# Shift Share Analysis, Location Quotient Analysis and ARIMA forecasting in Determining the Competitiveness of Tual City and Projected Economic Growth of Maluku Province

Nova Prista La Adisamu
*Departement of Electrical Engineering*
Institut Teknologi Sepuluh Nopember
Surabaya, Indonesia
novaprista@gmail.com

Endroyono
*Departement of Electrical Engineering*
Institut Teknologi Sepuluh Nopember
Surabaya, Indonesia
endroeleven@gmail.com

Supeno Mardi Susiki Nugroho
*Departement of Electrical Engineering*
Institut Teknologi Sepuluh Nopember
Surabaya, Indonesia
mardi@its.ac.id

***Abstract*—Economic development and high competitiveness are significant factors in a region's success, especially since the enactment of Law Number 32 of 2004 on Regional Government, which converted the centralized to a decentralized system. This study analyzes the GRDP data of Tual City and Maluku Province using the shift share method and the Location Quotient method, resulting in a shift share assessment of Tual City's regional competitiveness. It can be seen that the economic state of Tual City is still influenced by the Maluku Province's economic growth of 593,688 with an overall slowdown in Proportional Shift of (-633.686) and an differential shift of (-5,756.040) during 9 years. The ARIMA forecasting method was then used to project the province's 5th-year economic growth of 8,486,707 (billions) in the 5th period.**

**Keywords— ARIMA forecast, Competitiveness, Location Quotient, Maluku Province, Shift Share Tual City**

## I. INTRODUCTION

Economic development and high competitiveness are significant factors in a region's success, especially since the enactment of Law Number 32 of 2004 [1] on Regional Government, which converted the centralized to a decentralized system.

Regional economic development is the formation of new institutions and the development of new alternative industries, as well as enhancement in labor capacity through the production of better products and services [2]. Inequality in development, on the other hand, occurs at both the local and national levels. In the international context, the disparity in economic development between regions will be evident. Inequality in development is frequently a serious issue, and if it is not addressed wisely, it can lead to more complex crises[3]. As a result, regional competitiveness is one of the most crucial concerns in regional development. Competitiveness is commonly connected with the ability of a company, city, region, or country to sustainably maintain or increase its competitive edge [4].

Inclusive growth is one of the visions of sustainable development. Sustainable inclusive growth in a broad sense includes increased production, income, and income/expenditure distribution[5]. The level of competitiveness is one of the parameters in the concept of a sustainable city. The greater the level of competitiveness of a city, the greater the level of people's welfare [6]. The level of regional competitiveness can be assessed by defining the economic conditions by analyzing the added value obtained from the economic sectors year to year [7] with a sharpening focus on regional potential-based development so that regions are encouraged to explore and exploit resources for the welfare of their people[8], Successful development cannot be achieved if a country has numerous remote areas and a high poverty rate, making it impossible for the country to progress and become a developed country[9]. In contrast to western Indonesia, economic growth in eastern Indonesia has been uneven, owing to the tendency of economic activity to occur in Java and Sumatra, as evidenced by the disproportionate gross regional domestic product[10].

The discussion of the government's work plan in 2019 still prioritizes the primary challenges of regional development in Indonesia. Because of a gap between the western region of Indonesia (KBI) and the eastern region of Indonesia (KTI), the government encourages the development of eastern Indonesia in order to achieve equitable regional development[11].

Tual City was formerly an integral and inseparable part of the Southeast Maluku Regency. With the recent issue of regional expansion, Tual City was driven to divide itself in 2007 into a New Autonomous Region (DOB) in Maluku Province. With the characteristics of an archipelagic city, the phenomena of regional disparity, the span of control, and equitable development continue to be the people's main concerns[12].

Several empirical studies have been conducted employing analytical tools, including shift share, location quotient, and ARIMA forecasting by previous researchers. Research conducted by S. Pantouw in the Minahasa district with the agricultural subsector as the major focus reveals the results that the agricultural sub-sector has grown but has no competitive advantage[13] . The results obtained by M. Fuad Randi in the South Sulawesi Province using the location quotient and shift share method in measuring economic growth indicate that the leading and the basis sector is the agricultural sector. The results obtained by Osrita Hapsara in the Jambi City using the Klassen typology method, location quotient, and ICOR reveal that the economic growth of Jambi City has increased and has a positive value, driving the government to prepare appropriate investments. The use of the ICOR can assist in

choosing the right technology in Jambi City[14] .The results of a study conducted by Andi Kurniawan Kartanegara regarding the leading sector of the Toboali Subdistrict employing the location quotient and shift share method show that financial and insurance services and company services become the basis of the economic sector while the mining and quarrying sector serves as a competitive sector[15]. The results obtained by a study conducted by Hans Sammy on the economy of Sorong City employing shift share indicate that the sector that experienced positive growth was the construction sector, while the mining and quarrying sector is the competitive sector[16]. The results obtained by Ferry Kondo in a study conducted in Ambon City to predict the inflation rate with ARIMA forecasting indicate that the best model, which was ARIMA (0,1,1) showed satisfactory results in short-term projections[17] . The research results obtained by Muhammad Ali Akbar from a study conducted in Jambi Province for economic changes and employment absorption using the shift share, input-output, and Arima methods reveal that the industrial sector becomes a sector that has potential in the Jambi Province's economy as seen by the results of its input and output. Meanwhile, in shift share and ARIMA, the economy of Jambi Province is dominated by the agricultural sector. This, however, is not directly proportional to the slowing down of employment in the agricultural sector. On the other hand, the absorption of labor that contributes the most is the construction sector [18].

Agus Sulaiman [19] conducted a study in Indonesia to predict the unemployment rate by comparing the ARIMA and HOLT–WINTERS forecasting methods. The comparison of ARIMA model (0,1,12) compared to HOLT-WINTERS shows the model value of $\alpha = 0.3$ and $\beta = 0.4$. The results of the comparison of the two methods indicate that the HOLT-WINTERS method is the best model in making predictions[19] . The results obtained by Ronald John Jami in Ambon City to predict the inflation rate using Consumption Price Index (CPI) data showed that the best model was the ARIMA model (1,1,1) [20].

This study differs from previous similar studies in that the analysis of shift share, location quotient, and ARIMA forecasting carried out in this study was not carried out in the same area like those in the previous studies. This study employed shift share analysis and location quotient to analyze the competitiveness of Tual City and ARIMA forecasting to project economic growth in Maluku Province.

## II. RESEARCH METHOD

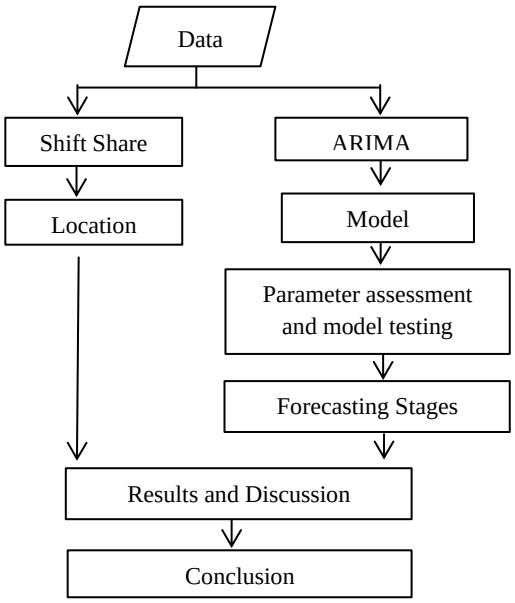


Fig.1. Research process diagram

### *A. Dataset*

The dataset used in this study was the GRDP data set according to the 2010 ADHK business field of Tual City and Maluku Province for the period 2011–2019 with 17 economic sectors which are initialized in Table I below:

TABLE I. INITIAL BUSINESS FIELD SECTOR

| No | Business Field Sector [21] | Initial Sector |
|---|---|---|
| 1 | Agriculture, Forestry and fisheries | S1 |
| 2 | Mining and excavation | S2 |
| 3 | Processing industry | S3 |
| 4 | Procurement of Electricity, Gas | S4 |
| 5 | Water Supply, Waste Management, Waste and Recycling | S5 |
| 6 | Construction | S6 |
| 7 | Wholesale and Retail Trade, and Car and Motorcycle Repair | S7 |
| 8 | Transportation and warehousing | S8 |
| 9 | Provision of Accommodation and Food and Drink | S9 |
| 10 | Information and Communication | S10 |
| 11 | Financial Services and Insurance | S11 |
| 12 | Real Estate | S12 |
| 13 | Company Services | S13 |
| 14 | Government Administration, Defense and Mandatory Social Security | S14 |
| 15 | Education Services | S15 |
| 16 | Health Services and Social Activities | S16 |
| 17 | Other services | S17 |

The dataset used for ARIMA forecasting is the first and second quarter dataset of Maluku Province in 2011-2019 as shown by Table II is as follows:

TABLE II. GRDP MALUKU PROVINCE QUARTER I, II

| Year | Quarter | Total Value of GRDP of Maluku Province [22] |
|---|---|---|
| 2011 | I<br>II | 4,742,723<br>4,737,407 |
| 2012 | I<br>II | 5 ,107, 308<br>5 ,269, 826 |
| 2013 | I<br>II | 5, 266, 141<br>5, 408,151 |
| 2014 | I<br>II | 5, 734,685<br>5 ,810 ,449 |
| 2015 | I<br>II | 5, 971 ,124<br>6 ,132 ,531 |
| 2016 | I<br>II | 6,303,766<br>6,502 ,758 |
| 2017 | I<br>II | 6 ,723 ,714<br>6.,877 ,745 |
| 2018 | I<br>II | 7,082 ,728<br>7 ,254, 211 |
| 2019 | I<br>II | 7,535,292<br>7,682,382 |

## B. Shift Share Method

This study analyzes the competitiveness of Tual City by utilizing secondary data from the 2010 ADHK Gross Regional Domestic Product, which was obtained from the Statistics Indonesia (BPS) of Tual City. The following are the stages of analysis carried out in this research:

### 1) National Growth Effect

National Growth is an indicator that shows the influence of the province's economic growth on the regional economy [23] , The National formula is presented in equation (1) as follows :

$$N_{in,t} = E_{ir,t-1} X \left(\frac{E_{n,t}}{E_{n,t-1}}\right) - 1 \quad (1)$$

### 2) Proportional Shift

Proportional Shift is an indicator that shows the relative change in the performance of a sector in a particular area to the same sector in the province [23]. The Proportional Shift formula is presented in equation (2) as follows:

$$PS_{ir,t} = E_{ir,t-1} X \left(\frac{E_{in,t}}{E_{in,t-1}} - \frac{E_{n,t}}{E_{n,t-1}}\right) \quad (2)$$

### 3) Differential Shift

Differential Shift is an indicator that provides explanations or information in determining the level of the competitiveness of regional (local) industries with the economy at the higher/provincial level [23], The Differential Shift formula is presented in equation (3) as follows :

$$DS_{ir,t} = E_{ir,t-1} X \left(\frac{E_{ir,t}}{E_{ir,t-1}} - \frac{E_{n,t}}{E_{n,t-1}}\right) \quad (3)$$

As for the explanation of the shift-share formula symbol, it is present in Table III below:

TABLE III. THE SHIFT – SHARE FORMULA SYMBOL

| Symbol | Symbol Explanation |
|---|---|
| $E_{ir,t-1}$ | Eir $_{t-1}$ is the Tual City GRDP in sector (i) at at the beginning of the observation |
| $E_{ir,t}$ | is the Tual City GRDP in sector (i) at the end of the observation |
| $E_{n,t}$ | En$_{,t}$ is the total GRDP of Maluku Province last year |
| $E_{n,t-1}$ | is the Total GRDP of Maluku Province in the first year. |
| $PS_{ir,t}$ | the Proportional Shift |
| $Ein_{,t}$ | Ein,t is the provincial GRDP in sector (i) at the end of the observation |
| $Ein_{,t-1}$ | Ein, t-1 is the GRDP of Maluku province in sector (i) at the beginning of the observation |
| $DS_{ir,t}$ | Differential Shift |

## C. Location Quotient Method

This method serves to analyze the basic and non-basic economic subsectors in Tual City. Based on the formula, the calculation results are classified as follows: (1) If the LQ value>1, then region j for sector i has specialization (regional specialization level> national specialization level); (2) If the LQ value = 1, then region j> for sector i has specialization (level of regional specialization = level of national specialization); and (3) If the LQ value <1, then region j for sector i has no specialization (regional specialization level < national level).

$$LQ = (Eij/Ej)/(Ein/En) \quad (4)$$

## D. ARIMA Forecasting Method

The forecasting method in this study employed the Minitab application in data processing to generate the projected value of the Maluku Province's economic growth.

### 1) Model Identification

In the ARIMA model, model identification was carried out to obtain a stationary model, and produce the best model.

The test was conducted using Autocorrelation Function (ACF), Partial correlation Function (PACF), differencing and Logging, box–cox plot.

The utilization of ARIMA forecasting requires data series conditions that are statistically related to the mean and variance [24].

In this study, the stationary test was carried out using a box-cox plot. If the rounded value is 0.00 which is less than 1, then the data is not stationary. A well-rounded value is more than 1.

### 2) Parameter estimation and model testing

On the ARIMA model were carried out after model identification to test whether the data was stationary. After that, parameter estimation and model testing were carried out on data that were stationary by employing the Minitab application to produce the best forecasting model.

*3) Forecasting stage*

The forecasting stage was performed when the model parameters are significant. The rest meet the white noise requirements and normal assumptions are met and will be used for economic growth projections for Maluku Province for the next 5 years.

## III. Result and Discussion

The results of the study conducted using shift share and location quotient to determine the competitiveness of Tual City and ARIMA in forecasting economic growth projections for Maluku Province are shown as follows:

### *A. Shift Share Analysis*

Shift Share analysis was utilized in this study to determine the competitiveness of the Tual City by using the National Growth Effect, proportional shift, and differential shift components.

*1) National Growth Effect*

National growth shows changes in regional economic sectors related to increased economic activities at the provincial level. The results of the national growth analysis are presented in Table IV.

Table IV. The Results of The National Growth Effect of Each Sector of The Business Field

| No | Business Field Sector | National Growth Effect |
|---|---|---|
| 1 | S1 | 227.611 |
| 2 | S2 | 2.479 |
| 3 | S3 | 9.563 |
| 4 | S4 | 347 |
| 5 | S5 | 2.893 |
| 6 | S6 | 50.693 |
| 7 | S7 | 79.882 |
| 8 | S8 | 20.044 |
| 9 | S9 | 6.266 |
| 10 | S10 | 12.429 |
| 11 | S11 | 13.714 |
| 12 | S12 | 2.965 |
| 13 | S13 | 2.177 |
| 14 | S 14 | 88.946 |
| 15 | S15 | 40.372 |
| 16 | S16 | 23.023 |
| 17 | S17 | 10.285 |
| average amount | | 593.688 |

Source: researcher processed data, 2020

Table IV of the results of national growth shows that the average value of all sectors in Tual City has a fairly high value of 593,688.

It shows that the sectors are experiencing fast growth but have not exceeded the growth at the provincial level.

On average, the high value of national growth in these sectors is S1 (agriculture, forestry, and fisheries) of 227,611, S14 (Government Administration, Defense and Mandatory Social Security Sector) of 88,946, and S7 (Wholesale and Retail Sector, and Car and Motorcycle Repair) of 79,882.

1) Proportional Shift

Proportional Shift was used in this study to determine the indicators of changes in the performance/economic influence of the province in a region. If the results indicate a positive value, the regional sectors specialize in sectors that are growing regionally/provincially. Meanwhile, results that indicate negative values specialize in sectors that are slow-growing regionally/provincially. The result analysis of Proportional Shift is presented in Table V.

Table V. The Results of The Proportional Shift of Each Sector of The Business Field

| No | Business Field Sector | Proportional Shift |
|---|---|---|
| 1 | S1 | -50,772.627 |
| 2 | S2 | -1,877.308 |
| 3 | S3 | -460.746 |
| 4 | S4 | 155.321 |
| 5 | S5 | -1,102.881 |
| 6 | S6 | 9,164.134 |
| 7 | S7 | 18,605.224 |
| 8 | S8 | -734.734 |
| 9 | S9 | -65.,977 |
| 10 | S10 | 2,902.392 |
| 11 | S11 | 4,111.259 |
| 12 | S12 | -1,515.776 |
| 13 | S13 | -517.604 |
| 14 | S14 | 18,472.201 |
| 15 | S15 | 3,781.213 |
| 16 | S16 | -6,872.073 |
| 17 | S17 | -3,458.682 |
| Average amount | | -633.686 |

Source: researcher processed data, 2020

Based on Table V above, it can be seen that the proportional shift value of the 17 business sectors shows that 5 sectors have positive values while the other 12 sectors have negative values. Sectors in Tual City that have a positive (P) value (P > 0) are fast-growing sectors, including:

The sector of Wholesale and Retail Trade, and Car and Motorcycle Repair (S7) with a value of 18,605.224; the sector of Government Administration, Defense and Mandatory Social Security (S14) with a value of 18.472,201; Construction sector (S6) with a value of 9,164,134; Financial Services and Insurance sector (S11) with a value of 4,111.259; the Education Services sector (S15) with a value of 3,781,213, the Information and Communication sector (S10) with a value of 2,902.392, and the Electricity and Gas Procurement sector (S4) with a value of 155,321.

*2) Differential Shift*

The differential shift was carried out to determine the competitiveness/benefit of Tual City. Differential shift calculates local competitiveness with the provincial economy. Areas with a positive value are those with

locational benefits/areas that can experience rapid growth. Meanwhile, the area with negative locational benefits is an area that is not locationally advantageous. The results of the Differential Shift analysis are presented in Table VI.

TABLE VI. THE RESULTS OF THE PROPORTIONAL SHIFT OF EACH SECTOR OF THE BUSINESS FIELD

| No | Business Field Sector | Differential Shift |
|---|---|---|
| 1 | S1 | -1,8191.05 |
| 2 | S2 | 1,439.160 |
| 3 | S3 | -2,145.110 |
| 4 | S4 | 10.90018 |
| 5 | S5 | -436.1964 |
| 6 | S6 | -21,060.68 |
| 7 | S7 | -10,160.43 |
| 8 | S8 | -378.7758 |
| 9 | S9 | -1,268.130 |
| 10 | S10 | -3,650.678 |
| 11 | S11 | -6,783.896 |
| 12 | S12 | -284.4958 |
| 13 | S13 | -527.2084 |
| 14 | S14 | -14,291.79 |
| 15 | S15 | -11,260.05 |
| 16 | S16 | -4,022.383 |
| 17 | S17 | -4,841.832 |
| Average amount | | -5,756.040 |

Source: researcher processed data, 2020

The results of the Differential Shift analysis are presented in Table VI. Based on Table VI above, it can be seen that the differential shift of Tual City has a negative value of -5,756.040.

## B. Analysis Location Quotient

Location Quotient analysis in this study was utilized in determining the economic base that can be used in Tual City. The data used in the location quotient was secondary GRDP data of Tual City for a period of 9 years of 2011 – 2019. The LQ coefficient value > 1 indicates that the subsector is

The results of the calculation of the Location Quotient are shown in the base and non-base results in Table VII.

TABLE VII. THE RESULTS OF LOCATION QUOTIENT BASED AND NON-BASE

| Economic Base | Business Field Sector | Coefficient Value |
|---|---|---|
| ***Base sector ( LQ > 1)*** | S16 Health Services and Social Activities | 1.62 |
| | S1 Agriculture, Forestry and fisheries | 1.56 |
| | S12 Real Estate | 1.33 |
| | S15 Education Services | 1.22 |
| | S6 Construction | 1.20 |
| **Non Base Sector ( LQ < 1)** | S2 Mining and excavation | 0.14 |
| | S3 Processing industry | 0.29 |
| | S13 Company Services | 0.33 |
| | S10 Information and Communication | 0.57 |
| | S9 provision of Accommodation and Food and Drink | 0.59 |
| | S8 Transportation and warehousing | 0.65 |
| | S11 Financial Services and Insurance | 0.67 |
| | S4 Procurement of Electricity, Gas | 0.77 |
| | S14 Government Administration, Defense and Mandatory Social Security | 0.77 |
| | S17 Other services | 0.82 |
| | S5 Water Supply, Waste Management, Waste and Recycling | 0.93 |
| | S7 Wholesale and Retail Trade, and Car and Motorcycle Repair | 0.99 |

Source: researcher processed data, 2020

Table VI shows that of the 17 sectors researched, 4 economic bases have an LQ coefficient > 1, including the Health Services and Social Activities sector with an average LQ coefficient value of 1.62, the Agriculture, Forestry, and Fisheries sector with an average LQ coefficient value of 1.56, the Real Estate sector with an average LQ coefficient value of 1.33, and the Education Services sector with an average LQ coefficient value of 1.22.

## C. ARIMA Forecasting

ARIMA forecasting was employed to project the economic growth of Maluku Province in the next 5 years by determining the best ARIMA model. The results of the ARIMA forecasting are as follows:

### 1) Model Identification

Identification of the data model using stationary series data that is constant data on the average and variance and does not have a trend. The following is the time series data for the first and second quarters of the Provincial GRDP for the period 2011 – 2019.

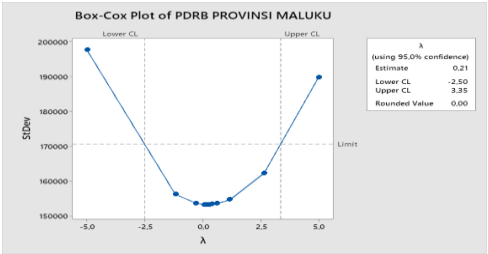


Fig. 2. The result of the box-cox plot

the results of the Box-Cox Plot transformation show a rounded value of 0.00 which is less than 1, indicating that the GRDP series data of Maluku Province is not yet stationary. Therefore, the data variance must be stabilized before the mean is stabilized. This was solved by using a natural logarithm utilizing the original value to be transformed.

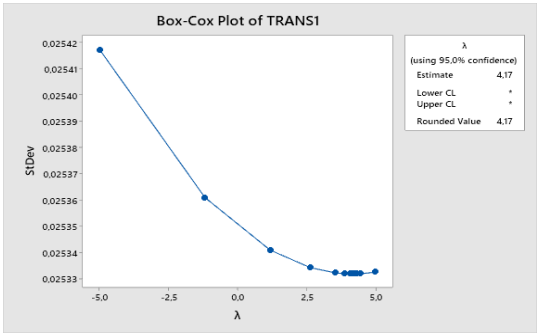


Fig. 3. The result of the box-cox transformation of the natural logarithm

The transformation results figure 3 shown a rounded value of 4.17 which is more than 1, and at a 95% confidence interval. The results of the graph transformation shown are similar to the graph before the transformation. However, there is a decrease in the data that is not stationary, so the first differencing was performed to stabilize the data. The differencing process (d=1) from the natural log data is presented as shown figure 4 below:

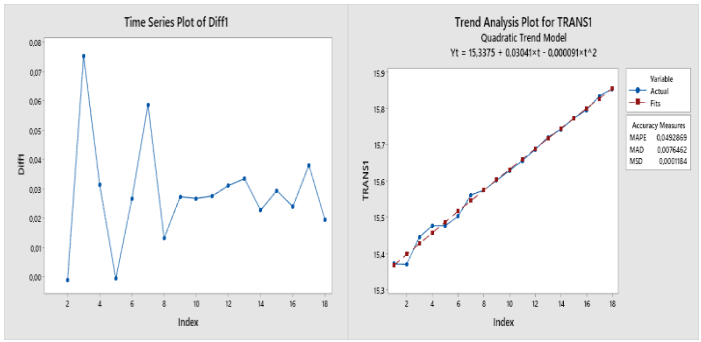


Fig. 4. The result differential series data plot 1 result of natural lag transformation

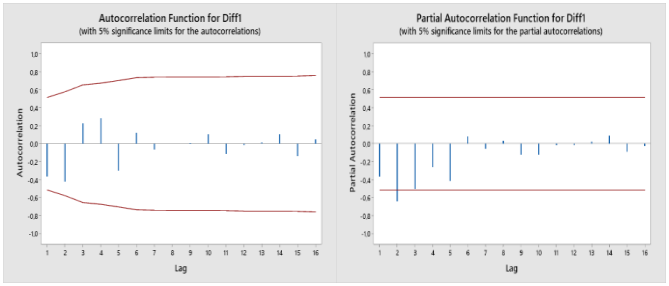


Fig. 5. The result of the ACF lag and PACF

The results of the ACF lag do not cross the line and PACF cut off 1 lag. Based on these results, the data is declared to be stationary so that parameter estimation and model testing can be performed. The initial hypothesis in this model is ARIMA (0.1.1), (1.1.0), (1.1.1).

*2) Parameter assessment and model testing*

The diagrams in Figure 13 and Figure 14 show that the lag line only occurs in PACF lag 2 is significant while the lag line in ACF is still within the boundary line.

By using the Minitab application, the results for the suitability of the ARIMA model were obtained. The estimation results from the forecasting obtained are seen from the significant parameter P-Value < Alpha 0.05 and the smallest MSE from the modeling, as presented in Table VII.

TABLE VII. THE RESULT MODEL TESTING ARIMA

| | Model | Parameter | P- Value | Conclusion | MSE |
|---|---|---|---|---|---|
| 1 | AR (1) | AR (1) | 0,001 | Significant | 2,04458 |
| 2 | MA (1) | MA (1) | 0,008 | Not significant | 2,47759 |
| 3 | ARIMA (1,1,1) | AR(1) MA (1) | 0,000 | Significant | 1,03053 |

Table VII shows the AR (1) model, the ARIMA (1,1,1) model with decisions. Seen based on the P-Value and the smallest MSE, then the ARIMA (1,1,1).

3) *Forecasting* Stages

The modeling results that have been performed provide a significant model for forecasting the GRDP growth projection of Maluku Province for a period of 5 years. The results of this projection are presented in Table VIII.

TABLE VIII. THE RESULTS OF FORECASTING THE ECONOMIC GROWTH PROJECTION OF THE MALUKU PROVINCE PROJECTIONS FOR A PERIOD OF 5 YEARS.

| Year | Projection |
|---|---|
| 2020 | 7.843.124 |
| 2021 | 8.003.927 |
| 2022 | 8.164.792 |
| 2023 | 8.325.719 |
| 2024 | 8.486.707 |

Source: researcher processed data, 2020

Based on Table VIII, the highest projected economic growth will be in 2024 at 8,486,707.

The forecasting results show that the economic growth of Maluku Province has increased annually.

## IV. CONCLUSION

This research draws a conclusion as follows:

1. Based on the results of this research conducted using Shift Share and the National Growth Effect, the sectors in Tual City have a fairly high value of 593,688.
2. Sectors that are experiencing positive and rapid growth are Wholesale and Retail Trade, and Car and Motorcycle Repairs (S7).
3. Locational Competitiveness of Tual City has a negative value of -5,756.040,
4. The economic base is shown by the Health Services sector and Social Activities with an average LQ coefficient value of 1.62, the Agriculture, The Forestry and Fisheries sector with an average LQ coefficient value of 1.56, the Real Estate sector with an average LQ coefficient value of 1.33, and Educational Services with an average LQ coefficient value of 1.22.
5. ARIMA forecasting for economic growth projection of Maluku Province shows an annual increase with the highest projection in 2024 of 8,486,707.

Therefore, it can be concluded that the competitiveness of Tual City has not accelerated or progressed compared to other regions. Meanwhile, overall, the projected economic growth of Maluku Province has increased.

## ACKNOWLEDGMENT

The local government of the Tual City is expected to pay attention to the economic base of the Tual City which will later be used to increase the regional economy.

## REFERENCES

[1] "Undang-Undang Republik Indonesia Nomor 32 Tahun 2004 Tentang Pemerintahan Daerah."

[2] L. Arsyad, "Pengantar Perencanaan Dan Pembangunan Ekonomi Daerah," 1999.

[3] H. Mopangga, "Analisis Ketimpangan Pembangunan Dan Pertumbuhan Ekonomi Di Provinsi Gorontalo Herwin Mopangga Sekolah Pascasarjana," *Trikonomika*, Vol. 10, No. 1, Pp. 40–51, 2011.

[4] M. E. Porter, "Economic Development : Local Clusters In A Global Economy," *Economic Development Quarterly*, 2000, Doi: 10.1177/089124240001400105.

[5] S. Kusumaningrum *Et Al.*, "Pertumbuhan Inklusif Dan Faktor Yang Memengaruhinya ( Economic Growth Of Provinces In Indonesia Based On Inclusive Growth Composite Index And The Influence Factors ) Pertumbuhan Inklusif Yang Berkelanjutan Dalam Arti Luas Mencakup Peningkatan Melibatkan S," *Ekonomi Dan Kebijakan Publik*, Vol. 10, No. 1, Pp. 1–18, 2019.

[6] M. Huda And E. B. Santoso, "Pengembangan Daya Saing Daerah Kabupaten/Kota Di Propinsi Jawa Timur Berdasarkan Potensi Daerahnya," *Jurnal Teknik Pomits*, Vol. 3, No. 2, Pp. 81–86, 2014, Doi: 10.12962/J23373539.V3i2.7207.

[7] M. Basuki And F. N. Mujiraharjo, "Analisis Sektor Unggulan Kabupaten Sleman Dengan Metode Shift Share Dan Location Quotient," *Jurnal Sains, Teknologi Dan Industri*, Vol. 15, No. 1, Pp. 52–60, 2017, Doi: 10.4103/2276-7096.188531.

[8] N. Prawoto, "Pengembangan Potensi Unggulan Sektor Pertanian," *Jurnal Ekonomi & Studi Pembangunan*, Vol. 11, No. 1, Pp. 1–19, Apr. 2010, Doi: 10.18196/Jesp.11.1.1275.

[9] S. Sugianto And Y. T. Permadhy, "Perencanaan Pembangunan Inklusif Melalui Peran Partisipatif Pemerintah Daerah," *Ecces (Economics, Social, And Development Studies)*, Vol. 7, No. 1, P. 87, Jun. 2020, Doi: 10.24252/Ecc.V7i1.13565.

[10] D. Melani Hutajulu, J. Lukis Panjawa, F. Sari Islami, And R. Retno Sugiharti, "Determinan Pertumbuhan Ekonomi Berkelanjutan Wilayah Induk Dan Pemekaran Di Kawasan Timur Indonesia," *Ejournal.Uksw.Edu*, Vol. 23, No. Oktober, Pp. 263–284, 2020, Accessed: Jan. 30, 2022. [Online]. Available: Https://Ejournal.Uksw.Edu/Jeb/Article/View/3293.

[11] Bappenas, "Rencana Kerja Pemerintah Tahun 2019," *Pemerataan Pembangunan Untuk Pertumbuhan Berkualitas*, Pp. 1–441, 2019.

[12] M. K. Alfrianus Papuas, M. E. P. . Prof.Drs. Mustafid, And M. K. Drs. Eko Adi Sarwoko, "Rancang Bangun Sistem Informasi Pendapatan Asli Daerah Pada Dinas Pendapatan Daerah Kabupaten Sangihe," Aug. 2012.

[13] S. Pantow, S. Palar, And P. Wauran, "Analisis Potensi Unggulan Dan Daya Saing Sub Sektor Pertanian Di Kabupaten Minahasa," *Jurnal Berkala Ilmiah Efisiensi*, Vol. 15, No. 4, Sep. 2015, Accessed: Jul. 29, 2021. [Online]. Available: Https://Ejournal.Unsrat.Ac.Id/Index.Php/Jbie/Article/View/9380.

[14] O. Hapsara And S. Sudirman, "Analisis Potensi Daya Saing Ekonomi Kota Jambi," *J-Mas (Jurnal Manajemen Dan Sains)*, Vol. 5, No. 1, P. 42, 2020, Doi: 10.33087/Jmas.V5i1.146.

[15] A. Negara, A. P.-E. J. Ekonomi, And Undefined 2020, "Analisis Sektor Unggulan Kecamatan Toboali Dengan Metode Shift Share Dan Location Quotient," *Equity.Ubb.Ac.Id*, Accessed: Jan. 28, 2022. [Online]. Available: Http://Equity.Ubb.Ac.Id/Index.Php/Equity/Article/View/11.

[16] H. Salakory, F. M.-B. J. Ilmu, And Undefined 2020, "Analisis Shift-Share Terhadap Perekonomian Kota Sorong," *Ojs3.Unpatti.Ac.Id*, Vol. 14, P. 4, 2020, Doi: 10.30598/Barekengvol14iss4pp575-586.

[17] F. Kondo Lembang, "Prediksi Laju Inflasi Di Kota Ambon Menggunakan Metode Arima Box Jenkins," *Statistika: Journal Of Theoretical Statistics And Its Applications*, Vol. 16, No. 2, Pp. 95–102, 2017, Doi: 10.29313/Jstat.V16i2.2188.

[18] M. Ali And Akbar, "Analisis Perubahan Struktur Ekonomi Dan Penyerapan Tenaga Kerja Berdasarkan Pendekatan Shift Share, Input-Ouput Dan Arima Di Provinsi Jambi Periode Tahun 2001-2016," *Jurnal Ilmiah*, Vol. 10, No. 2, Pp. 1–94, 2015.

[19] A. Sulaiman And A. Juarna, "Peramalan Tingkat Pengangguran Di Indonesia Menggunakan Metode Time Series Dengan Model Arima Dan Holt-Winters," *Jurnal Ilmiah Informatika Komputer*, Vol. 26, No. 1, Pp. 13–28, 2021, Doi: 10.35760/Ik.2021.V26i1.3512.

[20] R. J. Djami, J. Esna, T. Radjabaycolle, And G. Haumahu, "Forecasting The Ambon City Consumer Price Index Using Arima Box-Jenkins," Vol. 2, No. 2, Pp. 87–96, 2021, [Online]. Available: Https://Www.Bps.Go.Id/Indicator/3/2/1/Indeks-Harga-Konsumen-Umum-.

[21] K. Tual, T. Dalam, And D. Angka, *Kota Tual Dalam Angka 2020*. 2020.

[22] B. P. Statistik, "Provinsi Maluku Dalam Angka 2020."

[23] R. Tarigan, "Perencanaan Pembangunan Wilayah Edisi Revisi," *Jbumi Aksara*, Vol. Cetakan Ke, No. 1, P. 274, 2015.

[24] "Gikungu, S.W., A. G. Waititu, And Kihoro, J. M. 'Forecasting Inflation Rate In Kenya Using Sarima Model', *American Journal Of Theoretical And Applied Statistics*, 4(1): 15-18, 2015." Http://Www.Sciepub.Com/Reference/171568 (Accessed Aug. 21, 2021).