ANALYSIS OF LABOR ABSORPTION IN THE JABODETABEK SECTOR URBAN TRANSPORTATION POLICY INTEGRATION COMMUTERLINE TRAIN IN JAKARTA CITY

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ARTICLE INFO	ABSTRACT
	This research aims to carry out an analysis related to the effect of employment in the Jabodetabek sector. Urban Transportation Policy Integration of commuterline trains in Jakarta and its surroundings. Jabodetabek Urban Transportation Policy Integration is a government study on transportation problems in Jakarta and its surroundings, one of which is in the form of commuterline trains that have existed since 2007. So with this research study, the government has a choice in making decisions to develop and overcome the problems of public transportation facilities in Jakarta and its surroundings. Later, the policy can have a positive impact and provide jobs for residents in Jakarta and its surroundings. The method used is a quantitative approach with a cross-sectional data regression model. The data used in this study uses secondary data taken from data on the number of workers in the commuterline train sector, the number of KRL fleets, the number of KRL routes, and the number of KRL passengers in 2018. The results show that the number of KRL fleets and the number of KRL routes significantly influence. On the employment of the commuterline train sector in Jakarta and its surroundings, while the number of KRL passengers does not significantly affect the employment of the commuterline train sector.
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1. Introduction

Economic development is an activity in which there are various combinations; namely, there are various types of population and a combination of technological advancements (Ase Satria, 2019). From this understanding, economic development comes from various combinations or alignments that occur both from the population and technological progress. The key to success in the economic development of a region is good cooperation from the local government and the community. However, the aspect that is often a problem in economic development is job opportunities or the size of available jobs to accommodate the increasing workforce (working-age population). The number of available jobs and existing forces is always unbalanced (Nugraha, 2014; 1).

Economic development in a city or region can never be separated from the influence of factors to develop supporting facilities and infrastructure, such as transportation. Transportation is an infrastructure used in all sectors in Indonesia (Nurhidayat, 2019; 1). From this explanation, transportation has an important role in economic development. In addition, transportation is also a supporting factor in encouraging activities in the social and industrial sectors; this can be due to the increasing mobilization of the community in all fields and sectors.

DKI Jakarta Province is one of the centers of all activities, both in the socio-cultural field and the center of science and technology, making the City of Jakarta experience rapid population growth and

development. In addition, the city of Jakarta is the center of economic activity, ranging from regional, national to international economics. Regarding the explanation above, it is not surprising that almost 80% of economic activity in Indonesia is currently centered in the city of Jakarta. As a result of these socio-economic activities, the population density in Jakarta is increasing. As a result of the population density of Jakarta, whose population is growing continuously, it shifts to cities on the outskirts of Jakarta, such as Bogor, Depok, Tangerang, and Bekasi. (Trisnu & Sudiana, 2019).

TABLE 1
DATA ON THE TOTAL POPULATION OF JABODETABEK CITY IN 2018

Province/City	Total Population
DKI Jakarta	10,47
Bogor	1,097
Depok	1,838,671
Tanggerang	2,185,304
Bekasi	2,943,859

Source; Central Bureau of Statistics Data (Processed)

Based on the data table of the Central Statistics Agency, the population density in the city of Jakarta in 2018 reached 10.47 people. Jakarta's population density is the highest compared to other provinces. The province with the second-highest density is Bekasi City, with 2,943 people, in third place in Tangerang City, with a population of 2,185 people. The last order is in the city of Bogor, with a population of 1,097 inhabitants.

With increasing population growth and density, the need for infrastructure will also increase to support daily activities. Developments in the transportation sector in Jabodetabek City can be seen from the large contribution made by the transportation sector to GDP. According to the business sector, the contribution of the transportation sector to GRDP always increases every year. In 2018 the GRDP of the transportation sector according to business fields was at a nominal value of Rp. 96,690,541. this figure increased by 1.12% from the total GRDP of the transportation sector in 2017, which was Rp.85,669,282. (central agency for statistics, 2019)

This increase indicates that the GRDP growth in the transportation sector has increased in the DKI Jakarta Province. With this progress, transportation is developing positively as one factor that supports economic development. This condition can be interpreted that the role of the transportation sector in employment is increasing.

With the increase in population, such as Bogor, Depok, Tangerang, and Bekasi; then it can increase traffic density, which impacts congestion. With the increasing number of residents in Jakarta, this will undoubtedly result in the community's mobility being increasingly dense and resulting in traffic jams. Congestion that occurs in the city of Jakarta can result in losses reaching 65 trillion per year. The city of Jakarta has also become the city with the largest destination for people to migrate to look for work; this is because Jakarta is the center of the largest economic activity in Indonesia. The trade and service industry sector contribute the highest to the economy in Jakarta. as we know that the city of Jakarta is the center of the economy and the center of government. (Kompasiana, 2014)

Based on the analysis of previous research in the city of Semarang by (Nugraha, 2014), they stated that the city of Semarang is one of the centers of economic activity in Central Java. This is because the more the number of industries in Semarang, the demand for labor will increase, therefore with the large number of workers needed, adequate transportation facilities are needed in the city of Semarang. With the great demand for public transportation facilities, more and more workers are needed in the urban transportation sector, such as; drivers, conductors, counter staff, etc.

Several aspects can affect the demand for transportation services regarding the problems above. One of them is the increasing population growth so that the workforce will increase and the need for goods and services will increase. It is necessary to increase the demand for transportation to support economic activities and community mobility in carrying out daily life. This needs to be balanced with the availability of adequate transportation infrastructure to transport people who will work in the Jakarta area and surrounding cities.

Therefore, the local government offers a policy with the Jabodetabek Urban Transportation Policy Integration (JUTPI 1), which took place from 2009-2013 and continued its stages until JUTPI 3 in 2024. JUTPI is a policy to solve transportation problems in Jakarta and its surroundings. The modes of public transportation from the JUTPI are; Transjakarta Busway, Commuterline Train (KRL), Mass Rapid Transit (MRT), Integrated Railroad (LRT Jabodetabek), etc. Wherewith considerations related to the above problems, the government, made a solution in the form of one of the most widely used public transportation by the community, namely the Commuterline Train (KRL), which consists of 82 stations in the city of Jakarta and surrounding cities such as Bogor, Depok, Tangerang, and Bekasi. The government's objectives with the JUTPI Project are 1) Efficiency of the transportation system to support economic activities. 2) The existence of transportation justice for everyone in society. 3) Improvement of Environmental Factors related to Transportation. 4) transportation safety and security. (Japan International Corporation Agency (JICA), 2012).

2. Methods

This research uses the Multiple Linear Regression Methode with Classical Assumption Test, T-test, F-test, and R-Squared test using Stata application. Quantitative methods do data collection. The type of data used in this study is secondary data obtained in numbers and analysis using statistics. Data collection from a website with 35 samples of KRL stations in DKI Jakarta and surrounding provinces, such as; Bogor, Depok, Tangerang, and Bekasi in 2018. This study uses data on the number of employees/labor with a total of 35 KRL stations in 2018 as the dependent variable. . As for the independent variables, this study uses three independent variables, namely the number of KRL fleets (X1), the number of KRL routes, (X2) and the number of passengers (X3) in 2018.

3. Result and Discussion

3.1 Multiple Linear Regression Analysis Results

Multiple Linear Regression Analysis is an analysis that has more than one independent variable. This model is used to determine whether there is a significant effect of one dependent variable and more than one independent variable

TABLE 2
$$Y = 0.0004467X1 + 4.587212X2 + 0.0025093X3 + E$$

GINI index (Y)	Coef	Std.error	t-stat	Prob	Adj.R^2
Cons	-60.40055	26.33622	2.29	0.029	0.9267
The Numb of Fleet KRL(X1)	0.0004467	0.0001807	2.47	0.019	
The Numb of Routes (X2)	4.587212	0.5045608	9.09	0.000	
The Numb of Passengers (X3)	0.0025093	0.0015093	1.66	0.106	
Obs	35				
F (3, 31)	144.19				
Prob > F	0.000				
R^2	0.9331				

3.2 Simultaneous Test (F-Test)

In the Simulation Test (Test F) based on table 2 above, it can be seen that the value of Prob> chi2 is 0.00 or less than alpha (0.00 < 0.05), so H0 is rejected and Ha is accepted. This means that at the 92% confidence level, the independent variable is the number of KRL fleets (X1). The number of KRL routes (X2) simultaneously has a statistically significant effect on employment in the commuter line train sector. Meanwhile, the variable number of KRL passengers (X3) had no significant effect on employment in the commuter line train sector in 2018.

3.3 Coefficient of Determination Test (R2)

The magnitude of the R2 value in the random effect model estimation results can be known by looking at the R-sq: overall value. Based on the regression test results presented, it is known that the

R2 value in this study is 0.9331. This value means that the proportion of the independent variables, namely the number of KRL fleets (X1), the number of KRL routes (X2) in its influence on the employment of the commuter line train sector, is 93.31%. At the same time, the remaining 1.6% is explained by other variables that are not included in the research model.

3.4 Partial Test (T-Test)

The t-test serves to determine how the influence of each independent variable on the dependent variable. Based on table No. 2, it is known that the independent variables that have a significant effect on employment in the commuter line train sector are the number of KRL fleets (X1) and the number of KRL routes (X2). While the independent variable that is not significant in the employment of the commuter line train sector is the number of KRL passengers (X3). A clearer discussion regarding the effect of independent variables on employment in the commuter line train sector is as follows:

    a. The total number of KRL Fleet (X1) has a significant effect on employment in the commuter line train sector (0.019 > 0.05). This means that the increasing number of fleets will also affect the employment of the commuter line train sector.

    b. The number of KRL Routes(X2). Has a significant effect on employment in the commuter line train sector (0.000 < 0.05). This means that the greater the number of routers traversed by the commuter line train, the more it will affect the employment of the commuter line train sector.

    c. The number of KRL passengers (X3). It has no significant effect on employment in the commuter line train sector (0.106 < 0.05). This means that the number of KRL passengers has no significant impact on the demand for employment in the commuter line train sector.

3.5 Classical Assumption Test

a. Normality Test

The normality test was conducted to determine whether the regression model was normally distributed or not. In this study, to determine whether the regression model is normally distributed or not, the Skewness/Kurtosis test method is used with the Stata application. The regression model can be normally distributed if the prob > z value is more significant than = 0.05. The results of the analysis of the normality assumption using the Shapiro-Francis test method for the residual value of the regression equation as follows:

TABLE 3
THE RESULTS OF THE ANALYSIS OF THE NORMALITY ASSUMPTION

Var	Obs	W'	V'	Z	Prob > Z
X1	35	0.94949	2.000	1.281	0.1000
X2	35	0.97814	0.866	-0.267	0.60521
X3	35	0.63023	14.639	4.962	0.00001

Based on the normality test above, the probability of the X1 variable is 0.100, which is greater than 0.05, so that it can be concluded that the data is normally distributed. Meanwhile, the probability value of X2 is 0.6052 is greater than 0.05, so it can be interpreted that the data on the X2 variable is normally distributed. And the X3 variable is 0.0001 or less than 0.05, so it can be concluded that the data on the X3 variable is not normally distributed or rejects H0.

b. Multicollinearity Test

The multicollinearity test tests the presence or absence of a high or perfect correlation between the independent variables contained in the regression model.

TABLE 3
MULTICOLLINEARITY TEST

Var	Vif
X1	4.00
X2	3.92
X3	1.04

From the table of multicollinearity test results, it can be seen that all VIF values are less than 10. It

can be concluded that there is no multicollinearity or relationship between independent variables in the regression model.

c.   Heteroscedasticity Test

The model is said to have no heteroscedasticity if the significant value of the variable is greater than a = 5%

TABLE 4
HETEROSCEDASTICITY TEST

Chi2(1)	0.29
Prob > chi2	0.5894

In this study, the heteroscedasticity test used the Breusch-Pagan method. It is said that there is no symptom of heteroscedasticity if "prob> chi2" the value is > 0.05. the results of the heteroscedasticity test showed prob > chi2 of 0.5894. so there is no heteroscedasticity because 0.5894 > 0.05.

3.6 Discussion

a.   The Influence of the Number of KRL Fleet on the employment of the commuter line train sector

Based on the results of the number of KRL fleets on the employment of the commuter line train sector, the coefficient value with a positive sign is 0.0004467 where the probability value is 0.019 < 0.05, so it can be concluded that it has a positive and statistically significant effect on employment in the commuter line train sector. The number of KRL fleets shows positive results. When the number of KRL fleets increases every year, it also increases the workforce participation rate in the commuter line sector. Or it can be said that many people in Jakarta and its surroundings can get jobs from this JUTPI policy.

Following Comuterline's annual report data in 2018, the number of train fleets owned is 934 trains with 3,621 workers. While the data for the previous two years, namely in 2016, recorded that the number of KRL fleets amounted to 760 trains with a total workforce of 3,028. Regarding the data, we can see that the increase in the number of train fleets can significantly affect the rise in the number of workers absorbed by the commuter line companies. With the increasing number of KRL fleets, the company needs a driver to operate or run. The company needs the labor to operate the fleet. The increasing number of KRL train fleets will increase the demand for the labor needed by commuter line companies.

b.   The Influence of the Number of KRL Routes on the Absorption of Manpower in the commuter line train sector

Based on the results of the number of KRL routes on the employment of the commuter line train sector, the coefficient value with a positive sign is 4.587212 where the probability value is 0.000 <0.05 so that it can be concluded that it has a positive and statistically significant effect on the employment of the commuter line train sector. The number of KRL routes shows positive results. When the number of KRL routes increases every year, it also increases the labor participation rate in the commuter line sector. Or it can be said that many people in Jakarta and its surroundings can get jobs from this JUTPI policy.

According to Comuterline's annual report data in 2018, the number of routes passing by the train at each station reached hundreds of times every day. This implies that the mobility of people who use KRL every day is very dense; with the increasing number of routes that trains pass every day, this requires workers who are ready to stand guard at each station. So the increasing number of train routes will increase the demand for the labor needed by commuter line companies. Based on the results of the tests carried out on the X2 variable, the number of KRL routes has a positive effect on employment in the commuter line train sector with a P-Value value of 0.000 < 0.05 and the results of the t-test count (9.09) > t table (2.03951), then H0 is rejected, H1 is accepted.

c.   The Influence of the Number of KRL Passengers on the Absorption of Manpower in the commuter line train sector

Based on the results of the number of KRL passengers on the employment of the commuter line train sector, the coefficient value with a negative sign is 0.0025093 where the probability value is

0.106 <0.05 so that it can be concluded that it has no statistically significant effect on the employment of the commuter line train sector. The number of KRL passengers shows negative results. When the number of KRL passengers increases every year, it does not increase the labor participation rate in the commuter line sector. Based on the results of the tests carried out on the X3 variable, namely the number of KRL passengers, there is no significant effect on employment in the commuter line train sector with a P-Value value of 0.106 <0.05 and the results of the t-test (1.66) < t table (2.03951), then H0 is accepted, H1 is rejected.

4.   Conclusions

Based on the results of the research and discussion of the analysis in this study, it can be concluded that: (1) the analysis of the effect of the variable number of KRL fleets on the employment of the commuter line train sector in 2018 shows the t-count value is greater than the t-table, namely (2.47) > t-table (2.03951) with a prob value of 0.019 <0.05 or 5%, it means that the number of KRL fleets has a significant effect on employment in the commuter line train sector. (2) the analysis of the effect of the variable number of KRL routes on the employment of the commuter line train sector in 2018 shows the t-count value is greater than t-table, namely (9.09) > t-table (2.03951) with a prob value of 0.000 < 0.05 or 5% meaning that the number of KRL routes has a significant effect on employment in the commuter line train sector. (3) analysis of the effect of the variable number of KRL passengers on employment in the commuter line train sector in 2018 shows that the t-count value is smaller than t-table, namely (1.66) < t-Table (2.03951) with a prob value of 0.106 <0.05 or 5%, meaning that the number of KRL passengers has no significant effect on employment in the commuter line train sector.

There are still some limitations in this research. The first is only to examine the effect of employment in the commuter line sector in 2018 only. It is hoped that further research can add to the research period; the second is that there are variables that do not affect the employment of the commuter line sector. It is hoped that further research can add related variables.

5.   References

Ahmadi, T. A. (2019). Evaluasi Layanan Transportasi Publik Kereta Rel Listrik Commuter Line Di Jabodetabek. 131.

Ase Satria.(2019). Teori Pembangunan Ekonomi Menurut Para   Ahli.   2015. https://www.materibelajar.id/2015/12/materi-ekonomi-teori-pembangunan.html

Badan Pusat Statistik. (2019). PDRB Atas Dasar Harga Berlaku 2010 menurut Lapangan Usaha (Juta Rupiah), 2018-2020. 2018. https://jakarta.bps.go.id/indicator/52/55/1/pdrb- atas-dasar-harga-berlaku-2010-menurut-lapangan-usaha-.html

Damadjati.(1995).Pengertian   Penumpang.   https://www.psychologymania.com/2013/06/pengertian-penumpang.html

Dinas   Tenaga   Kerja.   (2019).   Pengertian   Angkatan   dan   Tenaga   Kerja.   21   Februari   2019. https://disnaker.bulelengkab.go.id/informasi/detail/artikel/pengertian-angkatan-dan- tenaga-kerja-34

DISNAKERTRANS.   (2020).   Perbedaan   Tenaga   Kerja   dan   Angkatan   Kerja.   31   Maret   2020. https://disnakertrans.bantenprov.go.id/Berita/topic/282

Islam, U., Alauddin, N., Ekonomi, F., Bisnis, D. A. N., & Ekonomi, J. I. (2017). Pengaruh Jasa Angkutan Umum terhadap Penyerapan Tenaga Kerja di Kabupaten Gowa.

Japan International Corporation Agency (JICA). (2012). Project for the Study on Jabodetabek Public Transportation Policy Implementation Strategy in the Republic of Indonesia. 52.

Kompasiana. (2014). Perekonomian Jakarta Terbesar di Indonesia, Haruskah Ibu Kota Dipindah

Paper   Knowledge.Toward   a   Media   History   of   Documents. https://www.kompasiana.com/bbudisetiawan/5d74c1fd097f36045c043652/perekonomian jakartaterbesar-di-indonesia-haruskah-ibukota-dipindah?page=all

Nugraha, M. (2014). Analisis Pengaruh Faktor Jumlah Penduduk Usia Kerja, Jumlah Industri Besar dan Sedang, Jumlah Armada Angkutan, serta Panjang Jalan Kota Semarang terhadap Penyerapan Tenaga Kerja di Sektor Transportasi Kota Semarang.

Wikipedia.   (n.d.).   KRL   Commuter   Line.   2021.   Retrieved   October   14,   2021,   from https://id.wikipedia.org/wiki/KRL_Commuter_Line