THE EFFECT OF RAILWAY DEVELOPMENT TO THE REGIONAL ECONOMIC GROWTH IN NORTH SUMATERA

Muhammad Yusuf[1]
[1]Department of Regional and Rural
Development Planning,
University of Sumatera Utara,
North Sumatra,
Indonesia

Rahim Matondang[2]
[2]Department of Regional and Rural
Development Planning,
University of Sumatera Utara,
North Sumatra,
Indonesia

Agus Purwoko[3]
[3]Department of Regional and Rural
Development Planning,
University of Sumatera Utara,
North Sumatra,
Indonesia

ABSTRACT

The aim of this study is to analyze the effect of government spending on rail development, the number of passengers and the volume of goods on the GRDP in the province of North Sumatra. The analytical method used in this research is a descriptive analysis and multiple linear regression analysis utilizing secondary data in 13 districts / cities served by rail lines from 2008 to 2018. The results show that government spending on rail development has a positive and significant impact on GRDP in North Sumatra. The number of train passengers has a positive and significant impact on GRDP in North Sumatra.

KEYWORDS: *Government spending, number of passengers, volume of goods, GRDP*

1. INTRODUCTION

Train is one of the modes of public transportation that has many advantages over other modes of transport. According to Dwiatmoko, 2018, based on the features of the train itself, some of the advantages of this mode of transport compared to other modes of transport on land are as follows:

a. Train transport is more effective than the usage of fuel. One of the reasons that cause this is that the train has its own route. Many forms of travel, in particular road vehicles, are typically growing from time to time. To a certain point, the rise in the number of cars is greater than the development of highways, and there is an increased chance of traffic, which leads to fuel waste.

b. The train has its own lane, not sharing with other vehicles, which ensures that the usage of space is comparatively less than most heighway vehicles.

c. The train has a greater carrying capacity for both goods and passengers with fairly fast travel time without any obstacles.

d. The effect of emissions is comparatively smaller than other modes of transport.

The length of the rail network in North Sumatra is 600.5 km, but works just 394.5 km or 65.7 percent (Directorate General of Railways, 2019), while the length of the road network in North Sumatra is 40.602.86 km (BPS. 2016).

Table 1
Length of the North Sumatra Railway Network

Lintas	Panjang (km)	Keterangan
Binjai - Besitang	78,4	Progres Pembangunan
Medan - Binjai	20,9	Operasi
Medan - Belawan	24	Operasi
Medan - Tanjung Balai	179	Operasi
Araskabu - Kualanamu	4,7	Operasi
Tebing - Siantar	48,5	Operasi
Bandar Tinggi - Kuala Tanjung	21,5	Progres Pembangunan
Kisaran - Rantau Prapat	113,9	Operasi
Rantau Prapat - Pondok S5	33	Progres Pembangunan
Seimangkei - Perlanaan	3,5	Operasi
Binjai - Kuala	20,5	Tidak Operasi
Medan -Pancur Batu	19,3	Tidak Operasi
Medan - Batu	14,3	Tidak Operasi
Lubuk Pakam - Petumbukan	19	Tidak Operasi
JUMLAH	**600,5**	

Source: Directorate General of Railways (2019)

Table 2
Length of the North Sumatra Road Network

TINGKAT KEWENANGAN	PANJANG (Km)
Jalan Negara	2.632,22
Jalan Tol	126,40
Jalan Provinsi	3.048,50
Jalan Kabupaten/Kota	34.795,74
Jumlah	**40.602,86**

Source: Central Statistics Agency (2016)

The development of the North Sumatra Railways continues to improve, as stated in the National Railway Master Plan (RIPNAS) issued by the ministry of Transportation Regulation No 43 of 2011.

The total government spending for the provision and development of rail transport in North Sumatra for the period 2014-2018 as set out in the Directorate-General for Railways DIPA can be seen in Figure 1 below.
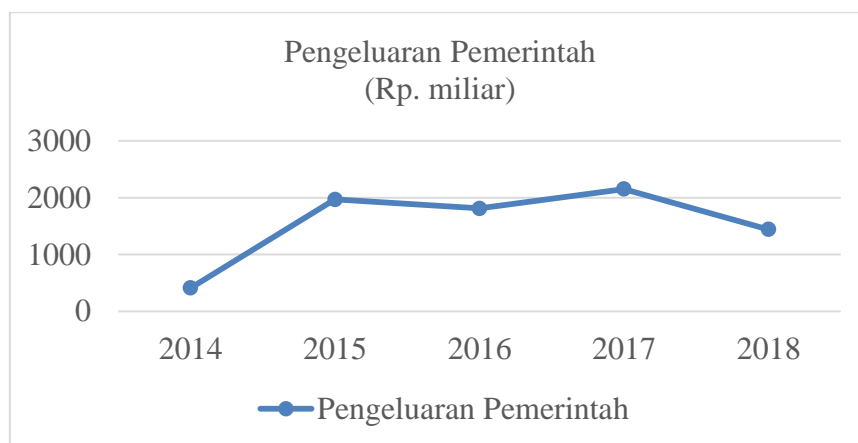
Source: Directorate General of Railways (2019)

Figure 1 *Graph of Government Spendings*

From Figure 1 above, it can be seen that a significant increase in government spending on rail development has fluctuated between 2015 and 2018.

According to Dwiatmoko (2019), the development budget and the number of rail assets have a direct effect on the increase in the GRDP, with an increase in the development budget and the number of assets in the rail sector potentially leading to a significant increase in the national economy, characterized by an increase in the value of the GRDP. Putra (2017) state that government spending on infrastructure (roads) has had a significant effect on economic growth in West Kalimantan over the period 2007-2014.

Pujianto (2016) states that the number of rail passenger services in the Surabaya VIII Operational Area is in line with the high overall GRDP of the Regency/City in the VIII Surabaya Operational Area. Kameswara (2017) notes that the movement of passengers, cargo, and the post has a significant effect on the GRDP of the district and city transport sector in Indonesia, namely 95 (ninety-five) airports spread over 95 (ninety-five) districts/cities in Indonesia from 2011 to 2015.

This article discusses the influence of railroad development on GRDP using railroad infrastructure and data which is defined into 4 (four) variables, namely government spending on railroad development represented by the development/increase budget sourced from the APBN obtained from the Directorate General of Railways Ministry of Transportation, a variable number of passengers and variable volume of goods transported using train services obtained from PT. Kereta Api Indonesia (Persero) as well as economic growth variables represented by Gross Regional Domestic Product (GRDP) obtained from the Central Statistics Agency.

Objective of the study

This study aims to analyze the effect of government spending on railroad development, the number of passengers, and the volume of goods together on the GRDP in North Sumatra Province.

2. RESEARCH METHODOLOGY

This research was conducted in North Sumatra Province on the Analysis of the Effect of Railway Development on Regional Economic Growth in North Sumatra. The analytical method used in this research is descriptive analysis and multiple linear regression analysis by taking secondary data in 13 districts/cities that were traversed by the railroad lines from 2008 to 2018 using SPPS Version 25 software.

3. LITERATURE REVIEW

Miro (2005) states that transport can be defined as an effort to transfer, transport, or divert an object from one place to another, where it is more useful or beneficial for other purposes. Adisasmita (2012) describes transport as transporting and transferring cargo (goods and people) from one place (place of origin) to another (place of destination). According to Khairindy (2003), transport is the movement of goods and persons from the place of origin to the place of destination. There are several transport elements, which are as follows:

a. There's something being transported;
b. Availability of vehicles as a conveyance;
c. There is a place that can be transported through.

According to Law No. 23, the Year 2007 on Railways, the concept of a railroad is a railroad vehicle with movable control, either on its own or in combination with other railway installations that will or are currently moving on railroad tracks related to rail travel. Railway facilities as provided for in Law No. 23 of 2007 concerning Railways, includes

railroad lines, railway stations, and railway operations.

According to Sirojuzilam and Mahalli (2010), economic growth is a picture of the impact of government policies implemented primarily in the economic sector. Improving people's standard of living through economic growth, in the long run, is the aim of economic development in every country.

Economic growth is usually measured by Gross Domestic Product (GDP) or Gross Regional Domestic Product (GRDP) or overall value-added created in one country. According to the Central Statistics Agency (BPS), Gross Regional Domestic Product (GRDP) is the gross value added of all goods and services that are created or produced in a country's domestic territory arising from various economic activities in a given period regardless of whether the resident's production factors or non-residents

According to Jhingan (2010) in the theory of economic development, there are six characteristics of economic growth, namely:

1. There is a high rate of increase in the production of per capita goods and services to accommodate rapid population growth.
2. The increase in per capita production is mainly due to technological advances and the quality of inputs used.
3. There is a change in the development of the economy from the agricultural sector to the manufacturing and service sectors.
4. Growing numbers of people migrate from rural to urban areas (urbanization).
5. Economic growth is due to the globalization of developed countries and the impact of international relations.
6. The increased flow of goods and capital in international trade.

Government spending is part of the fiscal policy, which is a government decision to control the operation of the economy by deciding the annual amount of government revenue and spending indicated in the national budget documents and regional budgets. The objective of this fiscal policy is to stabilize rates, production levels, and employment opportunities and promote economic growth (Sukirno, 2000).

According to Dwiatmoko (2019) researching the role of railways infrastructure for regional economic growth. Ikhsantono (2009), government spending on the development of the transportation sector is directed towards the provision of transportation facilities and infrastructure, such as the construction of roads, bridges, terminals, signs. Transportation infrastructure is a prerequisite for economic growth. The existence of transportation infrastructure can stimulate economic activity and eventually will increase regional economic growth (Sulistyo, 2008). Economic growth is related to transport because, as a result of economic growth, human mobility is growing, and the need for travel is also growing beyond the capacity of the transport infrastructure available (Tamin, 1997). Dowell (2017) states that improving and increasing transport services would increase the accessibility of people and companies to travel, goods, infrastructure, and economic activities, which in turn will increase productivity in general.

According to Siregar (1990), transportation causes the value of goods to be higher than in their original place. Kameswara (2017) shows that the movement of passengers, cargo, and post significantly influences the GRDP of the district and city transportation sector in Indonesia, namely in 95 (ninety-five) airports spread across 95 (ninety-five) districts/cities in Indonesia from 2011 to 2015.

4. RESULT

Table 3
State Spendings on Railway Development by Regency / City in 2008-2018

NO	KOTA/KABUPATEN	PENGELUARAN PEMERINTAH (Rp miliar)										
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	MEDAN	22,14	64,50	37,78	6,43	17,83	2,89	81,33	778,75	1.455,84	921,90	342,00
2	DELI SERDANG	1,18	10,06	0,25	0,00	49,42	0,30	109,30	215,69	79,36	3,25	1,08
3	SERDANG BEDAGEI	34,08	0,00	0,25	6,13	0,00	0,00	0,00	0,00	0,00	0,00	0,00
4	TEBING TINGGI	81,40	40,00	0,25	2,04	0,00	0,00	0,00	0,00	0,00	0,00	0,00
5	BATUBARA	0,00	0,00	0,25	10,20	30,38	63,09	185,18	289,59	16,11	212,03	303,92
6	SIMALUNGUN	23,05	0,00	0,00	0,20	0,00	12,66	34,39	62,93	20,00	64,40	42,91
7	ASAHAN	0,00	0,00	22,45	72,01	20,92	0,00	0,00	0,00	0,00	0,00	0,00
8	LABUHAN BATU UTARA	1,15	0,00	2,85	25,33	17,64	0,00	0,00	0,00	0,00	0,00	0,00
9	LABUHAN BATU	0,00	0,00	0,25	0,80	0,00	3,00	0,00	96,00	221,87	328,00	404,91
10	TANJUNG BALAI	0,00	0,00	31,98	4,30	0,00	0,00	0,00	0,00	0,00	0,00	0,00
11	PEMATANG SIANTAR	23,54	0,00	8,82	0,00	0,00	7,23	0,00	0,00	0,00	0,00	0,00
12	BINJAI	0,22	10,42	0,00	0,00	0,00	0,00	0,00	59,10	0,00	56,57	53,74
13	LANGKAT	0,00	0,00	0,00	0,00	0,00	0,00	0,00	467,35	17,64	565,00	293,30
	JUMLAH	186,76	124,98	105,13	127,44	136,19	89,17	410,20	1.969,41	1.810,82	2.151,15	1.441,86

Source: Directorate General of Railways 2008-2018 (processed data)

Government spending data for the development of railways in North Sumatra from 2008 to 2018 sourced from DIPA/POK Directorate General of Railways

Table 4
Number of passengers per district/city in 2008-2018

NO	KOTA/KABUPATEN	JUMLAH PENUMPANG (Ribu Orang)										
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	MEDAN	983,27	1.001,91	1.233,72	1.333,13	1.129,89	1.148,40	1.806,18	1.735,37	2.006,09	2.129,88	2.225,68
2	DELI SERDANG	71,55	72,90	89,77	71,55	82,21	190,94	483,91	423,84	430,54	525,79	525,90
3	SERDANG BEDAGEI	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
4	TEBING TINGGI	59,61	60,74	74,80	67,90	68,50	60,23	111,36	82,86	82,77	130,02	130,66
5	BATUBARA	25,27	25,75	31,71	24,77	29,04	25,53	36,23	35,13	30,20	47,46	50,68
6	SIMALUNGUN	8,73	8,89	10,95	8,04	10,03	8,82	12,35	12,14	9,80	32,86	37,91
7	ASAHAN	139,61	142,26	175,17	210,49	160,43	141,06	228,24	194,09	256,60	340,03	337,02
8	LABUHAN BATU UTARA	31,17	31,76	39,11	35,94	35,82	31,49	43,78	43,33	43,81	64,29	76,89
9	LABUHAN BATU	153,38	156,29	192,45	101,67	176,25	154,97	220,23	213,23	123,95	218,43	247,86
10	TANJUNG BALAI	108,17	110,22	135,73	130,74	124,30	109,29	176,32	150,38	159,38	205,85	221,46
11	PEMATANG SIANTAR	46,66	47,54	58,54	55,35	53,62	47,14	66,72	64,87	67,47	86,43	89,58
12	BINJAI	406,38	414,08	509,89	666,52	466,97	410,59	563,92	564,95	812,53	990,06	1.003,86
13	LANGKAT	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00		0,00
	JUMLAH	2.033,80	2.072,34	2.551,84	2.706,10	2.337,06	2.328,46	3.749,24	3.520,19	4.023,14	4.771,10	4.947,50

Source: PT. KAI Divre 1 North Sumatra, 2008-2018 (processed)

Data on the number of train passengers in North Sumatra from 2008 to 2018 sourced from PT. Kereta Api (Persero) Regional Division 1 North Sumatra

Table 5
Volume of railway goods per district/city in 2008-2018

NO	KOTA/KABUPATEN	VOLUME BARANG (Ribu Ton)										
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	MEDAN	279,80	344,46	312,16	261,46	309,51	265,62	250,59	252,14	260,83	314,12	284,34
2	DELI SERDANG	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
3	SERDANG BEDAGEI	161,80	80,96	84,10	75,80	64,59	37,74	36,51	22,16	3,99	13,00	26,13
4	TEBING TINGGI	51,25	55,78	66,64	24,01	26,37	17,17	7,78	25,39	36,97	17,88	46,80
5	BATUBARA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
6	SIMALUNGUN	178,75	111,65	92,45	83,74	82,89	85,94	98,12	85,45	76,08	135,73	179,32
7	ASAHAN	158,83	85,37	101,13	75,49	105,19	91,17	81,12	85,38	104,65	107,40	62,24
8	LABUHAN BATU UTARA	60,23	128,40	110,89	54,67	91,97	90,84	97,03	60,53	92,12	62,63	72,32
9	LABUHAN BATU	24,26	182,80	145,84	29,94	97,58	75,70	69,45	80,75	79,67	131,03	144,94
10	TANJUNG BALAI	3,15	2,81	2,38	2,61	1,97	1,52	1,49	1,74	1,50	1,46	1,45
11	PEMATANG SIANTAR	0,86	0,76	0,65	0,71	0,54	0,17	0,00	0,00	0,00	6,59	18,11
12	BINJAI	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
13	LANGKAT	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	JUMLAH	918,93	992,99	916,24	608,43	780,61	666,17	642,09	613,54	655,81	789,84	835,65

*Source: PT. KAI Divre 1 North Sumatra, 2008-2018 (processed)*

Data on the volume of goods transported by train in North Sumatra from 2008 to 2018 obtained from PT. Kereta Api (Persero) Regional Division 1 North Sumatra

Table 6
GRDP Based on Constant Prices in Regencies / Cities Traversed by Railway Tracks 2008-2018

NO	KOTA/KABUPATEN	PERTUMBUHAN EKONOMI (Rp Triliun)										
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	MEDAN	31,37	33,43	90,62	97,68	105,16	110,80	117,53	124,27	132,06	139,73	148,01
2	DELI SERDANG	12,98	13,70	43,04	45,26	47,51	51,90	55,79	58,71	61,84	64,99	68,34
3	SERDANG BEDAGEI	4,05	4,29	12,05	12,78	13,56	14,35	15,08	15,84	16,66	17,52	18,42
4	TEBING TINGGI	1,04	1,10	2,46	2,61	2,76	2,92	3,08	3,24	3,40	3,58	3,76
5	BATUBARA	6,77	7,07	16,12	16,95	17,92	18,67	19,46	20,26	21,17	22,03	23,00
6	SIMALUNGUN	5,05	5,30	10,36	11,63	13,06	14,69	21,19	22,30	23,51	24,72	26,00
7	ASAHAN	4,91	5,13	16,08	16,94	17,87	18,89	20,00	21,12	22,30	23,53	24,84
8	LABUHAN BATU UTARA	0,00	2,99	10,57	11,26	11,98	12,73	13,41	14,11	14,84	15,60	16,41
9	LABUHAN BATU	8,34	3,10	14,53	15,36	16,29	17,26	18,17	19,08	20,05	21,05	22,11
10	TANJUNG BALAI	1,28	1,33	3,23	3,48	3,69	3,92	4,15	4,39	4,64	4,90	5,17
11	PEMATANG SIANTAR	1,83	1,93	5,93	6,33	6,75	7,14	7,59	7,99	8,38	8,75	9,17
12	BINJAI	1,79	1,91	4,96	5,24	5,55	5,89	6,23	6,57	6,94	7,31	7,71
13	LANGKAT	6,49	6,82	18,39	19,59	20,86	22,03	23,16	24,32	25,53	26,82	28,17

Source: Central Statistics Agency, 2008-2018 (processed)

GRDP data based on constant prices per Regency/City traversed by rail lines in North Sumatra from 2008 to 2018 collected from the Central Statistics Agency of the North Sumatra Province and the Central Statistics Agency of Regency/City.
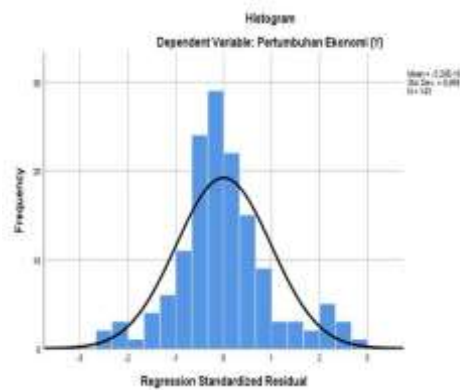
Figure 2 Histogram Normal Test Results
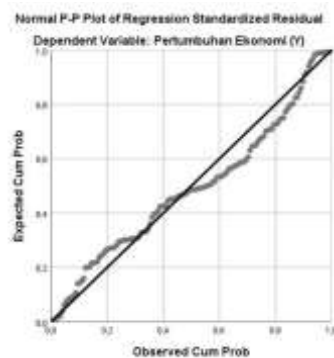
Figure 3 Normal P-P Plot of Regression Graph Standardized Residual

From the Histogram chart, it forms a bell/mountain, and based on the P-P Normal Plot of Regression Standardized Residual chart is known that the points scattered around the line and follow the diagonal lines, so it is assumed that the residual values generated from the regression modl are normally distributed.
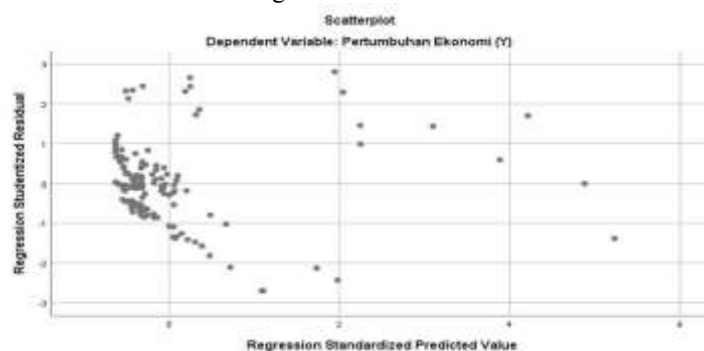
Figure 4 Scatterplot Chart of Heteroscedasticity Test

Figure 4 shows that the dots scattered with unclear patterns above and below the number 0 on the Y-axis that it is assumed that there is no problem with heteroscedasticity in the regression model.

Table 7
Multicollinearity test results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6,256	1,625		3,851	,000		
	Pengeluaran Pemerintah (X1)	,031	,009	,194	3,592	,000	,712	1,405
	Jumlah Penumpang (X2)	,040	,004	,603	9,163	,000	,481	2,079
	Volume Barang (X3)	,061	,021	,172	2,906	,004	,595	1,680

a. Dependent Variable: Pertumbuhan Ekonomi (Y)

From Table 7 above, it is identified that the VIF value is less than 10 and the Tolerance value is more than 0.1 for the three independent variables (government spending, number of passengers and volume of goods) so that it can be concluded that there are no issues with the Multicollinearity Regression Model.

Table 8
Multiple Linear Regression Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,256	1,625		3,851	,000
	Pengeluaran Pemerintah (X1)	,031	,009	,194	3,592	,000
	Jumlah Penumpang (X2)	,040	,004	,603	9,163	,000
	Volume Barang (X3)	,061	,021	,172	2,906	,004

a. Dependent Variable: Pertumbuhan Ekonomi (Y)

From table 8 above, the constant value (a) is 6.256. Regression coefficient values b1 = 0.031, b2 = 0.040 and b3 = 0.061.

$$Y = 6{,}256 + 0{,}031X_1 + 0{,}040X_2 + 0{,}061X_3 \quad ....(4.2)$$

Where:

Y = District/City GRDP in North Sumatra (IDR Trillion)

X_1 = Government Spendings for Railway Development (IDR Billion)

X_2 = Number of passengers (thousand people)

X_3 = Volume of goods (thousand tons)

Hypothesis test

Table 9
Output model summary Determination Coefficient Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,843[a]	,711	,705	15,62104

a. Predictors: (Constant), Volume Barang (X3), Pengeluaran Pemerintah (X1), Jumlah Penumpang (X2)

Table 9 shows that the adjusted R2 figure is 0.705 or 70.5 percent. It indicates that the contribution of the independent variable of government spending for the development of railroads, the number of train passengers, and the amount of rail transport to the District/City GRDP in North Sumatra is 70.5 percent. Or the variation of the independent variable used in

the model can explain 70.5 percent of the variation of the dependent variable.

Table 10
Hasil Uji F

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	83390,095	3	27796,698	113,913	,000^b
	Residual	33918,369	139	244,017		
	Total	117308,465	142			

a. Dependent Variable: Pertumbuhan Ekonomi (Y)

b. Predictors: (Constant), Volume Barang (X3), Pengeluaran Pemerintah (X1), Jumlah Penumpang (X2)

Dari tabel 10 tersebut, untuk nilai signifikansi/probability value (P Value) sebesar 0,000 < 0,05. Sehingga dapat ditarik kesimpulan bahwa pengeluaran pemerintah untuk pengembangan perkeretaapian, jumlah penumpang kereta api dan volume barang angkutan kereta api secara simultan/bersama berpengaruh terhadap PDRB Kabupaten/Kota di Sumatera Utara.

Tabel 11
Test Results F

Coefficients^a

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6,256	1,625		3,851	,000
	Pengeluaran Pemerintah (X1)	,031	,009	,194	3,592	,000
	Jumlah Penumpang (X2)	,040	,004	,603	9,163	,000
	Volume Barang (X3)	,061	,021	,172	2,906	,004

a. Dependent Variable: Pertumbuhan Ekonomi (Y)

For the significance value / probability value (P Value) of variable government spending (X1) of 0.000 < 0.05, see Table 11. It can, therefore, be concluded that the GRDP of District/City in North Sumatra is partly influenced by government spending on the development of railroads. The T value is positive (3,592), which means that it has a positive effect. Increased government spending on rail development has also increased the Regency / City GRDP in North Sumatra.

The value of significance / probability value (P Value) for the variable number of train passengers (X2) is 0,000 <0.05. So it can be concluded that the number of train passengers partially influences the Regency / City GRDP in North Sumatra. T value is positive (9,163), meaning that it has a positive effect. Increasing the number of train passengers will also increase the Regency / City GRDP in North Sumatra.

The value of significance/probability value (P Value) for the variable volume of railroad transport goods (X3) is 0.004 <0.05. So it can be concluded that the volume of railroad transport goods partially influences the Regency / City GRDP in North Sumatra. T value is positive (2.906), meaning that it has a positive effect. Increasing the volume of railroad transport goods will also increase the District / City GRDP in North Sumatra.

5. DISCUSSION

The findings of the study of government spending on the development of rail transport descriptively suggest that the size of the fluctuations has shown a significant increase over the last five years. It is because, over the last five years, the Government has been aggressively working on infrastructure development to improve connectivity, which is expected to minimize logistic costs. Some of the projects in North Sumatra is the construction of the Medan-Kualanamu dual track and the development of the Trans Sumatra Railway.

The findings of the study of the number of train passengers descriptively showed an increase of

3.5 million passengers in 2015 to 4.9 million passengers in 2018 or about 40% in the last 4 years.

The findings of the study of the volume of railroad transport goods have descriptively shown an increase in the volume of railroad transport goods totaling 613.5 thousand tons in 2015 to 835.7 thousand tons in 2018 or about 36.2 percent over the last four years.

The results showed that government spending on the development of railroads, the number of passengers and the volume of goods together had a positive and significant effect on the development of the GRDP District/City of North Sumatra Province, as indicated in the F test results, where the significance/probability value (P Value) was 0.000 ($<$ 0.05).

The results showed that government spending on railroad development had a positive and significant effect on the North Sumatra Province / City GRDP. Such findings indicate that government spending on the development of railroads is considered to be important or substantial as it can have an effect or impact and can not be excluded from issues with the development of the GRDP. Hal tersebut berarti semakin besar pengeluaran pemerintah untuk pengembangan perkeretaapian maka PDRB Kabupaten/Kota Provinsi Sumatera Utara akan semakin naik, begitu pula sebaliknya semakin sedikit pengeluaran pemerintah untuk pengembangan perkeretaapian maka PDRB Kabupaten/Kota Provinsi Sumatera Utara akan semakin menurun.

6. CONCLUSION
1. Government spending for railroad development, number of passengers, and volume of goods together have a positive and significant effect on GRDP of North Sumatra Province / City with models/equations of multiple linear regression results: $Y = 6,256 + 0,031X1 + 0,040X2 + 0,061X3$.
2. Government spendings for railroad development, number of passengers and volume of goods together have a positive and significant effect on GRDP of Regency / City of North Sumatra Province

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