



SECTOR ANALYSIS OF AGRICULTURAL AND INDUSTRIAL SECTOR IN THE FORMATION OF GDP IN THE DISTRICT SIMALUNGUN- NORTH SUMATRA

HD. MelvaSitanggang

Agrotechnology, Faculty of Prima Indonesia University.

Abstract

Simalungun is one of the districts in North Sumatra province and a district that is good and promising for the development and improvement of agricultural and industrial sectors.

The Agricultural sector is the dominant sector in Simalungun where the agricultural sector is a sector that contributes the most in capital formation and economic base sectors in the Gross Domestic Product (GDP) wherein the calculation results Location Quotient (LQ) Agricultural sector is above 1.

The industrial sector does not include the economic base in the sector of capital formation in the Gross Domestic Product (GDP) in Simalungun where the calculation results Location Quotient (LQ) is below 1.

Keywords: *Agricultural Sector, industrial Sector and GDP Simalungun.*

I. PRELIMINARY

Background.

In constructing each area it is necessary budgetary readiness in managing all natural resources in the area so that the natural wealth can be empowered to improve the economy of communities and regions and countries.

Each region and country has the potential of different nature and natural potential that exist in the region is God's gift to each region or country in each world.

Indonesia has very rich natural potential so that this is God's gift to the people of Indonesia can be managed in achieving a prosperous life for the people of Indonesia.

Natural potential in Indonesia is the basic capital development to be achieved by the government to build all sectors of production in the regions and countries.

Development will be carried out on all existing production sectors that will deliver the results to the regions through the management of existing natural potential.

By doing development in all sectors of production will be profitable by increasing local revenues and incomes. Natural potentials exist in the area will bring positive impact that economic growth in developing regions during the utilization of production sectors that exist in the area.

Economic growth is a quantitative measure that describes the development of an economy in a given year compared with the previous year. **Sadono Sukirno, 2006** Economic growth will be in line with the advance of existing development so that both have significant relationship between development and economic growth.

Development will be growing if it is followed by the development of economic growth that exist in each region so that local governments should be able to plan the development of economic growth in every region.

Developing countries will be highly dependent on its natural resources, especially the agricultural sector which is the main sector for developing countries to be managed well in creating new economic value on the natural resources.

The monetary crisis that occurred in Indonesia in 1998 explained that the agricultural sector is the most powerful sector to deal with the economic crisis compared to other sectors.

The agricultural sector is an excellent sector in Indonesia, which has a higher contribution to revenues and local revenues and absorb labor.



In constructing each region and the central government has given authority to the local government to manage the financial area and looking for sources of local revenue that will be explored with a variety of natural potentials exist in the area.

Management of the area is guaranteed by law, namely Law No. 32 Year 2004 on Regional Government and Law No. 33 of 2004 on Financial Balance between the Central Government and Local Government.

Guaranteeing local autonomy to make policy areas to take advantage of all the potential that exists in the area in order to reach the utilization of the full potential of the region to achieve development in the area.

With regional autonomy, the area will be able to manage the potential of the region by inviting all parties to build the region through the investors are invited to invest in the area.

North Sumatra Province is a very large province which consists of 33 counties and municipalities that have a natural potential of different one with the districts and other municipalities.

One of the district's rich natural potential is Simalungun which has a large area and is rich in its natural resources. With the natural wealth in the district Simalungun a district that has a high economic value to be developed to increase the income of an area called the Gross Regional Domestic Product (GDP).

In the Gross Regional Domestic Product (GRDP) Simalungun there are 9 production sectors, namely:

1. The agricultural sector.
2. Mining and quarrying.
3. The processing industry.
4. Electricity and Water.
5. Building and Construction.
6. Trade, Hotels and Restaurants.
7. Transportation and Communications.
8. Finance, Real Estate and Business Services.
9. Offices.

Entire sectors of production in Simalungun make a real contribution to the Gross Regional Domestic Product (GRDP) Simalungun which vary according to the condition of the production sectors.

Simalunguna potential districts in the agricultural sector and the extent where there are many farms and plantations are in Simalungun.

Some areas of agriculture and plantations are very visible at all, and unlike some other areas in North Sumatra and Simalungun have land or land that is actually fertile.

Implemented regional development refers to the Vision and Mission Regional Head candidates and candidates who win through local elections into a vision and mission that will be outlined in the Medium Term Development Plan (RPJMD). Vision Simalungun Year 2010-2015 is the realization of the community and local economy Simalungun prosperous, fair, convenient, taqwa, safe and cultured (DEFINITE) ".

Through this vision, the government Simalungun really make integrated development program to achieve the objectives of the Medium Term Development Plan (MTDP) that focus on the vision Simalungun.

Formulation of the Problem.

By looking at the background of which has been described can be pulled issues raised by the author are:

How does the agricultural sector on the formation of the base and non-economic basis in Gross Regional Domestic Product (GRDP) Simalungun.

How does the industrial sector on the formation base and non-economic basis in Gross Regional Domestic Product (GRDP) Simalungun.

Research Purposes.

In this study, the objective being to determine how the influence of the agricultural sector and the industrial sector to the Gross Regional Domestic Product (GRDP) Simalungun.



Benefits of Research.

Can provide information to the government in making the development plan in the area. To make the study of science and can be developed further by other researchers.

II. THEORETICAL STUDY

2.1 Understanding of Agriculture.

The agricultural sector is a sector with huge potential because it is a capital in carrying out development planning in each area so that the agricultural sector must be managed properly.

Agriculture is an attempt to achieve maximum results with managing the plant and environmental factors. (Sri, consisted Harjadi, 1975).

From the above understanding can be explained that the farm will be managed in a way that is effective and efficient and maintaining the continuity of the existing land use pattern by planting undertaken by the community in order to meet the needs of human life.

Land use should really be maintained and do not damage the environment so that the land is protected from environmental damage and the lives of the farmers can take place in a long period of time.

Kuncoro2006, said that there are some explanations about the causes of poverty which one of them is the population are dependent on the agricultural sector subsystems, traditional and apathy towards the environment.

Indonesia as an agricultural country should be built by using existing agricultural land by empowering infrastructure and capital as well as science and technology for the management of the existing land.

Fadholi, 1991, said the factors that influence the success of farming are as follows:

1. Internal factors, namely:

- Farmers themselves.
- Land owned by farmers.
- Human Resources.
- Capital farmers.
- Technology.
- The ability of farmers themselves.
- Number of family farmers themselves.

2. External factors, namely:

- Means of transport and communication.
- Marketing aspect.
- Credit facilities.
- Agricultural Extension Officers.

With the condition of large tracts of land for agriculture and supported by efforts to develop the agricultural sector, the agricultural sector will contribute greatly to the economic growth of communities and regions.

It's a daunting task for the government in preparing the whole purpose of which is needed in developing the agricultural sector.

2.2. Industry Sector Understanding.

Agricultural and industrial sectors are the two sectors which have a synergistic relationship where all agricultural and plantation would be more useful if it is managed using high technology.

Can be explained that these two sectors should be simultaneously built together thus generating revenue for the region. Developing countries such as Indonesia are expecting the agricultural sector as a driver of the regional economy, but in the long run the government much less attention to the progress of agriculture and changing land use from agriculture as the use of land for industrial and residential.



Changes in land use resulted in the agricultural sector is increasingly reduced from the existing land availability. Growth in the industrial sector every year experiencing higher growth where it is either due to the modernization of life that can not be separated from industrialization.

The agricultural sector and the industrial sector is the dominant sector as it can make a major contribution to the Gross Regional Domestic Product (GDP) in the region including Simalungun.

Rachbini, 2001, explains that there are four requirements that say a particular sector into priority sectors, namely: The sector must produce products that have a considerable demand, so the growth rate is growing fast as a result of the effect of the request.

Because there is technological change creatively, then the new production function shifted to a broader capacity building. Should an increase in reinvestment of the proceeds of production of the priority sectors, both private and government. The sector must evolve, so as to give effect to other sectors.

Industrialization can be translated as a process of socio-economic changes that alter the system subsistence agrarian society into an industrial society and a state of society that focused on the economy which includes work increasingly diverse (specialization), salary, and income the higher as well as the modernization process in which social change and closely related to the economic development and technological innovation. <http://www.environment.tn.nic.in/SoE/images/industrialisation.pdf>.

Then Lewis F. Abbott, said that there is a change in the industrialization of human philosophy which humans change the view of the social environment is becoming more rationality in which the action is based on considerations of efficiency and calculation are no longer refer to emotions, morals, customs or traditions.

2.3. Definition of Gross Regional Domestic Product (GDP).

Gross Regional Domestic Product (GDP) is an overall picture of the contribution of all sectors of production in the region generated over the management of production sectors that exist in the area. With the Gross Regional Domestic Product (GDP) will be visible sectors which provide the greatest kontribusi upper income areas and sectors which can provide employment in the area.

According Kusmadi, et al., 1996, Gross Domestic Product (GDP) is an economic indicator for measuring the progress of development in the region. As the value of all goods and services produced by sectors of the economy, Gross Domestic Product (GDP) is useful to know the level of product net or value added produced by all factors of production, the magnitude of the rate of economic growth, and the pattern / structure of the economy in one year or a period in a particular country or region.

With the Gross Regional Domestic Product (GDP) in Simalungun then we can know the role of each sector to capital formation and know that there are superior sectors and contribute to the formation of the economic base in the region.

To see which sector is the dominant sector or economic base that can be used Quotient Location Method (LQ). Location Quotient method (LQ) is a method that can clarify the concept of non economic base and economic base in each region.

By using the method Location Quotient (LQ) it will show the leading sectors that exist in an area that can be formulated as follows:

$$LO = \frac{\frac{PDRB_{Simatungun,i}}{\sum PDRB_{Simatungun}}}{\frac{PDRB_{Sumatera Utara,i}}{\sum PDRB_{Sumatera Utara}}}$$

Where :
 PDRBSimalungun, i = i sector GDP in Simalungun in a given year.
 PDRBSimalungun = Total GDP in Simalungun in a given year.
 North PDRBSumatera, i = i sector GDP in North Sumatra province in a given year.
 North PDRBSumatera = Total GDP in North Sumatra province in a given year.
 With the formula described above, it can be concluded:



If the value of $LQ = 1$. This means that the contribution of the sector (i) in Simalungun is equal to the same sector in the economy of North Sumatra province.

If the value of $LQ > 1$. This means that the contribution of the sector (i) in Simalungun greater than the same sector in the economy of North Sumatra province.

If the value of $LQ < 1$. This means that the contribution of the sector (i) in Simalungun smaller than the same sector in the economy of North Sumatra province.

2.4. Hypothesis.

There is the influence of the agricultural sector on the formation of non-economic base and economic base on Gross Domestic Product (GDP) in Simalungun.

There is the influence of the industrial sector on the formation base and non-economic basis in the Gross Domestic Product (GDP) in Simalungun.

2.5. Accomplished Research.

Nursiah, Chalid 2009, explained that the role of the agricultural sector to the Gross Regional Domestic Product (GDP) of Riau Province amounted to 6.90% - 43.48%, which is supported by the contribution of plantation and forestry sub-sector.

M. Yamin, explained that the agricultural sector contributes to the Gross Regional Domestic Product (GDP) of South Sumatra province at 18% below the industry sector.

DesiNovita, Rahmanta, KasyfulMahalli, Agricultural Sector Investment Impact on the Economy of North Sumatra, 2009, said that the income of agricultural sector in the province of North Sumatra for 25.05% of total regional Gross Domestic Product (GDP) of the province of North Sumatra.

Goddess SaraswatiKartika, 2013, Effects of Investments, Labor, And Export Of Industrial Sector GDP in the city, said that the industrial sector is the sector that provide the largest contribution in the economy donate in Semarang.

III. RESEARCH METHODS

3.1. Types of Research

The method used in this research is quantitative method where the data used is quantitative data required in this research related to the object of this study.

3.2. Data Source.

This type of data is kind of quantitative data or secondary data that is needed to redress the problems to be solved through accurate research methods in order to obtain a valid answer to the problems faced.

The data needed is data on regional Gross Domestic Product (GDP) Simalungun as follows:

Table 1, Regional Data Gross Domestic Product (GDP) Simalungun Year 2004-2011 by Constant Prices (Milayan Rupiahs)

| NO | BUSINESS SECTOR | 2004 | 2008 | 2009 | 2010 | 2011 |
|----|--|----------|----------|---------|----------|----------|
| 1. | Agriculture | 2.493,73 | 2.910,73 | 3.064,0 | 3.217,41 | 3.399,27 |
| 2. | Mining And Energy | 14,51 | 19,46 | 18,71 | 20,28 | 21,30 |
| 3. | Processing Industry | 730,03 | 772,39 | 790,72 | 824,61 | 858,46 |
| 4. | Electricity, Gas And Water | 18,66 | 24,06 | 26,19 | 27,94 | 30,29 |
| 5. | Building | 73,46 | 85,19 | 89,46 | 94,55 | 103,46 |
| 6. | Trade, Hotel And Restaurant | 352,34 | 408,91 | 430,05 | 457,30 | 486,89 |
| 7. | Transportation And Communication | 102,64 | 126,04 | 133,46 | 141,09 | 150,11 |
| 8. | Finance, Real Estate & Business Services | 72,06 | 95,40 | 102,44 | 111,39 | 130,03 |
| 9. | Services Company | 382,82 | 609,91 | 643,91 | 676,54 | 714,78 |
| | Agicultural GDP | 2.493,73 | 2.910,70 | 3.064,0 | 3.217,41 | 3.399,27 |
| | Non Agricultural GDP | 2.140,61 | 1.746,52 | 2.235,7 | 2.353,7 | 2.495,32 |



If we look at Table 1 of the Gross Domestic Product (GDP) Simalungun Year 2004-2011 it is seen an increase in all sectors of production in Simalungun.

The agricultural sector is the dominant sector in contributing to the Gross Regional Domestic Product (GRDP) Simalungun and then followed by the industrial sector.

Growth in production sectors in Simalungun Year 2005-2011 can be seen in the following table:

Table 2. Growth Sectors of Production Year 2005-2011

| NO. | SECTOR | YEAR | | | | | | |
|-----|----------------------------------|-------|-------|-------|-------|-------|-------|-------|
| | | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
| 1. | Agricultural | 58,25 | 58,14 | 57,76 | 57,62 | 57,81 | 57,75 | 57,67 |
| 2. | Mining And Quarrying | 0,35 | 0,38 | 0,37 | 0,37 | 0,37 | 0,36 | 0,36 |
| 3. | Manufacturing | 16,92 | 16,28 | 15,7 | 15,29 | 14,92 | 14,8 | 14,56 |
| 4. | Electricity, Gas And Water | 0,43 | 0,45 | 0,46 | 0,48 | 0,49 | 0,50 | 0,51 |
| 5. | Building | 1,75 | 1,71 | 1,68 | 1,69 | 1,69 | 1,70 | 1,76 |
| 6. | Trade, Hotels And Restaurant | 8,27 | 8,10 | 8,06 | 8,10 | 8,11 | 8,21 | 8,26 |
| 7. | Transportation And Communication | 2,56 | 2,53 | 2,48 | 2,50 | 2,52 | 2,53 | 2,55 |
| 8. | Finance And Service | 1,74 | 1,70 | 1,80 | 1,89 | 1,93 | 2,0 | 2,21 |
| 9. | Service | 9,74 | 10,72 | 11,69 | 12,07 | 12,15 | 12,14 | 12,13 |
| | Amount | 100,0 | 100,0 | 100,0 | 100,0 | 100,0 | 100,0 | 100,0 |

Source: Processed Data.

IV. ANALYSIS AND EVALUATION

Geographical Conditions.

Simalungun is one of the districts in North Sumatra province which includes 33 Regional Level II located at position $02^{\circ} 36'-03^{\circ} 18'$ North latitude and $98^{\circ} 32'-99^{\circ} 35'$ east longitude.

Simalungun has a good area for agriculture because it is relatively flat and is the third largest district in North Sumatra province with the area 4386.60 km².

Agricultural land and plantations in Simalungun very fertile because the land is very flat and is located in the middle of the fertile districts also like:

North side bounded by SerdangBedagai.

In the south bounded by Samosir.

East adjacent bounded by Asahan.

Adjacent to the West bounded by Karo.

Table 3, Location Quotient (LQ) Simalungun Business Services Year 2005-2011

| No. | SECTOR | YEAR | | | | | | | LQ AVARAGE |
|-----|--|--------|--------|--------|--------|--------|--------|--------|---------------|
| | | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | |
| 1. | Agricultural | 2,3071 | 2,3887 | 2,4156 | 2,4182 | 2,4314 | 2,4580 | 2,4823 | 2,4145 |
| 2. | Mining And Quarrying | 0,2869 | 0,3109 | 0,3028 | 0,3015 | 0,3096 | 0,3083 | 0,3057 | 0,3037 |
| 3. | Manufacturing | 0,6980 | 0,6766 | 0,6623 | 0,6680 | 0,6664 | 0,6727 | 0,6937 | 0,6769 |
| 4. | Electricity, Gas And Water | 0,5274 | 0,5638 | 0,6189 | 0,6501 | 0,6756 | 0,6811 | 0,6885 | 0,6293 |
| 5. | Building | 0,2788 | 0,2626 | 0,2558 | 0,2525 | 0,2493 | 0,2496 | 0,2535 | 0,2575 |
| 6. | Trade, Hotel & Restaurant | 0,454 | 0,4426 | 0,4377 | 0,4404 | 0,4400 | 0,4444 | 0,4408 | 0,4429 |
| 7. | Transportation | 0,3049 | 0,2856 | 0,2726 | 0,2681 | 0,2643 | 0,2583 | 0,2540 | 0,2725 |
| 8. | Finance, Leasing And Business Services | 0,2804 | 0,2650 | 0,2671 | 0,2681 | 0,2716 | 0,2697 | 0,2791 | 0,2716 |
| 9. | Services | 1,0332 | 1,1271 | 1,2142 | 1,2187 | 1,2084 | 1,2030 | 1,1822 | 1,1695 |



Influence Between Agricultural Sector Base Formation Against Economic and On the Economic Basis non Gross Regional Domestic Product (GDP) in Simalungun.

In the capital formation that occurs in Simalungun-year period 2004-2011 it is seen that the agricultural sector is the most dominant sector in contributing to the Gross Regional Domestic Product (GDP) in Simalungun.

Based on the calculation that has been described above shows that the 9 Location Quotient (LQ) of the agricultural sector in 2005-2011 can be explained as follows:

In 2005 it appears that Location Quotient (LQ) of $2.3071 > 1$, the agricultural sector is a sector economic base in Simalungun.

In 2006 Location Quotient (LQ) of $2.3877 > 1$.

In 2007 Location Quotient (LQ) of $2.4156 > 1$.

In 2008 Location Quotient (LQ) of $2.4182 > 1$.

In 2009 Location Quotient (LQ) of $2.4314 > 1$.

In 2010 Location Quotient (LQ) of $2.4580 > 1$.

In 2011 Location Quotient (LQ) of $2.4823 > 1$.

As a whole can be explained that the agricultural sector is the dominant sector in capital formation in the Gross Domestic Product (GDP) in Simalungun where the calculation results Location Quotient (LQ) is greater than 1 (GDP Agriculture Sector > 1).

The average results of calculations Location Quotient (LQ) from the year 2005-2011 the Gross Domestic Product (GDP) Simalungun is equal to 2.4145.

Influence Between Industry Sector Against the Establishment of Non-Base Base And Economy In Gross Regional Domestic Product (GDP) in Simalungun.

Then in the industrial sector can be explained how the industrial sector's contribution to capital formation in the Gross Domestic Product (GDP) Simalungun called the base and non-economic basis.

In detail can be explained Location Quotient (LQ) industrial sector in Gross Domestic Product (GDP) Simalungun the period 2005-2011 as follows:

In 2005 Location Quotient (LQ) of $0.6980 < 1$.

In 2006 Location Quotient (LQ) of $0.6766 < 1$.

In 2007 Location Quotient (LQ) of $0.6632 < 1$.

In 2008 Location Quotient (LQ) of $0.6680 < 1$.

In 2009 Location Quotient (LQ) of $0.6664 < 1$.

In 2010 Location Quotient (LQ) of $0.6727 < 1$.

In 2011 Location Quotient (LQ) of $0.6937 < 1$.

Overall from the year 2005 - 2011 Location Quotient (LQ) industrial sector in Gross Domestic Product (GDP) Simalungun under 1 (LQ Industry Sector < 1).

Based on the results of Location Quotient (LQ) industrial sector in Gross Domestic Product (GDP) Simalungun years 2005-2011 concluded that the industrial sector is the sector of non-economic basis in providing its contribution to the Gross Regional Domestic Product (GRDP) Simalungun.

The average value of Location Quotient (LQ) industrial sector in Gross Domestic Product (GDP) Simalungun District in 2005-2011 amounted to $0.6769 < 1$.

V. CONCLUSIONS AND RECOMMENDATIONS

1. Conclusions

In this study were based on the results of analysis and evaluation, it can be given the following conclusion:

The agricultural sector is a sector of the economy on the basis of Gross Domestic Product (GDP) Simalungun years 2005-2011 in which the magnitude of Location Quotient (LQ) is above 1 and on average is at 2.4145, but decrease annually magnitude Location Quotient (LQ).

The industrial sector is the sector of non-economic basis in Gross Regional Domestic Product (GRDP) Simalungun years 2005-2011 where the magnitude Location Quotient (LQ) is below 1 and on average is at 0.6769, but the industrial sector is the second largest contributor in Product Regional Domestic Product (GRDP) Simalungun.



2. Recommendation

Simalungun government is expected to give even greater attention to the agricultural sector because there is a decrease in the agricultural sector's contribution to Gross Domestic Product (GDP) Simalungun.

The industrial sector should still be considered as the agricultural sector must be in line with the industrial sector which will manage all agricultural products.

REFERENCE

1. BatariSaraswatiKartika, 2013, PengaruhInvestasi, TenagaKerja, Dan EksporTerhadap PDRBSektorIndustri di Kota Semarang, Skripsi, Fak. Ekonomi Dan Bisnis, Undip, Semarang.
2. BadanPusatStatistik, 2012, ProdukDomestik Regional BrutoProvinsi Sumatera Utara 2007-2011.
3. BadanPusatStatistik, 2012, ProdukDomestik Regional BrutoKabupatenSimalungun 2007-2011.
4. BadanPusatStatistik, 2012, SimalungundalamAngka 2012.
5. DesiNovita, Rahmanta, KasyfulMahalli, 2009, DampakInvestasiSektorPertanianTerhadap
6. Perekonomian Sumatera Utara, WahanaHijau, JurnalPerencanaan&Pengembangan Wilayah, Vol. 4, No. 3, April 2009.
7. Kuncoro, Mudrajad, 2006, Ekonomika Pembangunan: Teori, Masalah, danKebijakan, Edisi 4, UPP. STIM YKPN, Yogyakarta.
8. Lewis, Abbott, 2003, Theories Of Industrial Modernization & Enterprise Development: A Review, ISM/Google Books, Revised 2nd Edition.
9. M. Yamin, 2005, AnalisisPengaruh Pembangunan SektorPertanianTerhadapDistribusi
10. PendapatandanpeningkatanLapangankerja di Provinsi Sumatera Selatan, Jurnal
11. Pembangunan Manusia.
12. Nursiah, Chalid, 2009, PerananSektorPertanian di Provinsi Riau, JurnalEkonomi, Volume 17, Nomor3 Desember 2009.
13. Sadono, Sukirno, 2006, Ekonomi Pembangunan: Proses, Masalah Dan dasarkebijakan, Penerbit PT. Kencana, Jakarta.
14. Tarigan, Robinson, 2007 Ekonomi Regional, TeoridanAplikasi PT. BumiAksaraCetakanKeempat, Jakarta.
15. <http://www.environment.tn.nic.in/SoE/images/industrialisation.pdf>.