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“Entrepreneurship on Global Economics Development in the Era of Society 5.0”

Factors Affecting the Competitiveness of Regencies/Cities in Central Java Province in 2019-2021**Eli Wijayanto*¹, Muhammad Arif¹**¹Universitas Muhammadiyah Surakarta

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***Email:** b300190162@student.ums.ac.id**ABSTRACT**

The study used panel data regression. The selection of the estimated model by conducting the Chow Test and the Hausman Test of the selected model is the Fixed Effects Model (FEM). The value of the coefficient of determination (R^2) is 0.6679, which means that 66.79% of the variation in the Regional Competitiveness Index variable can be explained by the variables Regional Levy Realization, Average Public Expenditure, and Human Development Index. While the remaining 33.21% is influenced by free variables other than the model. Based on the validity test of the influence of the study, all variables used in the study, namely the realization of regional levies, the ratio of regional original income, average public expenditure, and the human development index negatively affect the regional competitiveness index in Central Java Province from 2019 to 2021.

Keywords: Competitiveness, Regencies/Cities, Central Java

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INTRODUCTION

National development and regional development are carried out in a sustainable manner aimed at improving the welfare of the community. The level of competitiveness is one of the benchmarks in the concept of sustainable development. The high and low levels of competitiveness will affect the level of welfare of the region and the country. The higher the level of competitiveness, the higher the level of well-being. One of the important things in supporting national development is to increase regional development. Therefore, it is expected that development results can be distributed and allocated to the regional level.

The overall potential of natural resources owned by a country is expected to support competitiveness as an expected output per working-age population. According to him, where social infrastructure (health and education) and political institutions, monetary policy and fiscal policy and the microeconomic environment, and even investment attractiveness are some of the factors that support competitiveness (Arif Barata Sakti, 2021).

Small cities and big cities have a backward and forward relationship and are even able to become important roles in regional development. The city is a center for the production of goods and services as well as a competitive provider of services, despite the limited availability of natural resources. And besides having the ability to distribute goods and services to other regions, the city is also a market to meet the needs of residents with a fairly high purchasing power (Raharja P. F., 2017).

Regions in providing a competitive environment for companies and the process of adding knowledge, so that the concept of regional competitiveness can be accepted in a tested manner and considered an important role in economic development in the current era of the global economy. The formation of agglomerations of industrial and service sector companies in the regions is influenced by investment and dissemination of knowledge at the regional level.

This view has a common concept and definition of regional competitiveness is to improve the welfare of the people in the economy with efforts to increase the competitiveness of an economy.

Central Java is the province that has the 2nd most regencies/cities after East Java, which has 29 regencies and 6 cities that give authority to these regencies/cities to have a positive impact on the people of the region by managing their respective regions and continuing to improve regional development.

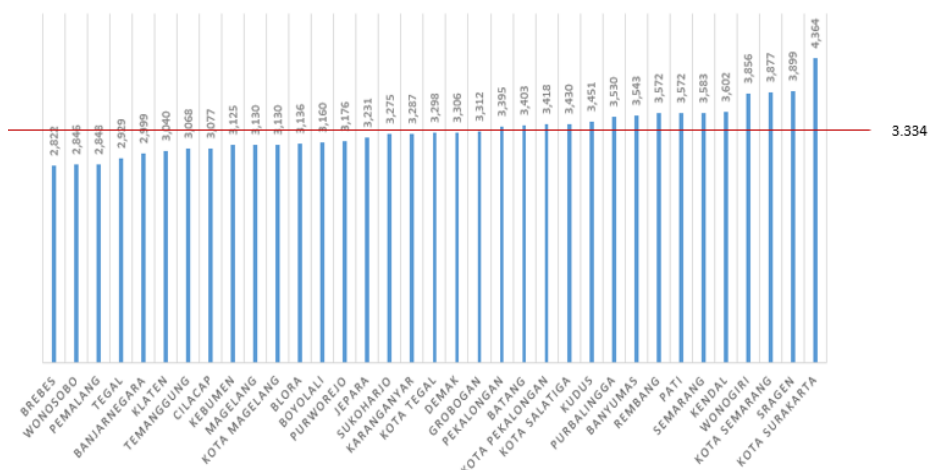


Figure 1. Competitiveness Level of Central Java Regency/City 2021

Source: Central Java Regional Competitiveness Index

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Based on the 2021 Central Java Regional Competitiveness Index chart shows the competitiveness index value with an average of 3,334 where the 5 highest regencies/cities that have index values above the average value include Kendal Regency, Wonogiri Regency, Semarang City, Sragen Regency, and Surakarta City which won the highest ranking of other Regency/City index values. Meanwhile, the other 5 lowest regencies and cities in Central Java that have below-average index values are Banjarnegara Regency, Tegal Regency, Pemalang Regency, Wonosobo Regency, and Brebes Regency which have the lowest index values from other regencies and cities. Brebes Regency with insufficient performance due to business competitiveness that is still low from other regions, the quality of health and education services is still relatively low, infrastructure is still lacking, and the level of productivity is still relatively low which can cause a weakening of the competitiveness of a region. The high and low values of the index indicate the level of performance and the level of well-being of the region. The higher the index value, the region has excellent performance and prosperity, on the contrary, the lower the index value indicates the declining performance of the region.

Previous research using secondary data and using the panel data analysis method, researchers obtained the results of the analysis that the selected model Fixed Effects Model (FEM). The results of this study show that the variables of Education, Health have a positive and significant relationship to Provincial Competitiveness. Meanwhile, the Transportation Infrastructure variable has a negative and significant relationship. Meanwhile, the variables of Regional Taxes and Regional Levies have a positive but not significant relationship with the Competitiveness of the Provinces of the islands of Sumatra, Java and Kalimantan for the period 2018 to 2020 (Tamara, 2021).

Previous research using the panel data regression method resulted in the variable regional expenditure, the remaining budget financing had a significant effect on the level of competitiveness of districts/cities in Jambi province. Meanwhile, the variables of investment and local income did not have a significant effect on the level of competitiveness of regencies/cities in Jambi province (Rahma Nurjanah, 2022).

According to previous research using the multiple linear regression analysis methods that the variable Household Consumption negatively affects economic growth, it is shown that the value of the regression coefficient of household consumption of -0.331, can be interpreted as if household consumption increases by 1 percent, then economic growth will decrease by 0.331 percent. And government spending and net exports affect economic growth in Mimika Regency but investment does not affect economic growth (Verselina M. Berkat, 2022).

The previous study used the multiple regression analysis method, using five independent variables, namely the quality of human resources, the number of workers, infrastructure, institutions, and the amount of investment realization. Research studies show that health and education aspects that reflect the quality of human resources have a significant effect on regional competitiveness. Similarly, infrastructure and investment have a positive and significant impact on the high competitiveness of provinces in Indonesia. Meanwhile, institutional factors represented by democratic conditions in Indonesia do not contribute to regional competitiveness (Ridwan, 2018).

This research is carried out to know the magnitude of the influence of various factors to be studied so that it can provide information to local governments, which can then be used as a reference for knowledge for local governments and information for the public to know.

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The method used in this study is panel data regression which combines time series data and cross-section data from 2019 to 2021 in Central Java Regency/City.

METHOD

This study uses Panel Data Regression to determine the direction and magnitude of the influence of Regional Levy Realization, Regional Original Income Ratio, Average Public Expenditure, and Human Development Index on the Regional Competitiveness Index in Central Java Province in 2019-2021. Researchers use the following econometric equations.

$$IDSD_{it} = \beta_0 + \beta_1 \log RRD_{it} + \beta_2 RPAD_{it} + \beta_3 \log RPM_{it} + \beta_4 IPM_{it} + \varepsilon_{it}$$

Where:

IDSD	= Regional Competitiveness Index (Index numbers)
logRRD	= Realization of Regional Retribution (thousand rupiahs)
RPAD	= The ratio of PAD to Total Regional Income (percent)
logRPM	= Average Public Expenditure (rupiah)
IPM	= Human Development Index (index numbers)
β_0	= Constant
$\beta_1 \dots \beta_4$	= Independent variable regression coefficient
i	= cross-section (Regencies/Cities in Central Java Province)
t	= Time Series (2019-2021)
ε	= error term

The steps in estimating Panel Data Regression include several stages including the common effects model (CEM), fixed effects model (FEM), and random effects model (REM) approach. Furthermore, it selects the best estimator model using the Chow Test and Hausman Test, then tests the goodness of the selected estimator model, and also tests the validity of the influence of the selected model.

RESULT AND DISCUSSION

The researcher estimated the direction and magnitude of the influence of regional levy realization, the ratio of regional original income, average public expenditure, and human development index on the regional competitiveness index in Central Java Province from 2019 to 2021, this study used panel data regression and obtained estimation results with the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) approaches recorded in table 1.

Table 1. Panel Data Regression Results

Variabel	Koefisien Regresi					
	CEM	Prob.	FEM	Prob.	REM	Prob.
C	45,16978	0,0069	189,8875	0,0000	45,84429	0,0003
LOG(RRD)	-0,599465	0,0271	-1,562443	0,0020	-0,608988	0,0033
RPAD	0,076150	0,0155	-0,153696	0,0650	0,076711	0,0014
Log(RPM)	-2,714650	0,0366	-4,925745	0,0282	-2,758452	0,0053
IPM	0,083459	0,1167	-1,190437	0,0341	0,084780	0,0363
R^2	0,108355		0,667875		0,109546	
Adjusted. R^2	0,072690		0,476652		0,073927	
Statistik F	3,038077		3,492644		3,075552	
Prob. Statistik F	0,020748		0,000004		0,019587	

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Model Selection Test

- A.** Chow
Cross- Section F (34,66) = 3,270236; Prob. F (34,66) = 0,0000
- B.** Hausman
Cross-Section random $\chi^2(4) = 80,234473$; Prob. $\chi^2 = 0,0000$

Source: Central Statistics Agency, (processed)

Estimated Model Selection Test

Chow Test

Based on the calculation results of the Chow Test in table 4.1, the Cross-section F probability is $0.0000 < 0.01$ (the Alpha used is 1%), with the estimated model H_0 : the estimated model is CEM, and the H_A of the estimated model is FEM. H_0 accepted if the statistical probability value of $F > \alpha$; H_0 rejected if the statistical probability value of $F \leq \alpha$. so that the selected model is a Fixed Effect Model (FEM).

Hausman Test

Based on the calculation results of the Hausman Test in table 4.1, the Cross-section F probability is $0.0000 < 0.01$ (the Alpha used is 1%), with the estimated model H_0 : the estimated model is REM, and the H_A of the estimated model is FEM. H_0 accepted if the statistical probability value of $F > \alpha$; H_0 rejected if the statistical probability value of $F \leq \alpha$. so that the selected model Fixed Effect Model (FEM).

Based on the calculation of the Chow Test and Hausmant Test data processing, the results were obtained that the Fixed Effects Model (FEM) as the best-estimated model. The following are the complete estimation results of the FEM model recorded in Table 2.

Table 2. Fixed Effects Models (FEM) Estimation Results

$IDSD_{it} = 189.8875 - 1.562443 LOG(RRD)_{it} - 0.153696 RPAD_{it} - 4.925745 LOG(RPM)_{it} - 1.190437 IPM_{it}$ $(0,0020)^* (0,0650)^{***} (0,0282)^{**} (0,0341)^{**}$
$R^2 = 0,667875$; $DW = 3,045639$; F statistic = 3,492644 ; Prob. F = 0,000004

Source: Central Bureau of Statistics (processed).

Description: * Significant at $\alpha = 0.01$; ** Significant at $\alpha = 0.05$; Significant at $\alpha = 0.1$. Numbers in brackets Statistical t-probability.

Based on Table 2, it can be seen that the Value of the Coefficient of Determination (R^2) is 0.6679, which means that 66.79% of the variation in the Regional Competitiveness Index variable can be explained by the variables Regional Levy Realization, Average Public Expenditure, and Human Development Index. While the remaining 33.21% is influenced by free variables other than the model.

DISCUSSION

The effect of the realization of regional retribution on regional competitiveness

The Regional Levy Realization Variable has a coefficient of -1.562443 with a probability value of 0.0020 which means that the Regional Levy Realization negatively affects Regional Competitiveness. The pattern of the relationship between the two variables is a linear-logarithmic variable. So it can be interpreted that if the Realization of Regional Retribution increases by 1 percent, then Regional Competitiveness will decrease by 0.01562443 index figures. Conversely, if the Regional Levy Realization decreases by 1 percent, then Regional Competitiveness will increase by 0.01562443 index figures. So it can

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be assumed that the higher the levy, the lower the number of tourists, thus reducing the interest of tourists to go to the tour.

This is contrary to the research conducted by (Tamara, 2021) which states that Regional Taxes and Regional Realization have a significant negative effect on the Competitiveness of the Provinces of Sumatra, Java, and Kalimantan in 2018 to 2020.

Effect of the ratio of local original income to regional competitiveness

The Regional Original Income Ratio variable has a coefficient of -0.153696 with a probability value of 0.0650 which means that the Regional Original Income Ratio negatively affects the Regional Competitiveness Index. The pattern of the relationship between the two variables is a linear-linear variable. So it can be interpreted that if the Regional Original Income Ratio increases by 1 percent, then the Regional Competitiveness will decrease by 0.153696 index figures. Conversely, if the Regional Original Income Ratio decreases by 1 percent, then the Regional Competitiveness will increase by 0.153696 index figures. This means that the portion of the original income ratio of the area is still low.

This is contrary to the research conducted by (Rahma Nurjanah, 2022) that Regional Native income does not have a significant effect on the level of Regional Competitiveness of Regencies/Cities in Jambi Province.

The effect of average public expenditure on regional competitiveness

The Variable Average Public Expenditure has a coefficient of -4.925745 with a probability value of 0.0282 which means that Average Public Expenditure negatively affects the Regional Competitiveness Index. The pattern of the relationship between the two variables is a linear-logarithmic variable. So it can be interpreted that if the Average Community Expenditure increases by 1 percent, then Regional Competitiveness will decrease by 0.04925745 index figures. On the other hand, if the Average Community Expenditure decreases by 1 percent, then Regional Competitiveness will increase by 0.04925745 index figures.

This shows that the research is in line with the research that has been carried out by (Verselina M. Berkat, 2022) that the variable Household consumption negatively affects economic growth, that household consumption as a representation of average public expenditure and with the average public expenditure is high, the savings owned by the community fall, and vice versa. So that the average public expenditure negatively affects the regional competitiveness index.

The effect of the human development index on regional competitiveness

The variable Community Development Index coefficient is -1.190437 with a probability value of 0.0341, which means that the Human Development Index negatively affects the Regional Competitiveness Index. The pattern of the relationship of such variables is linear-linear. So it can be interpreted that if the Human Development Index number increases by 1, then Regional Competitiveness will decrease by 1.190437 Index numbers. On the other hand, if the Human Development Index figure decreases by 1, then Regional Competitiveness will increase by 1.190437 Index figures.

This is contrary to the results of research conducted by (Ridwan, 2018) which concluded that the variable of Human Resource Quality (HR) has a significant positive effect on regional competitiveness, with the quality of human resources as a representation of the variable Human Development Index.

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IMPLICATIONS

The Chow test and the Hausman test show that the best-estimated model is the Fixed Effects Model (FEM), as seen from the probability value of $0.0000 < 0.01$, and the calculation results of the Hausman Test get a probability value of $0.0000 < 0.01$. It can be seen that the probability value of F is $0.00004 < 0.01$, so H_0 is rejected. Thus, it can be concluded that the estimated model used in the study, namely the Fixed Effects Model (FEM) exists, which means that the variables of regional levy realization, the ratio of regional original income, the average public expenditure, and the human development index together affect the regional competitiveness index.

CONCLUSION

Based on the results of the Panel Model Regression Analysis with the Fixed Effect Model (FEM) estimated model, Test F shows that the probability value of F is $0.00004 (< 0.01)$, which means that the estimated model exists. The value of the coefficient of determination (R^2) is 0.6679, which means that 66.79% of the variation in the Regional Competitiveness Index variable can be explained by the variables of Regional Levy Realization, regional original income constellation, Average Community Expenditure, and Human Development Index, while the remaining 33.21% is influenced by free variables other than the model. As explained, it can be concluded that together 4 independent variables including the realization of regional levies, the ratio of local revenues, the average public expenditure, and the human development index together negatively affect regional competitiveness in Central Java Regency/City from 2019 to 2021.

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REFERENCES

- Alhempri, S. Y. (2020). Regional Investment Performance Index and Regional Investment Potential Index as Regional Competitiveness Index in Indonesia. *Journal of Economics and Business*, Vol-9, Issue 1, 34-42.
- Anita Nur Millah, H. S. (2014). Analisis Daya Saing Daerah di Jawa Tengah. *Journal of Economics*, Volume 3 Nomor 1, 1-8.
- Anita Nur Millah, H. S. (2014). Analisis Daya Saing Daerah di Jawa Tengah. *Diponegoro Journal of Economics*, vol 3, nomor 1, 1-8.
- Arif Barata Sakti, M. Z. (2021). Menakar Daya Saing Daerah Kota Magelang Tahun 2020. *Jurnal Jendela Inovasi Daerah*, Volume IV No.1, 16-35.
- Badan Pusat Statistik. (2019-2021). Jawa Tengah.
- Bulan Prabawani, S. P. (2020). Central Java Regional Competitiveness: The Impacts Of Production Factor, Corruption, Regulation, And Infrastructure. *Economics & Sociology*, Vol. 13, No. 4, 31-42.
- Dyah Elyta Kristiantina, S. B. (2013). Analisis Kebijakan Pemerintah Kota Blitar Dalam Mengembangkan Potensi Daerah Sebagai Upaya Meningkatkan Daya Saing Daerah. *Jurnal Administrasi Publik*, Vol. 1, No. 4, Hal. 15-21.

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- G. Y. Gagarina, N. A. (2016). Estimation And Forecast Of Regional Competitiveness Level. *Journal Economic Of Literature*, Vol. 12, Issue 4, 1040-1049.
- Hardjosukarto, I. P. (2011). The Causal Map of The Mayor's Policies. *Journal of Administrative Science & Organization*, Volume 18, Number 1, Page 74-87.
- ISDS. (2019-2021). Indeks Daya Saing Daerah. Jawa Tengah.
- Ilyas. (2022). Analisis Posisi dan Upaya Peningkatan Indeks Daya Saing Daerah Pada Aspek Pilar Pendidikan Di Kabupaten Konawe Selatan. *Jurnal Pendidikan Ekonomi*, Vol. 10, No. 1, 45-60.
- Ira Irawati, Z. U. (2012). Pengukuran Tingkat Daya Saing Daerah Berdasarkan Variabel Perekonomian Daerah, Variabel Infrastruktur dan Sumber Daya Alam, Serta Variabel Sumber Daya Manusia Di Wilayah Provinsi Sulawesi Tenggara. *Jurnal Institut Teknologi*, Vol VII, No 1, 43-50.
- José Carlos Sánchez de la Vega, J. D.-F. (2019). A New Measure Of Regional Competitiveness. 108-126.
- Maizunati, N. A. (2016). Mempertahankan Daya Saing Kota Magelang Dengan Mendongkrak Potensi Perekonomian Makro. *Jurnal Bisnis & Ekonomi*, Volume 14, Nomor 1, 46-55.
- Miszczuk, U. B. (2008). Regional Competitiveness In Poland: Creating An Index. Original Paper, 133-143.
- Nikita A. Moiseev, S. V. (2016). Boosting Regional Competitiveness Level Via Budgetary Policy Optimization. *Ijaber*, Vol. 14, No. 10, 7315-7324.
- Nurul Istifadah, H. T. (2016). Role Of The Financial Sector To Improve Economic Competitiveness In East Java. *Journal of Research in Economics and Management*, Volume 16, No. 2, 189-198.
- Putri, S. P. (2020). Analisis Pertumbuhan Ekonomi Dan Daya Saing Daerah Kabupaten Ende Tahun 2013-2014. *Jurnal Ekuilibrium*, Vol. 01 Nomor 2 , 1-14.
- Raharja, P. F. (2017). Identifikasi Dan Klasifikasi Faktor Input Sebagai Variabel Pembentuk Indeks Daya Saing Daerah Kabupaten Cirebon Tahun 2016. *Jurnal Riset Ekonomi Pembangunan*, Volume 2 No.2 , 128-138.
- Raharja, P. F. (2017). Identifikasi Dan Klasifikasi Faktor Input Sebagai Variabel Pembentuk Indeks Daya Saing Daerah Kabupaten Cirebon Tahun 2016. *Jurnal Riset Ekonomi Pembangunan*, Volume 2 No.2, 128-138.
- Rahma Nurjanah, R. A. (2022). Analisis determinan daya saing daerah Kabupaten/Kota di Provinsi Jambi. *jurnal Paradigma Ekonomika*, Vol. 17. No. 3, 581-590.
- Rajab, A. (2020). Kontribusi Retribusi Pasar Terhadap Pendapatan Asli Daerah di Kabupaten Mamuju. *Jurnal Ilmiah Ekonomi Pembangunan*, Vol. 1, No. 2, 144-156.
- Ridwan, B. H. (2018). Analisis Daya Saing Daerah di Indonesia. *Jurnal Ekonomi dan Bisnis*, 8.
- Ritonga, S. A. (2015). Analisis Daya Saing Ekonomi Kabupaten Batu Bara. *Jurnal Ekonomi dan Keuangan*, Vol.3 No.5, 323-334.
- Robert Huggins, H. I. (2014). Regional Competitiveness, Economic Growth And Stages Of Development. *Paper Economic*, Vol. 32, Sv. 2, 255-283.
- Sinarti, D. K. (2018). Pengukuran Tingkat Daya Saing Kabupaten/Kota Di Provinsi Kepri. *Jurnal Akuntansi, Ekonomi dan Manajemen Bisnis*, Vol. 6 No. 2, 179 190.
- Soebagyo, D. (2014). Analisis Daya Saing Daerah Dan Implikasinya Terhadap Pembangunan Wilayah Di Jawa Tengah. *Seminar Nasional Dan Call For Paper*, 599-620.
- Soesanto, H. (2022). PEMETAAN Variabel-Variabel Pembentuk Indeks Daya Saing Daerah Menggunakan Metode Micmac. *Jurnal Kebijakan Pembangunan Daerah*, Vol.5, No.1, Hal. 1 – 8.
- Sukanto. (2009). Analisis Daya Saing Ekonomi Antar Daerah Di Provinsi Sumatra Selatan. *Jurnal ekonomi Pembangunan*, Volume 7, No. 2, 86-102.
- Suparman. (2021). Study Of Regional Competitiveness In Central Sulawesi. *Jurnal Ilmiah MEA (Manajemen, Ekonomi, dan Akuntansi)*, Vol. 5 No. 1, 1927-1936.
- Suranny, L. E. (2019). Analisis Pilar Infrastruktur Yang Mempengaruhi Daya Saing Daerah Kabupaten Wonogiri. *Jurnal Litbang Sukowati*, Vol. 2, No. 2 , HAL. 60 - 71.

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- Sutianingsih, S. E. (2021). Analisis Pengaruh Retribusi Daerah Terhadap Pendapatan Asli Daerah Kabupaten Lombok Utara. *Jurnal Ilmiah Akuntansi*, Vol. 9 No. 1, 1-12.
- Tamara, T. (2021). Faktor-Faktor Penentu Daya Saing Provinsi Pulau Sumatra, Jawa dan Kalimantan. *Ekonomi Pembangunan*, 1-32.
- Tri Rusnita, L. Y. (2022). Indeks Daya Saing Daerah. *Jurnal Bengawan Solo*, Vol.1, No.1, Hal 51-72.
- Verselina M. Berkat, N. L. (2022). Analisis Faktor-Faktor Yang Mempengaruhi Pertumbuhan Ekonomi di Kabupaten Mimika. *Journal Of Economics And Regional Science*, Vol. 2 No. 1, 50-67.
- Viktor Prokop, J. S. (2015). Impacts Of Local Planning To Competitiveness Index Change – Using Approximate Initial Analysis Of The Czech Regions. *Economics*, Vol 12, 279-288.
- Zuhdiyaty, N. (2017). Hubungan Aantara Pendapatan, Daya Saing Dan Pembangunan Manusia Di Asia Tenggara. *QE Journal*, Vol. 06, No. 02, 148-156.