir District can play a meaningful role by offering alternative objects and tourist destinations (conventional tourism, ecotourism, spiritual tourism, and culinary tourism), varied, and specific, so that it can bring in local and foreign tourists. It means that an enhancement of the number of local and foreign tourists will be positively correlated in increasing the growth rate of this trade, hotel and restaurant sector. This potential will increase in line with the establishment of the Lake Toba Tourism Zone Management Authority which will carry out its duties effectively from 31 December 2016-31 December 2041.

Table 3. Contributions of Tobasa District GRDP and North Sumatera Province GRDP and the 2009 LQ value based on 2000 constant prices per sector.

| Sector            | Tobasa District | North Sumatera Province |
|-------------------|-----------------|-------------------------|
|                   | LQ Value        | LQ Value                |
| Agriculture       | 36.3 23.7       | 36.1 23.6               |
| Industry          | 34.8 22.3       | 34.6 21.9               |
| Trade, Hotels, Restaurants | 9.30 4.0   | 9.35 5.1               |
| Services***       | 7.46 5.0        | 7.55 8.0                |
| Construction      | 4.23 6.77       | 4.42 6.79               |
| Transportation and Communication | 3.55 9.5   | 3.59 9.7               |
| Finance, Retail and Company Services | 2.92 7.12  | 2.94 7.40             |
| Electricity, Gas and Water | 1.00 0.73  | 1.04 0.73             |
| Mining & Excavation | 0.32 1.19  | 0.34 1.18             |

Note: *) = temporary number; **) = very temporary number; *** = community, social and individual services; TS Dist = Toba Samosir District; and NS Prov = North Sumatera Province.

Source: BPS of Toba Samosir District (2013, 2014) and BPS of North Sumatera Province (2013, 2014) (data processed).

There is another interesting point in Table 3. Table 3 showed that only three sectors had LQ more than 1, namely the agricultural sector, the industrial sector, and the electricity, gas and water sectors. The LQ value greater than 1 showed that the growth rate of the three sectors in Toba Samosir District was greater than the growth rate of the same sector in North Sumatera Province. Thus, the three sectors were the leading sectors of Toba Samosir District and were an economic basis for further development by the Government of Toba Samosir District. In contrast to the agricultural sector and industrial sector which growth rate had increased in the past five years, the growth rate of the electricity, gas and water sector had decreased slightly between 2010-2011 (this is evident in the 2010 LQ value of 1.42 compared to 2011 which was 1.40).
If based on the constant price of 2000, the LQ value of the industrial sector was slightly higher than the agricultural sector, but in case of current prices, the LQ value of the agricultural sector was relatively better than the industrial sector (Table 4). The LQ value of the agricultural sector in 2013 was almost twice the value of the LQ in the industrial sector, even. This figure means that in North Sumatera Province the ability of economic resources in the agricultural sector was almost twice better than the industrial sector.

Table 4. Contributions of Toba Samosir District GRDP and North Sumatera Province GRDP and LQ value for 2009-2013 at current prices per sector.

| Sector         | 2009 | NS  | 2010 | NS  | 2011 | NS  | 2012 | NS  | 2013 | NS  | 2013 | NS  |
|----------------|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|
| Agriculture    | 42.4 | 23.0| 1.8  | 42.5| 22.9 | 1.8 | 43.1| 22.4| 1.9  | 43.5| 23.0| 1.8 |
| Industry       | 26.3 | 25.2| 1.1  | 25.4| 22.9 | 1.1 | 24.4| 22.4| 1.0  | 23.4| 23.2| 1.0 |
| Trade, Hotels, | 9.92 | 0.44| 1.0  | 9.02| 0.85 | 1.0 | 9.02| 0.85| 1.0  | 9.02| 0.85| 1.0 |
| Construction   | 6.15 | 0.23| 2.0  | 6.24| 0.33 | 2.0 | 6.24| 0.33| 2.0  | 6.24| 0.33| 2.0 |
| Finance, Rental and Company Services | 3.19 | 0.98 | 2.04 | 3.25 | 0.99 | 2.04 | 3.25 | 0.99 | 2.04 | 3.25 | 0.99 | 2.04 |

Note: *) = temporary number; **) = very temporary numbers; *** = community, social and individual services; TS Dist = Toba Samosir District; and NS Prov = North Sumatera Province

Source: BPS of Toba Samosir District (2013, 2014) and BPS of North Sumatera Province (2013, 2014) (data processed)

4. Conclusion

The agricultural sector and the industrial sector constitute the main structure of the GRDP of Toba Samosir District in 2009-2013 on the basis of the Constant Price of 2000 and accounted for more than two thirds of the Toba Samosir District's GRDP. The price base applies relatively higher than the agricultural sector and the average contribution of the two sectors in the formation of the Toba Samosir District GRDP was more than two thirds of all sectors. The large value of GRDP in the industrial sector and the agricultural sector showed the ability of large economic resources of both sectors. In Toba Samosir District, there were three sectors that had LQ value more than 1, namely the agricultural sector, the industrial sector, and the electricity, gas and water sectors. The LQ value greater than 1 indicated that the growth rate of the three sectors in Toba Samosir District was greater than the growth rate of the same sector in North Sumatera Province. The LQ value of the agricultural sector on the basis of the constant price of 2000 in 2013 was almost twice the LQ value of the industrial sector. This figure means that in North Sumatera Province the ability of economic resources in the agricultural sector was almost twice as good as the industrial sector.
References

[1] Ibrahim, I. 2018. Analysis of Economic Sector Potential in Efforts to Increase Economic Growth (Empirical Study on Gorontalo Regency and Gorontalo City in Gorontalo Province in 2012-2016). Gorontalo Development Review. Volume 1 No.1, April 2018.

[2] National Development Planning Agency-Indonesian Ministry of National Development Planning. 2014. Evaluation of the Implementation of National Development in 2010-2014. National Development Planning Agency-Indonesian Ministry of National Development Planning. Jakarta.

[3] BPS-Bureau of Statistics Toba Samosir Regency. 2013. Gross Regional Domestic Product of Toba Samosir 2008-2012. BPS-Bureau of Statistics Toba Samosir Regency. Balige.

[4] Harefa, M. 2016. Economic Growth Structure and Potential Sectors of Batam Municipal and Karimun Regency of the Riau Islands Province. Jurnal Ekonomi dan Kebijakan Publik. Vol. 4 No.2. Desember 2013

[5] Wahyuningsih, Y.E. 2014. Analysis the effect of gross regional domestic products (GRDP) and population on the rate of poverty in Nagan Raya. Jurnal Ekonomi dan Kebijakan Publik Indonesia. Volume 1 Nomor 1 Mei 2014.ISSN2442-7411.

[6] Dama, Y.H, Agnes L Ch. Lapian, Jacline I. Sumual. 2016. The effect of the Gross Regional Domestic Product (GRDP) to the poverty levels in Manado 2005-2014. Jurnal Berkala Ilmiah Efisiensi. Vol.16 No. 03 Tahun 2016.

[7] Suryono, 2010. The influence of prudential floor, government expenditure and labor against GDP of South Sulawesi 2001-2011. Universitas Hasanudin.

[8] Divisi Statistik Sektor Riil. 2013. Produk Domestik Bruto. Departemen Statistik Ekonomi dan Moneter. Bank Indonesia.

[9] Lailani. 2014. What is a “Location Quotient” and how do I calculate it? Population News. https://blog.id.com.au/2014/how-to/what-is-a-location-quotient-and-how-do-i-calculate-it/.

[10] Delaitre, Antoine. 2011. Location Quotients. https://www.geoib.com/location-quotients.html.

[11] Sentz, Rob. 2011. Understanding Location Quotient. https://www.economicmodeling.com/2011/10/14/understanding-location-quotient-2/2011.

[12] Baer, Charles Baer and Terry Brown. 2006. Location Quotients: A Tool for Comparing Regional Industry Compositions. http://www.incontext.indiana.edu/2006/march/1.asp.

[13] Goodwin, Kimberly. 2018. How the Location Quotient Works. https://www.propertymetrics.com/blog/2018/02/19/locatioquotient/

[14] BPS-Bureau of Statistics Toba Samosir Regency. 2014. Gross Regional Domestic Product of Toba Samosir. BPS-Bureau of Statistics Toba Samosir Regency. Balige.

[15] BPS-Bureau of Statistics Toba Samosir Regency. 2014. Toba Samosir In Figures 2014. BPS-Bureau of Statistics Toba Samosir Regency. Balige.

[16] BPS-Bureau of Statistics North Sumatera Province. 2014. Sumatera Utara In Figures 2014. BPS-Bureau of Statistics North Sumatera Province. Medan.

[17] Nikijuluw, Jeanee B. 2013. Analysis of the Leading Economic Sector of Districts and Cities in Maluku Province. Cita Ekonomika. Jurnal Ekonomi. Volume VII, No. 2, Desember 2013.