Changes in Economic Structure and Basic Sectors with Freeway Infrastructure: A Study from Indonesia

HERU WAHYUDI[1,*], SUNARMO SUNARMO[2], RIFALDI MAJID[3], WINDA RIKA LESTARI[4], I WAYAN SUPARTA[1]

[1]Department of Economics Development, Faculty of Economics and Business,
University of Lampung,
INDONESIA

[2]Department of Management, Faculty of Economics & Business,
University of Al-Azhar,
INDONESIA

[3]Department of Economics and Development Studies, Faculty of Economics and Business,
University of Diponegoro,
INDONESIA

[4]Institute of Informatics and Business Darmajaya,
INDONESIA

Abstract: - This research aims to determine the effect of building the longest toll road in Indonesia on changes in economic structure and basic sectors. The research locations where the longest toll road in Indonesia is located are Tasikmalaya City, Tasikmalaya Regency, and Pangandaran Regency. The analytical methods used in this research are Location Quotient (LQ) and Shift-Share (SSA). Research variables include Gross Regional Domestic Product (GRDP) and Gross Domestic Product (GDP). The calculation results show that there has been a change in the economic structure and basic sectors due to the construction of toll roads. The city of Tasikmalaya has undergone changes in its economic structure so that the basic sectors are water supply, waste management, waste and recycling. Meanwhile, the health services and social activities sectors experienced progressive growth and strong competitiveness. As for Pangandaran Regency, the main base sectors are the food and beverage accommodation provider sector, the fisheries sector and the clean water sector. Meanwhile, Waste Management, Waste and Recycling, Real Estate, other services, Education Services, and Construction are the fastest growing and have competitive advantages. In Tasikmalaya Regency, the agricultural, forestry and fisheries sectors, especially food crops such as rice, are the basic sectors. Sectors that are growing fast, progressive and competitive are other services sectors, water supply, waste management, waste and recycling, health services and social activities, and construction. This research can be used as a consideration for determining strategies to increase economic growth in Tasikmalaya City, Pangandaran Regency and Tasikmalaya Regency.

Key-Words: - GRDP, GETACI Toll, Location Quotient, Shift-Share, Tasikmalaya City, Tasikmalaya Regency, Pangadaran Regency.

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1 Introduction

Indonesia's economy in the first quarter of 2022 grew by 5.01 percent (yoy), reaching IDR 2,818.6 trillion at constant 2010 prices. From the expenditure side, the highest growth of 16.22 percent was on the export component of goods and services, followed by a high level of imports (15.03%). Meanwhile, from the production side, the

transportation and warehousing business sector experienced the highest growth of 15.79%, followed by other services (8.24%), information, and communication (7.14%), [1].

West Java also experienced positive economic growth as one of the central provinces in Indonesia. In the first quarter of 2022, West Java's economy grew by 5.61% (yoy), 0.6% higher than the national economy. In the fourth quarter of 2021, the economy grew positively by 6.21% (yoy), a significant increase compared to the previous quarter, [2].

Efforts to gradually recover the economy in the East Priangan region covering five regencies/cities, namely the city of Tasikmalaya, Tasikmalaya District, Ciamis District, Banjar City, and Pangandaran District, continue to show positive progress. GETACI (Gedebage-Tasikmalaya-Cilacap) toll road, with a length of 206.65 kilometres, is planned to become the longest toll road in Indonesia. The toll road will consist of 4 sections, namely section 1 (Junction Gedebage–North Garut 45.20 km), section 2 (North Garut–Tasikmalaya 50.32 km), section 3 (Tasikmalaya–Patimuan 76.78 km), and section 4 (Patimuan-Cilacap along 34.35 km) and nine interchanges. This will be a means of leveraging the economy of West Java and Central Java, especially the East Priangan area, especially the city and district of Tasikmalaya, as the area/area through which the toll road will pass. Tasikmalaya City and Pangandaran Regency are East Priangan areas passed by the Getaci toll road and are the areas with the highest GRDP.

Sectoral acceleration and development are needed in these regencies/cities. Moreover, the three are passed by the Getaci toll road, which can provide positive externalities to sectoral improvements and people's welfare. The government certainly applies various actions to improve people's welfare. The existence of the Getaci toll road as one of the economic improvements must certainly be supported by other strategies, one of the ways taken is by knowing the potential and leading sectors in each region in order to facilitate the preparation of regional development strategies. Thus the purpose of this study is to determine the potential and leading sectors in Tasikmalaya Regency, Pangandaran Regency, and Tasikmalaya City. The novelty of this study is in terms of location and period used.

2 Literature Review

2.1 Location Quotient (LQ)

Location Quotient (LQ) is one of the most basic analytical tools commonly used by experts or researchers in development economics. LQ analysis aims to get a coefficient or a simple display of regional industrial patterns. LQ is not a new analytical technique, as it has been used since the 1940s by regional and geographers. LQ generates a simple numerical scale. LQ calculations use comparisons between ratios. Here's the LQ formula.

$$LQ = \frac{Ri/RRi}{R/RR} \; or \; \frac{Ri/R}{RRi/RR} \quad (1)$$

Where: Ri is the number of workers in the manufacturing industry I in the region R, RR is the number of workers in the manufacturing industry located in the larger area, [3]. Calculation results, if LQ > 1 then the sector becomes the base sector and can be exported to other regions, LQ = 1 means that the sector is classified as non-base, and the sector can only fulfill the part itself, and if LQ < 1 indicates that the sector is classified as non-base and sector is unable to meet the needs of the area itself.

2.2 Analysis of Shift Share (SSA)

SSA is a way of calculating the regional economy to know changes in the economic structure of a region towards the top-level parts. The relative change in the economic system of an area to that of the nation involves three aspects.

1. National economic growth: it aims to see the influence of the national economy at the regional level below
2. Proportional shift: it aims to see the relative change of a regional sector to the top-level region or national level. The proportional shift is also known as the industry mix.
3. Differential shift: it aims at the level of excellence or competitiveness of the sector in the region against the top-level areas. If the calculation results show a positive number, it means competitive. If it is negative, it is called non-competitive. Calculation of SSA can use the four-quadrant model.

Shift share analysis (SSA) is a traditional method of measuring, comparing, and evaluating sectoral performance in certain regions. SSA describes changes in employment or income in particular areas into three components, namely components of national share, sectoral shift, and regional shift. Here is the SSA formula:

$y_{it} - y_{i0} = \Delta y = y_{i0} \{[Y_t/Y_0] - 1\}\ y_{i0} \{[Y_{it}/Y_{i0}] - [Y_t/Y_0]\} + y_{i0}\{[y_{it}.y_{io}] - [Y_{it}/Y_{io}]\}$ (2)

Description:

y_{i0}	$\{[Y_t/Y_0]$	is the national share (Growth of West Java Sectoral GRDP)
y_{i0}	$\{[Y_{it}/Y_{i0}] - [Y_t/Y_0]\}$	is the industrial mix or sectoral shift in the sectoral GRDP of Tasikmalaya City, Pangandaran Regency, and Kab. Tasikmalaya
y_{i0}	$\{[y_{it}.y_{io}] - [Y_{it}/Y_{io}]\}$	is a shift in regional/competitive advantage in the sectoral GRDP of Tasikmalaya City, Pangandaran Regency, and Tasikmalaya Regency

2.3 Gross Regional Domestic Product

Gross Regional Domestic Product (GRDP) can measure economic growth rates, [4] and [5]. GRDP provides an overview of the ability of a region to manage its resources. Thus, the amount of GDP in each region varies depending on the potential and factors of production in each region. Although the potential of each region is different, of course, in general, the goal is the same, namely increasing economic growth. GDRP business sector which has high potential value and high added value significantly spurs economic growth, [6].

Economic base analysis assumes that the local economy can be divided into two main sectors, basic and non-basic, [7]. A base sector is a type of business that can meet or serve local needs or markets and even export its products and services outside the region, [8]. On the other hand, [9], the non-base sector is a sector that can only produce to meet needs in its region or even requires imports from other region.

There are 17 business sectors that are components of GRDP, namely: 1) Agriculture, forestry, and fisheries sectors; 2) Mining and quarrying sector; 3) Industrial and processing sector; 4) Electricity and gas procurement sector; 5) Water supply, waste treatment, waste and recycling sectors; 6) Construction sector; 7) Large trade and retail sectors; 8) Transportation and warehousing sector; 9) The sector of providing accommodation and food and drink; 10) Information and communication sector; 11) Financial services and insurance sector; 12) Real estate sector; 13) Service sector and companies; 14) Government administration, defence and compulsory social security sectors; 15) Education services sector; 16) Health services sector and social activities; and 17) Other service sectors.

2.4 Previous Research

Research from [10], entitled The role of agriculture, forestry and fishery sector in the development of Malinau District (location quotient and shift share approach) using Location Quotient (LQ), Dynamic Location Quotient (DLQ) and Shift Share methods. Based on the results of the study, it was found that the Agriculture, Forestry and Fisheries sector in Malinau Regency was non-base with an average LQ of < 1 of 0.76. The base subsector in Malinau District is the Forestry and Logging subsector with an LQ value of > 1 of 136,269.17. Based on the combined analysis of LQ and DLQ, the Agriculture, Forestry and Fisheries sector has not experienced a change in role where the sector remains a non-base sector now and in the future. The equation of the research conducted is using the same method, namely Location Quotient and Shift Share. The difference is that the research conducted by [10] did not use t-tests in its analysis.

In addition, this study has similarities with research from [11], Analysis of the Behavior of a Regional Economy through the Shift Share and Location Quotient Techniques. Using the Shift Share method. The method is used to estimate the level of specialisation in different sectors, showing the effect of national growth by activity according to state activity and the level of efficiency in regional structures. The difference in this research is in terms of the location of the analysis, the year of analysis, and the combination of methods used.

Another study entitled Analysis of import changes through shift-share, location quotient and BCG techniques: Gwangyang Port in Asia by [12], found that static analysis showed that the effect of region shift, which is the most important component, was negative for coal ore, but positive for natural gas and vegetable fuels. Spatial shift share analysis also shows that Gwangyang Port experiences not only advantages in regional competitiveness, but also industrial advantages for higher competitive advantages against fuels, natural gas, and vegetables. The similarity of the research is that both use an approach in analysing competitive advantage. The difference is in terms of location, year of analysis, as well as the combination of methods used.

3 Methodology and Variables

This study uses a quantitative and qualitative approach (mixed method). The quantitative method used in this study uses potential sectoral theory, namely Location Quotient (LQ) and Shift Share Analysis (SSA). The qualitative method uses a literature review and policies from scientific references and BPS Tasikmalaya City, Pangandaran Regency, and Tasikmalaya Regency.

The data used is secondary data, namely Gross Regional Domestic Product (GRDP) based on constant price business fields originating from the Central Statistical Agency of Tasikmalaya City, the Central Statistical Agency of Tasikmalaya Regency, and the Central Agency of Statistik Pangandaran Regency. GRDP according to the constant price business field of the three districts uses the 2016-2021 period. The analysis of this study used Location Quotient (LQ) and Shift share. After that, a t-test analysis was carried out to see the influence of the base sector and the non-base sector on economic growth.

4 Result and Discussion

4.1 Location Quotient (LQ) Analysis Results

Location Quotient (LQ) analysis is a tool to determine the leading economic sector in a region, [13]. According to [14], one of the methods through Location Quotient (LQ) analysis through this method can be known the sector base in one region compared to other regions. In this research LQ calculations and analysis were carried out in three regions, Tasikmalaya City, Pangandaran Regency, and Tasikmalaya Regency, from 2016 to 2021.

Based on Table 1 (Appendix), the water supply, waste, waste management, and recycling sector is the sector that has the highest score, with an average score of more than four from 2016 to 2021; this indicates that this sector is a base or superior, meaning that this sector has an advantage competitive so that their products can be exported outside the City of Tasikmalaya and in the end, can improve the community's economy, especially the workforce directly involved in the process of procuring water, garbage, waste, and recycling. The following leading sectors are financial services and insurance and nine other sectors.

In Table 2 (Appendix), the sector with the highest LQ score of 1.73 is the accommodation and food and beverage sectors, followed by the agriculture, forestry, and fisheries sectors. These sectors have had almost the same LQ value of more than 1.6 for the last six years. Data shows that providing accommodation, food, and drink is closely related to housing in the tourism sector. The BPS data rates that foreign and domestic tourist visits in 2019 were 3,227,296 and increased by 11.6 percent to 3,604,128 tourists. Meanwhile, fisheries are the main livelihood of the people of Pangandaran. Based on BPS in 2020, the marine and fisheries sector in Pangandaran produced 146,000 tons of fish, or a value of IDR 3 billion. Pangandaran marine products can be used as the primary commodity exported outside its territory to boost the economy, especially for fishermen. Processed seafood is one way to increase the added value of products so that people can receive a higher income than selling marine products in raw form.

In Table 3 (Appendix), base sectors are the agricultural, forestry, and fisheries sectors. Tasikmalaya, this can be seen from the LQ value in the last six years, which tends to be above 4. In 2021 it will be 4,662. Competitive advantage in the agricultural sector has made Tasikmalaya Regency a district in East Priangan that focuses on the farm economy, especially food crops such as rice and vegetables; this can be seen from data from the District Government. Tasikmalaya, where most of its area is rural, and about 80 percent work as farmers and is the highest grain producer in West Java, with an average yield of 7.2 tons per year. Therefore the agricultural sector can be exported to other regions.

4.2 Shift Share Analysis (SSA)

According to [15], the Shift Share method explains changes in the economic dimension, concentrating mainly on the variable of employment. Hallmark of shift-share analysis is its ability to help policymakers identify the most competitive and vulnerable sectors in a region's economy, [16]. Shift share analysis is used to identify components that drive economic growth and performance in certain regions, consisting of three things: West Java growth, the proportional shift of districts/cities, and shifts in the share of districts/cities (differential shift). The following results from calculating the shift-share analysis of sectoral GRDP in the City of Tasikmalaya, Kab. Pangandaran and Kab. Tasikmalaya.

Table 4 and Figure 1 in Appendix show that sectoral movements consist of slow and progressive growth. The proportional shift can be seen in the sectors experiencing the slowest growth and are not competitive, namely the agriculture, forestry and fisheries, information and communication, and insurance and financial services sectors. Meanwhile,

the fastest growing and most competitive are those in quadrants one and III, including health services and social activities, construction, mining and quarrying, and education.

Figure 2 (Appendix) shows that the sectors experiencing a shift are growing fast or progressive and have sectoral competitiveness, namely those in quadrants I and II, including Water Supply, Waste Management, Waste and Recycling, Real Estate, Other Services, Education Services, and Construction. Meanwhile, the mining and quarrying sector, Wholesale and Retail Trade; Car and Motorcycle Repair, Agriculture, Forestry, and Fisheries, Transportation and Warehousing Manufacturing Industries are classified as sectors that could be faster in growth and have higher competitiveness in the commodities they produce.

Figure 3 (Appendix) shows that the sectors experiencing a shift in fast or progressive growth and having excellent sectoral competitiveness are the other services sector, water supply, waste management, waste and recycling, health services, social activities, and construction. In this case, the Information and Communication sector is experiencing fast growth but needs to be followed by high commodity competitiveness. Meanwhile, the Government Administration, Defense, Compulsory Social Security and Wholesale and Retail Trade sectors; Car and Motorcycle Repair grew sluggishly, and the commodities produced needed to be more competitive in terms of competitiveness. Finally, the sectors of Electricity and Gas Procurement, Processing Industry, Mining and Quarrying, Corporate Services, and Agriculture, Forestry, and Fisheries in Tasikmalaya district are categorized as sectors that grow slowly. Also, the commodities they produce need to have competitiveness.

Based on the results of the LQ analysis and Shift-Shar Acceleration of Leading Sector Development in the East Priangan Buffer Region in the Middle of the Construction of the GETACI toll road, it is necessary to strengthen the sector in question by carrying out several Pentahelix collaborations, namely by collaborating with academics, business practitioners, the community, the government and also the media. ABCGM in more detail, micro, small, and medium enterprises (UMKM) economic sector actors in each leading sector in Tasikmalaya City, Tasikmalaya Regency, and Pangandaran Regency can be assisted by the local government to facilitate efforts to strengthen organizational institutions in the form of cooperatives and or associations, both independently, and in collaboration through optimizing the role of village-owned enterprises (BUMDes) or farmer/fisherman corporations as gathering places.

In more detail regarding the products produced, the authors see that expanding the type and variety of products into value-added products in the agriculture, forestry, and fisheries-based sectors, which are the dominant sectors relying on Tasikmalaya and Pangandaran districts, is the right effort or strategy. This is because even though this sector contributes more than 25% of regional GDP, the competitiveness of the commodities produced still needs to improve and slow in terms of acceleration. In addition, digital technology-based marketing efforts can be pursued through the Pentahelix collaboration above by designing a market ecosystem from upstream to downstream.

4.3 t-Test

The t-test was used to see the influence of base and non-base sectors on economic growth in Tasimalaya Regency, Pangandaran Regency, and Tasikmalaya City. The values of the base sector and non-base sector in each region are grouped annually, then averaged. So that value is obtained from the base sector and non-base sector every year (2016-2021). Meanwhile, economic growth data is obtained from the Central Statistics Agency. Then, the data is processed using the Eviews 10 application to find out the results of the t-test.

Based on Table 5 (Appendix), the probability values of the base (x1) and non-base (x2) sectors are 0.1406 and 0.1055 respectively greater than 0.05, thus according to, [17], having no effect on economic growth. This condition also occurs in Pangandaran Regency, as shown in Table 6 (Appendix), the probability value of the base sector (x1) and non-base sector (x2) respectively is 0.2231 and 0.7191 is greater than 0.05. Therefore, the base and non-base sectors in Tasikamalaya Regency and Pangandaran Regency partially have no influence on economic growth. The results of this study are in line with research conducted by [18] and [19].

The base sector is partially unaffected by economic growth due to the low quality of infrastructure, especially road infrastructure. This is because infrastructure is one of the growth factors, in line with research conducted by [20], that infrastructure is important to improve the country's competitiveness. The reason is, transportation infrastructure strongly supports all economic activities and determines the smooth distribution of goods and services. Infrastructure conditions in Tasikmalaya Regency and Pangandaran Regency still require improvement to support economic

activities. Even though there is a toll road in Getaci, supporting infrastructure is still needed in the development of the economic sector as a prime mover in Tasimalaya Regency and Pangandaran Regency.

Furthermore, different results are shown in Table 7 (Appendix), showing that the probality values of the base sector (x1) and non-base sector (x2) respectively are 0.0327 and 0.0438, smaller than 0.05. If the probability value is less than 0.05 according to [17], then the independent variable has an effect on the dependent variable. Thus, the base sector and non-base sector have a significant positive influence on economic growth in Tasimalaya City. The results of this research are in line with research conducted by [21]. According to [22], the base sector plays an increasing role in economic growth. The base sector is an economic sector that has the potential to increase economic growth because it is able to drive the economy through market expansion. In addition, the base sector as a sector that has a high comparative advantage so that it is believed to be able to encourage economic growth in a region. In addition to the base sector, the non-base sector in Tasimalaya City is clouding economic growth. This means that the non-base sector is able to support the economy in Tasikmalaya City.

5 Conclusions

Based on the results of LQ and shift-share calculations and analysis, it can be concluded that: Business fields with the highest value and being the primary base sector in Tasikmalaya City are the water supply, waste management, waste, and recycling sectors. Meanwhile, a sector with progressive growth and strong competitiveness is the health services and social activities sector. Pangandaran Regency has the Main base sectors: the food and beverage accommodation provider and fisheries. Meanwhile, the fast-growing and competitive sectors are Water Supply, Waste Management, Waste and Recycling, Real Estate, Other Services, Education Services, and Construction. Tasikmalaya Regency has a base sector, namely agriculture, forestry, and fisheries, especially food crop agriculture such as rice. Industries that have fast, progressive, and competitive growth, namely the other services sector, Water Supply, Waste Management, Waste and Recycling, Health Services and Social Activities, and Construction.

This research is not free from limitations and shortcomings. This research is limited to the three main economic support areas of East Priangan, namely Tasikmalaya district, Tasikmalaya city, and Pangandaran district. Subsequent research can capture all towns and communities in the East Priangan area. In addition, the qualitative-descriptive analysis as material for studying the results of the LQ and Shift-Share analysis has yet to be thoroughly explored in this study; further research can accommodate this.

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APPENDIX

Table 1. LQ GRDP of Tasikmalaya Business Fields in 2016-2021

Sector	2016	2017	2018	2019	2020	2021	Information
A	4.618	4.754	4.805	4.729	4.539	4.662	Basis
B	0.135	0.137	0.148	0.150	0.155	0.165	Non basis
C	0.173	0.174	0.180	0.188	0.190	0.187	Non basis
D	0.155	0.181	0.190	0.197	0.198	0.200	Non basis
E	0.233	0.233	0.245	0.257	0.253	0.248	Non basis
F	1.052	1.052	1.053	1.072	1.062	1.063	Basis
G	1.335	1.313	1.320	1.312	1.299	1.302	Basis
H	0.683	0.690	0.692	0.704	0.714	0.718	Non basis
I	0.542	0.541	0.545	0.556	0.566	0.559	Non basis
J	1.176	1.177	1.186	1.200	1.111	1.118	Basis
K	1.215	1.215	1.219	1.225	1.201	1.193	Basis
L	1.221	1.222	1.227	1.225	1.196	1.187	Basis
M	1.041	1.050	1.054	1.051	1.078	1.081	Basis
O	2.269	2.175	2.181	2.143	2.149	2.157	Non basis
P	2.311	2.341	2.437	2.434	2.355	2.363	Basis
Q	0.883	0.913	0.940	0.940	0.942	0.928	Non basis
R	0.801	0.824	0.865	0.867	0.859	0.862	Basis

Source: processed data

Table 2. LQ PDRB Field of Business Kab. Pangandaran Year 2016-2021

Sector	2016	2017	2018	2019	2020	2021	Information
A	1,645	1,641	1,643	1634	1634	1652	Base
B	0.170	0.172	0.185	0.183	0.191	0.207	Non-Base
C	0.056	0.055	0.056	0.057	0.059	0.060	Non-Base
D	0.080	0.089	0.091	0.095	0.105	0.104	Non-Base
E	0.076	0.075	0.078	0.082	0.081	0.083	Non-Base
F	0.550	0.547	0.550	0.560	0.545	0.543	Non-Base
G	0.732	0.729	0.732	0.716	0.746	0.750	Non-Base
H	1.123	1.122	1.118	1,129	1.167	1210	Base
I	1631	1622	1619	1634	1682	1,737	Base
J	0.251	0.250	0.249	0.246	0.245	0.245	Non-Base
K	0.397	0.393	0.392	0.384	0.388	0.390	Non-Base
L	1,186	1.178	1.175	1.166	1,244	1225	Base
M	1,144	1.136	1.137	1.128	1,206	1.208	Base
O	0.860	0.824	0.810	0.765	0.817	0811	Non-Base
P	0.918	0912	0.919	0.909	0892	0917	Non-base
Q	0.152	0.151	0.151	0.148	0.148	0.148	Non-Base
R	0.408	0.405	0.413	0.418	0.419	0.421	Non-Base

Source: processed data

Table 3. LQ PDRB Field of Business Kab. Tasikmalaya Year 2016-2021

Sector	2016	2017	2018	2019	2020	2021	Information
A	4,618	4,754	4,805	4,729	4,539	4,662	Base
B	0.135	0.137	0.148	0.150	0.155	0.165	Non-Base
C	0.173	0.174	0.180	0.188	0.190	0.187	Non-Base
D	0.155	0.181	0.190	0.197	0.198	0.200	Non-Base
E	0.233	0.233	0.245	0.257	0.253	0.248	Non-Base
F	1,052	1,052	1,053	1,072	1,062	1,063	Base
G	1,335	1,313	1,320	1,312	1,299	1.302	Base
H	0.683	0.690	0.692	0.704	0.714	0.718	Non-Base
I	0.542	0.541	0.545	0.556	0.566	0.559	Non-Base
J	1.176	1.177	1,186	1,200	1,111	1.118	Base
K	1.215	1.215	1,219	1225	1,201	1,193	Base
L	1,221	1,222	1,227	1225	1,196	1,187	Base
M	1,041	1050	1,054	1,051	1,078	1,081	Base
O	2,269	2.175	2,181	2.143	2,149	2.157	Non-base
P	2,311	2,341	2,437	2,434	2,355	2,363	Base
Q	0.883	0913	0.940	0.940	0.942	0.928	Non-base
R	0.801	0.824	0.865	0867	0.859	0.862	Base

Source: processed data

Table 4. Shift share analysis of Tasikmalaya City, Pengadaran Regency, and Tasikmalaya Regency in 2016-2021

Sector Code	Sector	City of Lake Malaya		Pengandaran District		Tasik Malaya District	
		% PPij	% PPWij	% PPij	% PPWij	% PPij	% PPWij
A	Agriculture, Forestry, and Fisheries	-7.69	-7.47	-7.69	2.91	-7.69	3.62
B	Mining and excavation	-29.89	18.24	-29.89	21.86	-29.89	22.27
C	Processing industry	-1.96	3.71	-1.96	10.07	-1.96	12.14
D	Procurement of Electricity and Gas	-27.91	28.88	-27.91	29.96	-27.91	28.35
E	Water Procurement, Waste Management, Waste, and Recycling	22.53	-5.60	22.53	16.20	22.53	12.69
F	Construction	4.28	2.95	4.28	0.97	4.28	4.04
G	Wholesale and Retail Trade; Car and Motorcycle Repair	-6.96	3.18	-6.96	5.41	-6.96	-0.27
H	Transportation and Warehousing	-7.29	2.00	-7.29	11.23	-7.29	8.35
I	Provision of Accommodation and Food and Drink	0.42	7.09	0.42	10.59	0.42	6.44
J	Information and Communication	73.80	-4.75	73.80	-0.65	73.80	-5.28
K	Financial Services and Insurance	-0.08	-4.44	-0.08	0.48	-0.08	0.49
L	Real Estate	31.30	-1.51	31.30	8.40	31.30	-0.85
M	M N. Company Services	-4.28	7.92	-4.28	9.08	-4.28	7.05
O	Government Administration, Defense, and Compulsory Social Security	-16.49	4.46	-16.49	-3.72	-16.49	-2.80
P	Education Services	10.76	2.69	10.76	2.63	10.76	5.94
Q	Health Services and Social Activities	12.08	14.79	12.08	-0.38	12.08	9.73
R	R, S, T, U. other services	4.98	0.55	4.98	6.81	4.98	12.28

Source: processed data

Information:

A Agriculture, Forestry, and Fisheries

B Mining and Quarrying

C Processing Industry

D Procurement of Electricity and Gas

E Water Procurement,t, Waste Management, Waste, and Recycling

F Construction

G Wholesale and Retail, Auto and Motorcycle Repair

H Transportation and Warehousing

I Provision Accommodation and Food and Drink

J Information and Communication

K Financial Services and Insurance

L Real Estate

M, N Corporate Services

O Government Administration, Defense, and Compulsory Social Security

P Education Services

Q Health Services and Social Activities

R, S, T, U Other Services

Table 5. t-test Results in Tasikmalaya Regency

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	64.65068	103.2568	0.626116	0.5756
X1	70.84072	35.58092	1.990975	0.1406
X2	278.0723	121.1998	2.294329	0.1055

Table 6. t-test Results in Pangandaran Regency

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	35.01491	111.6742	0.313545	0.7744
X1	64.87762	42.35618	1.531715	0.2231
X2	148.8416	376.5902	0.395235	0.7191

Table 7. t-test Result in Tasikmalya City

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	545.4289	183.7328	2.968598	0.0291
X1	278.0217	96.01005	2.895756	0.0327
X2	235.5328	92.28092	2.552346	0.0438

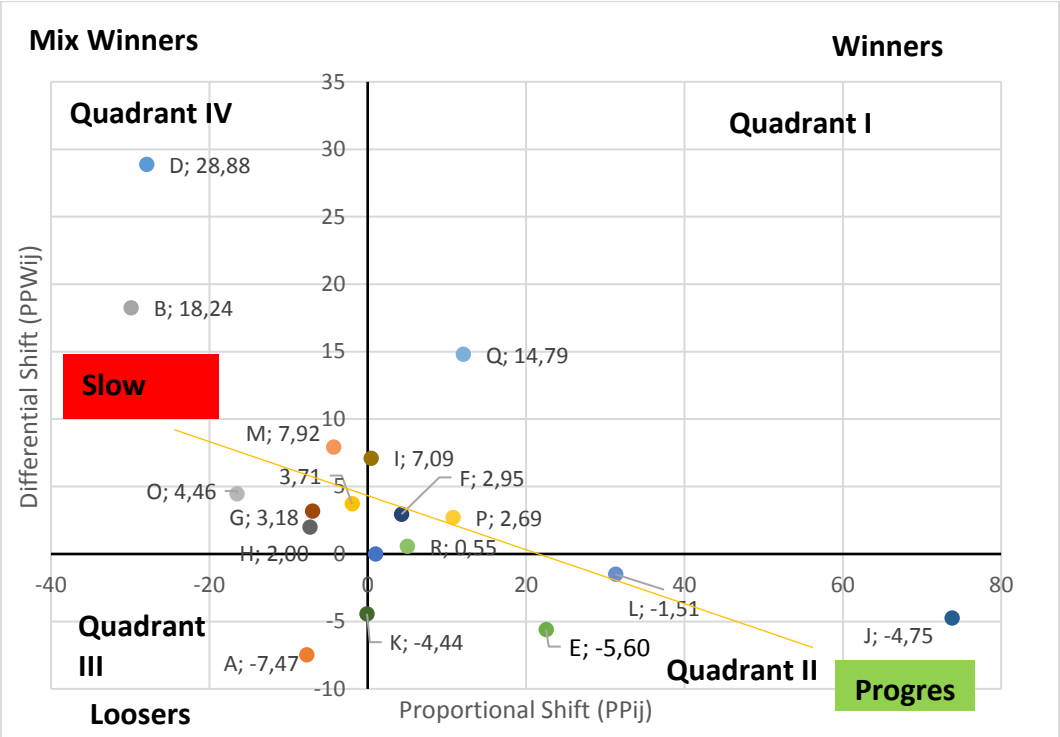

Fig. 1: Shift share analysis in Tasikmalaya City

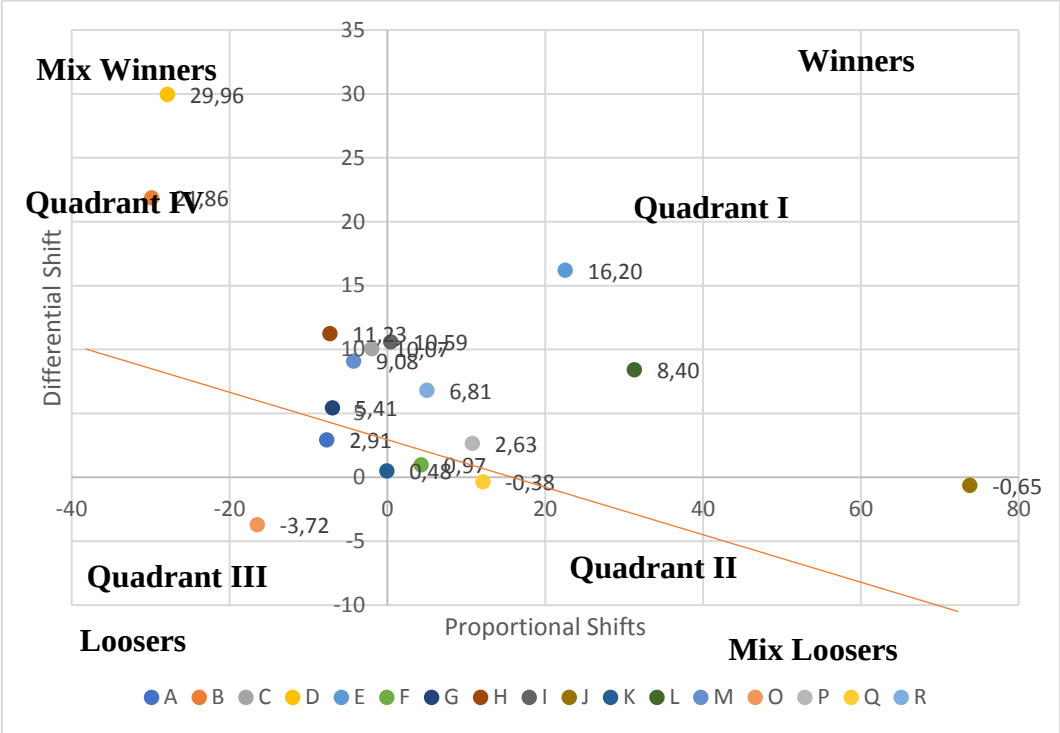

Fig. 2: Analysis of shift-share in Pengandarang Regency

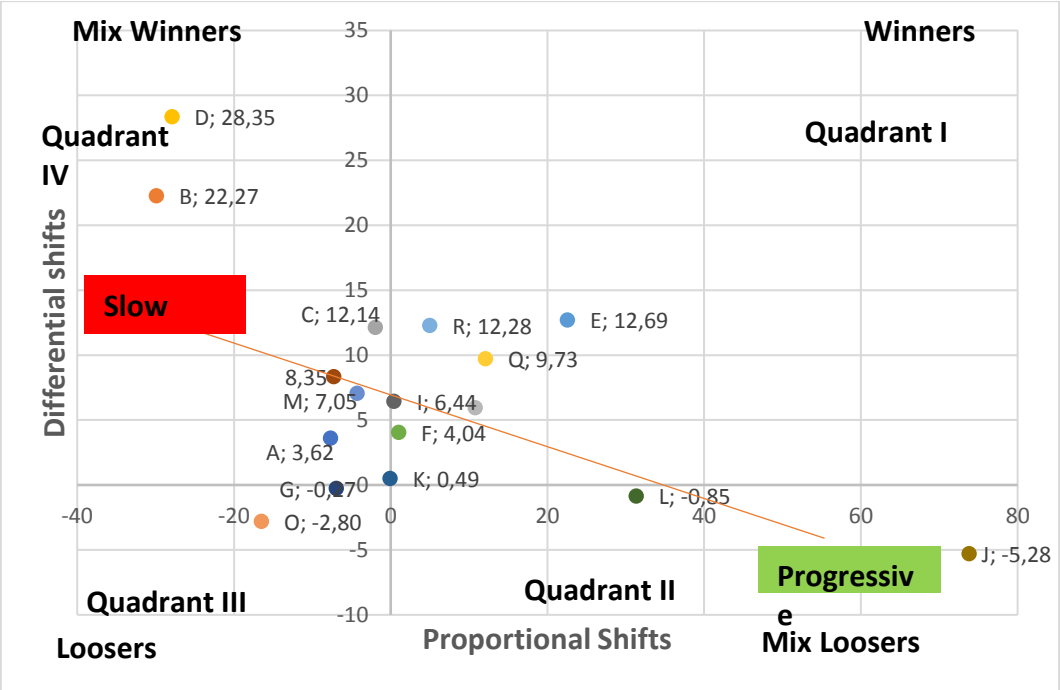

Fig. 3: Shift share analysis in Tasikmalaya Regency

Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

Heru Wahyudi made a research framework, Sunarmo collected literature reviews, Rifaldi Majid wrote the research, Winda Rika Lestasri proposed policy recommendations, and I Wayan Suparta collected and processed research data.

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Conflict of Interest

The author has no conflicts of interest to declare.