



**The Second International Conference on Environmental Geography
and Geography Education**



PROCEEDINGS

28-29 SEPTEMBER 2019

Faculty of Teacher Training and Education
University of Jember
Jember - East Java - Indonesia

IOP Conf. Series: Earth and Environmental Science 485 (2020)
<https://iopscience.iop.org/issue/1755-1315/485/1>



PAPER • OPEN ACCESS

An analysis of the economic base sector in the absorption of labors in Jember from 2013 to 2017

To cite this article: S F Hasanah *et al* 2020 *IOP Conf. Ser.: Earth Environ. Sci.* **485** 012122

View the [article online](#) for updates and enhancements.



An analysis of the economic base sector in the absorption of labors in Jember from 2013 to 2017

S F Hasanah, W Hartanto, H M Ani*, Sukidin, and S Kantun

Faculty of Teacher Training and Education, State University of Jember,
Indonesia, Jember

*hety.fkip@unej.ac.id

Abstract. This study aims to analyze the economic sector which is the economic base sector in Jember Regency and the level of elasticity of employment in the economic base sector in Jember Regency in 2013-2017. This research is a quantitative descriptive study and the determination of the location of research used the purposive area method. The data used in this study are secondary data from the Central Board of Statistics Regency of Jember and the Central Board of Statistics Agency of East Java Province, as well as supporting data form interviews with the Department of Labor of the Jember Regency. The data analysis method used in this study is *Location Quotient* (LQ) and Labor Absorption Elasticity. The LQ calculation results show that there are three sectors that are the economic base sectors in Jember Regency in 2013-2017, namely the Agriculture, Livestock, Forestry and Fishery sector, the Transportation and Communication sector and then the Community, Social and Personal Services sector. While the results of the analysis elasticity of employment in each sector of the economic base in Jember Regency 2013-2017, showed that the economic sector which has an average elasticity value of more than 1% so that included elastic criteria, namely the Community, Social and Personal Services sector. While the economic sector which has an average elasticity value of less than 1% so that included the inelastic criteria, namely the Agriculture, Livestock, Forestry and Fishery sector and the Transportation and Communication sector.

1. Introduction

Economic development is an effort made by each local government to develop economic activities and improve the welfare of its people. Economic development efforts are carried out by implementing a decentralized system that gives authority to local governments to further develop development plans in their respective regions. One of the successes of economic development in a region can be seen from the regional economic growth measured through the level of Gross Regional Domestic Product (GRDP).

Jember Regency is one of the regencies that has reasonably good economic growth. Based on data from the Central Board of Statistics Regency of Jember (2018) the contribution of the Jember Regency's GRDP to the East Java Province's GRDP in 2017 amounted to 3.31 percent, it is ranking 9th out of 38 districts/cities in East Java Province. While the population and employment rate in Jember Regency ranks the 3rd largest in East Java Province, but the number of open unemployment in Jember Regency is still classified as very high, which ranks the 2nd largest in East Java Province. This shows that there is a mismatch between the level of employment and the number of unemployed in Jember Regency, because in general if the level of employment is high then the unemployment rate should be low.

While Jember's GRDP in 2013-2017 continued to increase with the amount of GRDP in 2013 amounting to 39,519.23 billion rupiah; in 2014 amounted to 41,971.67 billion rupiah; in 2015 amounting to 44,222.56 billion rupiah; in 2016 amounting to 46,533.56 billion rupiah and in 2017 amounting to 48,912.96 billion rupiah (Central Board of Statistics Regency of Jember, 2018). Increasing the contribution of the economic sector to the GRDP certainly requires additional labor resulting in increased labor demand and employment opportunities so that it is expected to increase employment in the economic sector.

The economic sectors in Jember Regency that can absorb large numbers of workers are the Agriculture, Livestock, Forestry and Fishery sectors. The amount of employment absorbed in the sector is because Jember Regency has a fairly large area of agriculture, forest, water areas and the



majority of the population works in that sector. Other sectors such as Community, Social and Personal Services can also absorb a large enough workforce and during 2013-2017 the sector experienced an increase in absorbing labor.

The amount of employment in each economic sector of a region depends on the availability of business opportunities, the development and progress of the economic sector. Therefore, in an effort to develop the regional economy in Jember Regency, a sectoral approach is needed to find out the economic sectors that are truly potential to be used as a base sector. With the determination of the base sector, the economic sector in Jember Regency can be managed and developed appropriately and quickly so that it can trigger the level of regional economic growth and increase employment optimally in each economic sector.

Based on these conditions, the researchers are interested in conducting research with the title "An Analysis Of The Economic Base Sector In The Absorption Of Labors In Jember From 2013 To 2017".

2. Methods

This research uses descriptive quantitative research type. Determination of the location of research using the purposive area method that is the research carried out in Jember Regency with the consideration that Jember Regency has an increasing contribution of the economic sector to the GRDP, but the growth rate of each economic sector tends to fluctuate and the level of employment in Jember Regency has not been fully optimal because there is still a large workforce that has not been absorbed in every sector of the economy and the availability of data needed by researchers.

The data used in this study are secondary data from the Central Board of Statistics Regency of Jember, the Central Board of Statistics Agency of East Java Province and supporting data form interviews with the Department of Labor of the Jember Regency. The data analysis method used is *Location Quotient* (LQ) to find out the economic base sector in Jember Regency in 2013-2017. According to Tarigan, (2009: 82) the formula for LQ is as follows:

$$LQ = \frac{\frac{x_i}{PDRB}}{\frac{X_i}{PNB}}$$

Description:

- x_i : Value added sector i in a regional
- GRDP : Gross Regional Domestic Product of the region
- X_i : National value added sector i
- GNP : Gross National Product

Then, to determine the level of employment in the sector in the economic base in Jember for years 2013-2017 are using the following formula:

1. To know the growth of employment in the sector economic base is used the following formula (Arsyad in Trianto, 2017: 30)

$$gl = \frac{l_t - l_{t-1}}{l_{t-1}} \times 100 \%$$

Description:

- gl : The growth of labor on a sector basis
- l_t : Base sector workers in the count year (t)
- l_{t-1} : Base sector workers in the previous year (t - 1)

2. Whereas to find out the growth in the production value of the economy's base sector, the formula is used:

$$gY = \frac{Y_t - Y_{t-1}}{Y_{t-1}} \times 100 \%$$

Description:

- gY : The growth of production value base sectors
- Y_t : The production value of the sector count base year (t)
- Y_{t-1} : Values sector production base in the previous year (t – 1)

3. As for menget know the level of elasticity of labor absorption in the sector basis of the economy using the following formula:

$$E = \frac{gl}{gY}$$

Description:

- E : Elasticity of absorption of labor
- gl : Growth of labor base sector
- gY : Growth in the value of production of the base sector

3. Results and Discussion

3.1 Results

Based on the results of calculations *Location Quotient* (LQ) method, there are three economic sectors in Jember Regency which have an average value of LQ greater than one (LQ > 1), namely the Agriculture, Livestock, Forestry and Fishery sector, the Transportation and Communication sector, and the Community, Social, and Personal Services. Explanation of the LQ value obtained by each economic sector in Jember Regency in 2013-2017, which is as follows:

Table 1. Value LQ of the Jember Regency Economic Sector in 2013-2017
Source: Data Processed, 2019

In 2013-2017, the Agriculture, Livestock, Forestry and Fishery sector is a sector that has an LQ value greater than one (LQ > 1) of 2.46, so that for five years the sector has become the economic base sector in the Regency Jember and has the potential to be further developed. Then other sectors that have a LQ value greater than one (LQ > 1) so that it becomes a base sector in Jember Regency in 2013-2017, namely the Transportation and Communication sector with an average LQ value of 1.09 and the Community, Social and Personal Services with an average LQ value of 1.52.

No	Field Of Work/Sector	Year					Average	Recapitulation Results of LQ
		2013	2014	2015	2016	2017		
1	Agriculture, Livestock, Forestry and Fishery	2,43	2,44	2,46	2,49	2,51	2,46	Base
2	Mining and Quarrying	1,06	1,05	1,00	0,92	0,91	0,99	Non Base
3	Manufacturing Industry	0,71	0,71	0,71	0,71	0,72	0,71	Non Base
4	Electricity, Gas and Water	0,25	0,25	0,27	0,28	0,29	0,27	Non Base
5	Construction	0,70	0,73	0,74	0,75	0,76	0,74	Non Base
6	Trading, Hotel and Restaurants	0,61	0,62	0,62	0,63	0,64	0,62	Non Base
7	Transportation and Communication	0,96	0,99	1,00	1,46	1,02	1,09	Base
8	Financing, Real Estate and Business Services	0,78	0,77	0,55	0,56	0,57	0,64	Non Base
9	Community, Social and Personal Services	1,50	1,52	1,52	1,52	1,54	1,52	Base

Based on the LQ calculation results, the sectors included in the basis sector criteria are then analyzed for their elasticity of employment. Calculation of elasticity of employment refers to the

results of growth in employment of the base sector which is then divided by the results of the growth of the production value of the base sector, so that the calculation results regarding the level of elasticity of the economic sector in Jember Regency are as follows:

Table 2. Level of Elasticity of Labor Absorption Base sector Economy in Jember, 2013-2017 (in percent)

No	Sector Base	Rate Elasticity					Average	Interpretation
		2013	2014	2015	2016	2017		
1	Agriculture, Livestock, Forestry and Fishery	-4,20	4,05	0,82	0	-1,07	-0,08	Inelastis
2	Transportation and Communication	-5,83	-2,52	2,61	0	-0,33	-1,21	Inelastis
3	Community, Social and Personal Services	9,37	-6,16	2,56	0	-0,51	1,05	Elastis

Source: Data Processed, 2019

Based on the results of calculations in table 2, the elasticity level of the Agriculture, Livestock, Forestry and Fishery sectors during 2013-2017 has an average value of -0.08% so the sector is included criteria *inelastic* for employment because the elasticity level is less than 1% ($E < 1\%$). This is the same as the Transportation and Communication sector which also has an average elasticity value of less than 1% ($E < 1\%$) which is equal to -1.21% so it includes the criteria *inelastic* for employment. While the Community, Social and Personal Services sectors are sectors that have an average elasticity value of 1.05% or greater than 1% ($E > 1\%$) so that the sector has criteria *elastic* on employment.

3.2 Discussion

This study proves that Jember Regency has a superior sector or economic base sector that has an important role in the economy in Jember Regency. This is because the base sector has a contribution to GRDP and employment in Jember Regency. According to Arsyad (2016:376) the main determinant of economic growth in a region is directly related to the demand for goods and services from outside the region. This assumption provides an understanding that an area to encourage economic growth in its region must have a superior sector that is able to win competition in the same sector with other regions so that the leading sector can meet the needs in the region or meet the demand from outside the region or in exports.

Based on the results of the study using the LQ calculation method, it shows that there are three economic sectors in Jember Regency which have an LQ value greater than one ($LQ > 1$), so that the sector includes the economic base sector criteria in Jember Regency in 2013-2017. The first base sector in Jember Agriculture, Livestock, Forestry and Fishery sectors. The Agriculture, Livestock, Forestry and Fishery Sector has a number of basic criteria that are consistent with Adisasmita's theory (2005:127), the first of which has a large contribution to the GRDP. Based on data from the Central Board of Statistics Regency of Jember (2018) the contribution of the Agriculture, Livestock, Forestry and Fishery sectors is the largest compared to other sectors. In 2013 the contribution of the sector to the GRDP was 35.41%, in 2014 it was 30.74%, in 2015 it was 30.66%, in 2016 it was 30.21% and in 2017 it was 29.05%.

The contribution of the Agriculture, Livestock, Forestry and Fishery sectors is supported by the geographical condition of Jember Regency, which is largely forested, agricultural, plantation and the area bordering the sea. Economic activities in the agricultural sector have the potential to be developed in Jember so that the sector has a large contribution to the GRDP. This is in accordance with research conducted by Febri Haris Putra (2018:73) which states that the agricultural sector is the largest contributor to Jember's GRDP, although after forecasting a decline in the future, the magnitude of the contribution of the agricultural sector remains stable compared to other sectors.

The second basis criteria according to Adisasmita (2005:127) is that the economic sector included in the base sector can provide large employment. The Agriculture, Livestock, Forestry and Fishery Sector in Jember Regency is able to provide a large number of jobs considering that most of the people

of Jember Regency work in the sector. Based on data from the Central Board of Statistics Regency of Jember (2018) the Agriculture, Livestock, Forestry and Fishery sectors were the sectors with the highest employment absorption during 2013-2017. In 2013 the employment of the Agriculture, Livestock, Forestry and Fishery sector was 38.68%, in 2014 it was 45.34%, in 2015 it was 46.27%, in 2016 it was 46.27% and in 2017 it was 41, 56%.

The third basis criteria according to Adisasmita (2005:127) is that the economic sector included in the base sector has a strong link to the development of other sectors. The Agriculture Sector in Jember Regency also has a strong level of relevance to other sectors. This is evident from research conducted by Sri Purwasih (2018:73) in Jember Regency, whose research results show that the agricultural sector has a direct forwards and backward linkages in the manufacturing industry sector because most of the manufacturing industry sector inputs come from the agricultural sector.

The fourth basis criteria according to Adisasmita (2005:127) is that the economic sector included in the base sector has the potential to increase non-oil or foreign exchange. The Agriculture, Livestock, Forestry and Fishery sector also has agricultural and plantation activities that are able to increase non-oil and gas output. This can be seen from the three types of agricultural and plantation commodities in Jember that have a large export volume in 2017, namely tobacco with an export volume of 39.04%, rubber of 26.34% and edamame of 17.89% (Central Board of Statistics Regency of Jember, 2018). In addition to these commodities, Jember Regency also has several fishery activity centers such as in Puger and Ambulu whose products are also exported outside the Jember Regency. This is in accordance with Ananda's theory (2017:31) which states that base activities are activities that are oriented to the export of goods and services beyond the boundaries of the relevant economic regions.

The fifth basis criteria according to Adisasmita (2005:127) is that the economic sector included in the base sector has promising development prospects in the future. The Agriculture, Livestock, Forestry and Fishery sector in Jember Regency is still a sector that can be seeded in Jember Regency for five years 2013-2017 because the sector has a large contribution to the GRDP, is able to absorb large numbers of labor and support the economy in Jember Regency, although seen from the growth rate the sector has a slow growth rate compared to other sectors. So that in the short term the sector still has promising development prospects in the future.

The second base sector in Jember Regency is the Transportation and Communication sector. The Transportation and Communication Sector began to become a base sector in Jember Regency in the last two years, namely 2016-2017. The Transportation and Communication Sector has only one basic criterion that is consistent with Adisasmita's theory (2005:127), which has promising development prospects in the future. The Transportation and Communication Sector is a base sector with promising development prospects in the future because during 2013-2017 the sector has a production contribution which tends to increase towards the GRDP of Jember Regency.

The Transportation and Communication Sector also has a competitive advantage that is able to compete with the surrounding area. This is indicated by research conducted by Hadiatullah (2018:72) which states that there are three economic sectors that have a competitive advantage as well as specialization in Jember Regency, namely first in the agriculture, forestry and fisheries sectors, second in the information and communication sector, and thirdly government administration, defense and mandatory social security sectors. The Transportation and Communication Sector is one sector that has greater competitiveness towards the same economic activity in other regions and has a specialization which means that the sector is able to provide a large role for economic growth in Jember Regency.

The third base sector in Jember Regency is the Community, Social and Personal Services sector. The Community, Social and Personal Services sector has two basic criteria that are consistent with Adisasmita's theory (2005:127), which can provide large employment opportunities and have promising development prospects in the future. Based on data from the Central Board of Statistics Regency of Jember (2018) during 2013-2017 the Community, Social and Personal Services sector has a fairly high employment absorption rate which ranks third after the Agriculture, Livestock, Forestry and Fishery sectors as well as the Trade, Hotel and Restaurant. While the economic activities of the sector experienced an increase during the years 2013-2017. The increased economic activity in the sector was supported by technological developments that accelerated performance in the sector. This is in accordance with the opinion of Arsyad (2016:269) which states that technological progress can simplify the production process and increase work productivity quickly so that it will have an impact on increasing economic growth.

In addition, the existence of programs from the Government of Jember Regency which are governmental and public servants such as programs in the fields of education, health and social assistance are also factors in increasing economic activity in Community, Social and Personal Services. The level of economic activity in the Community, Social and Personal Services sector can be seen from the level of employee expenditure, expenditure on goods and services and others issued by the government (Development planning agency at sub-national level of Jember Regency, 2017). According to Deputy Regent of Jember Regency, Muqit Arief said that the Regional Government Budget of Jember Regency in 2017 was realized 84.95% of the total budget of Rp 4.18 trillion (in *Jatim.antaraneews.com*, 2018). This shows that most of the local government programs have been realized so that this has become one of the factors supporting the level of economic activity in the sector.

Subsequent analysis in this study, namely regarding the level of elasticity of employment in the economic base sector in Jember Regency in 2013-2017. Based on the calculation of the employment elasticity of the economy-based sector in Jember Regency, it shows that in 2013-2017 the base sector has an average elasticity value with criteria *elastic* for employment, namely the Community, Social and Personal Services sector. That means an increase in the value of production by 1% in the Community, Social and Personal Services sector, then the number of workers that can be absorbed will also increase by more than 1%. Meanwhile, if the total production value decreases by 1%, the amount of labor that can be absorbed will also decrease by more than 1%. The high level of elasticity of the sector is due to the sector in 2013-2017 having a level of growth in the value of production and growth in employment which is quite large and has a positive value. The large percentage growth rate of the production value of the sector is due to the sector experiencing increased activity in the economy.

According to Gunaidi (in Trianto, 2017:22) employment absorption will improve if the economy grows rapidly in several directions, an increase in GNI will increase the rate of employment. This assumption is in accordance with the level of employment in the Community, Social and Personal Services sector which also increased in line with the increase in the sector's production activities towards the GRDP of Jember Regency. The increase in employment and the production value of the sector is also supported by a number of local government efforts such as efforts to improve the quality of human resources through work training and education programs and government programs such as community services in the health sector that can increase the activities of the sector.

Then, the sectors that have an average elasticity value with criteria *inelastic* for labor absorption in Jember Regency in 2013-2017 are the Agriculture, Livestock, Forestry and Fishery sector. The sector has elasticity with criteria, *inelastic* which means an increase in the value of production by 1% in the sector, then the amount of labor that can be absorbed will increase by less than 1% and if the amount of production value decreases by 1% then the amount of labor that can be absorbed also will drop by less than 1%. The sector has an average level of elasticity with a negative value because the sector has a relatively low percentage of growth in production value and employment growth.

The Agriculture, Livestock, Forestry and Fisheries Sector is a sector that plays an important role in the economy in Jember Regency because the sector contributes greatly to the GRDP of Jember Regency and is able to absorb large numbers of workers. While seen from the growth rate of production value and growth in employment, the sector experienced slow growth compared to other sectors. This is due to several factors such as land conversion due to increasing population and the development of other sectors.

The second base sector that has an average elasticity value with criteria *inelastic* for employment in Jember Regency is the Transportation and Communication sector. The sector is a base sector that has a relatively high negative elasticity percentage. Transportation and Communication sector activities have increased along with technological developments, this is indicated by the many uses of communication and information facilities as well as the use of transportation and freight services based on *online*. This has become one of the factors in the Transportation and Communication sector having a high average growth rate of production value in 2013-2017.

While the growth rate of the Transportation and Communication sector in Jember Regency has an average negative value which means that overall in 2013-2017 the sector did not absorb labor. Based on data from the Central Board of Statistics Regency of Jember (2018) the level of employment in the sector in 2013-2017 tends to fluctuate. The low absorption of labor in the Transportation and

Communication sector is due to work in the sector required appropriate skills and highly educated, while the condition of the population of Jember Regency still has many abilities and low education.

Based on the results and discussion above, an analysis of the economic base sector in labor absorption in Jember Regency can be used as a benchmark in terms of planning, optimizing and evaluating regional development in Jember Regency. Identification of the potential of the region can facilitate local governments in determining resource management policies that are tailored to the potential of the region and can find out the sector of the economic base that must be prioritized and developed optimally, so that it is expected to increase economic production activities and increase employment in the economic sector.

4. Conclusions

Based on the results of research and discussion, it can be concluded that there are three sectors which are the economic base sectors in Jember Regency in 2013-2017, namely Agriculture, Livestock, Forestry and Fishery sectors, Transportation and Communication sectors as well as Community, Social and Personal Services sector. While the results of the analysis of employment elasticity in each sector of the economic base in Jember Regency in 2013-2017, showed that the Community, Social and Personal Services sector has an elasticity level including criteria elastic, which means an increase or decrease in production value of 1% in the sector, then the workforce that can be absorbed is more than 1%. As for the Agriculture, Livestock, Forestry and Fishery sector as well as the Transportation and Communication sector having elasticity levels including criteria inelastic, which means an increase or decrease in production value of 1% in the sector, then the workforce that can be absorbed is less than 1%.

Acknowledgments

The author would like to thank Mrs. Hety Mustika Ani and Mr. Wiwin Hartanto as Supervising Lecturers who have taken the time and provided guidance for the completion of the preparation of this research, and also thank you to Mr. Sukidin and Mrs. Sri Kantun as examiners who provided input and constructive suggestions in this study. The author hopes this research can be useful for all readers. Amen.

References

- [1] Adisasmita, R. 2005. *Dasar-dasar Ekonomi Wilayah*. Yogyakarta: Graha Ilmu.
- [2] Ananda, C. F. 2017. *Pembangunan Ekonomi Daerah: Dinamika dan Strategi Pembangunan*. Malang: UB Press.
- [3] Arsyad, L. 2016. *Ekonomi Pembangunan*. Yogyakarta: UPP STIM YKPN.
- [4] Badan Pusat Statistik. 2018. *Kabupaten Jember Dalam Angka 2018*. Jember: BPS Kabupaten Jember.
- [5] Badan Pusat Statistik. 2018. *Provinsi Jawa Timur Dalam Angka 2018*. Jawa Timur: BPS Provinsi Jawa Timur.
- [6] Hadiatullah. 2018. Analisis Keunggulan Kompetitif Dan Spesialisasi Sektor Ekonomi Di Kabupaten Jember Tahun 2012 – 2016. *Skripsi*. Jember: Fakultas Ekonomi dan Bisnis. Universitas Jember. Jember: Fakultas Ekonomi dan Bisnis. Universitas Jember.
- [7] Jatim.antaranews.com. 2018. *Wabup Jember: APBD 2017 Terealisasi 84,95 Persen*. <https://jatim.antaranews.com/berita/252494/wabup-jember-apbd-2017-teralisasi-8495-persen>.
- [8] Purwasih, S. 2018. Analisis Keterkaitan Sektor Pertanian Terhadap Sektor Lain dan Perannya dalam Perekonomian Kabupaten Jember: Pendekatan Input Output. *Skripsi*. Jember: Fakultas Ekonomi dan Bisnis. Universitas Jember.
- [9] Putra, F. H. 2018. Kontribusi Sektor Pertanian Terhadap PDRB Kabupaten Jember Tahun 2012-2016. *Jurnal Pendidikan Ekonomi: Jurnal Ilmiah Ilmu Pendidikan, Ilmu Ekonomi dan Ilmu Sosial*. 2(1): 71-74.
- [10] Tarigan, R. 2009. *Ekonomi Regional: Teori dan Aplikasi. Edisi Revisi*. Jakarta: PT Bumi Aksara.
- [11] Trianto, A. 2017. Elastisitas Penyerapan Tenaga Kerja Di Provinsi Sumatera Selatan. *Akuisisi*. 13(1): 15-38.