OPTIMUM: Journal of Economics and Development
VOL 13, No. 2, 106-124
https://dx.doi.org/10.12928/optimum.v13i2.6966

Determinant of labor absorption in Yogyakarta

Mohammad Dendi Abdul Nasir[1,a*], Mukhamad Yazid Afandi[2,b], Hishamuddin Mohd Ali[3,c]
[1]dendi@nuris.ac.id; [2]mukhamad.afandi@uin.suka.ac.id; [3]hisham@fksg.utm.my

[a] Sharia Economics Department, STAI Nurul Islam, Mojokerto, Indonesia
[b] Faculty of Islamic Economics and Business, Universitas Islam Negeri Sunan Kalijaga, Indonesia
[c] Centre for Real Estate Studies, Faculty of Built Environment and Surveying, Universiti Teknologi Malaysia, Malaysia
*corresponding authors

ARTICLE INFO

Article history
Received : 2022-12-09
Revised : 2023-06-06
Accepted : 2023-08-21

Keywords
Labor absorption
Government expenditure
Investment
Economic growth
Inflation

ABSTRACT

This study aims to examine government expenditure, investment, economic growth and inflation and their effect on labor absorption in the Special Region of Yogyakarta (DIY) in the 2010–2019 research period and to prove the Okun's law and Phillips curve in DIY. Methodologically, this research was conducted using quantitative methods using secondary data. The data analysis technique used is panel data analysis with the chosen approach, namely the random effect model. Based on the results of the simultaneous test, this study shows that the four independent variables together have a positive and significant influence on labor absorption in the DIY Province. Meanwhile, based on the results of the partial test, it shows that the variables of government expenditure and inflation have a positive and significant effect on labor absorption. Investment and economic growth variables have a negative and significant effect on labor absorption. Implication of the study is the importance of the effectiveness of government expenditure and investment to increase labor absorption and strengthen the environment of investment to stimulate labor absorption in DIY.

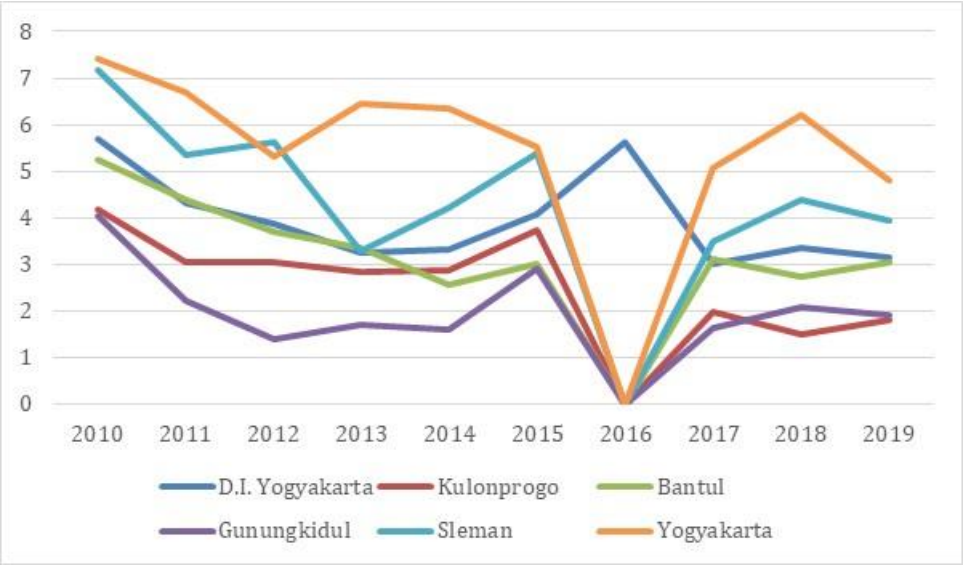
Introduction

Economic development must have at least three objectives, namely increasing the availability and expanding the distribution of basic goods, expanding the range of economic and social choices available to individuals and nations, and increasing living standards, including providing more labor absorption opportunities (Todaro & Smith, 2012). The main problem of labor absorption in developing countries including Indonesia is due to an imbalance between the increase in the working age population (labor or labor supply) and the absorbed labor force, the impact of this imbalance will cause a gap called unemployment. The problem of labor absorption becomes a big problem if population growth is not followed by employment (Campolieti et al., 2014; Sitompul &

Simangunsong, 2019).

The problem of unemployment will interfere with the development of economic development, where the goal of development in an area is to prosper the community, create jobs, and increase productivity so as to increase people's income (Basnett & Sen, 2013). Disparities also occur at the regional (provincial) level. Figure 1 explain the employment in Yogyakarta Province, although the number of labor force has always increased in the last 10 years, this increase has not always been followed by a decrease in the unemployment rate. For example, in 2013 the number of unemployed in Yogyakarta Province was 63.172 people (the most in Sleman Regency was 19.299), while in 2019 this number had increased to 71.482 people (most in Sleman Regency reaching 27.508). This situation indicates that the level of labor absorption in all economic sectors is not sufficient to accommodate the increase in labor supply. In addition, employment (number of workers) in the formal and informal sectors tends to decrease, in 2019 the number of workers has decreased by 56.383 people from the previous year.

This fact shows that the absorption of labor throughout the Province of Yogyakarta is not optimal and is not evenly distributed. As a major problem, unemployment has the potential to become a burden for economic development in Yogyakarta Province. This is the main reason for this study to provide an empirical model of labor absorption using district/city data in DI Yogyakarta Province. Therefore, this paper examines several factors that can affect labor absorption in Yogyakarta, this is done considering that Yogyakarta Province has "employment problems" as mentioned above. The development of the labor absorption situation (unemployment percentage) in the DIY Province in 2010-2019 can be seen in the image below.



Source: Badan Pusat Statistik DIY

Figure 1. Graphic of Employment in DIY 2010-2019.

This fact must be immediately responded to by the DIY Provincial Government. The authority of local governments through regional autonomy is expected to be able to support the emergence

of economic activities and economic growth in the regions which in turn can print new job vacancies and accommodate a large number of workers (Ranis & Stewart, 1994). There are various ways that the DIY Provincial Government can implement to increase labor absorption. One of them with government expenditure (regional expenditure). Keynes argues that the government should spend a lot of money to build important social facilities, so that it can absorb a large number of workers, resulting in reduced unemployment (Isiaka, 2020).

Recent findings on the correlation between government expenditure and labor absorption Ewubare & Maeba (2018) and Nwaeze (2019) in Nigeria. Both found that the large amount of expenditure made by the government (government expenditure) would overcome difficulties in absorbing labor. This finding is supported by Saraireh (2020) for the case in Jordan, where in the long term unemployment will decrease if the government spends more on infrastructure, health, and education, meaning that many workers will be absorbed as a result of government expenditure. However, unlike the findings above, the research results of Beard et al (2012) for the case in America explains that government expenditure does not affect job creation in the private sector, according to him, many economists and policy makers doubt the ability of government expenditure to fix labor absorption problems in America.

In addition to government expenditure, investment is also believed to increase labor absorption. Investment is one way that can be used to increase labor absorption and reduce unemployment (International Labour Organization, 2018). It is possible that by investing in economic activities and job opportunities, national income and the level of community welfare will also increase (Sukirno, 2016). Investment can be used as a force in increasing the number of jobs and economic growth (Cheng et al., 2019). Investment is considered as one of the main agenda of most countries because of its benefits can increase economic growth and expand job opportunities. According to trade theory, investment is expected to increase the allocation of resources and thereby expand labor absorption and absorb a large number of workers (Abouelfarag & Abed, 2019). A number of studies support this idea, such as He (2018) finding that investment can affect labor absorption in China. Brincikova & Darmo (2014) concluded that there is a positive relationship between investment flows and labor absorption in the Czech Republic, Hungary, Poland and Slovakia. Other studies believe that investment is an important element in economic development in order to absorb a lot of labor (Khodeir, 2016; Li & Liu, 2019; Makhoba & Kaseeram, 2019). However, the results of this study are different from Nordin (2017) study which concluded that based on panel data analysis, investment was found to have no significant effect on labor absorption in Malaysia. This finding is reinforced by research by Alfalih & Hadj (2021) for cases in oil-producing countries, that during the period 1984–2015 the nardl findings showed positive changes in FDI did not have a short-term impact on labor absorption and had a long-term negative

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impact. In addition, negative changes in FDI indicate long-term and short-term negative effects on job creation.

In addition to government expenditure and investment as described above, economic growth is also an important key to the direction of a region's development, including to increase labor absorption. To provide more public services and goods in order to meet the needs of the community and an investment climate that tends to continue to increase, a stable and well-established economic condition is needed (Awan et al., 2011). These conditions can affect the extent of labor absorption opportunities that will absorb a large number of workers. This idea is supported by Ben-Salha & Zmami (2021) for cases in GCC countries during the 1970-2017 period which found that in the long run, labor absorption intensity was positively influenced by trade liberalization and the share of services in GDP. Another factor that can affect labor absorption is inflation. Inflation that occurs in the economy in a region has several impacts, one of which is that it can cause changes in output and labor. If the inflation that occurs in the economy is still relatively light, the company will increase the amount of production. The increase in production will be accompanied by an additional workforce and followed by an increase labor absorption is explained by using the Phillips Curve theory. Phillips argues that there is a trade-off between the rate of inflation and unemployment. Phillips shows that low inflation rates tend to have high unemployment, while high inflation tends to have low unemployment rates (Mankiw, 2007).

The latest finding on the correlation between inflation and labor absorption was carried out by N'Guessan (2018) for the case in Ivory Coast with the result that there is a positive and stable long-term relationship between inflation and labor absorption. Meanwhile, other research results reveal that inflation causes unemployment for about 3 to 3.5 years in the United States. This means that inflation has a negative impact on labor absorption in the United States (Haug & King, 2011). This finding is confirmed by Vermeulen (2017) who finds that in the long run there is a negative relationship between inflation and labor absorption, which leads to the conclusion that inflation is detrimental to job creation. This study aims to examine and explain the effect of government spending, investment, economic growth, and inflation on labor absorption in Yogyakarta. Findings on the variables of government spending, investment, economic growth, and inflation on labor absorption have been carried out quite a lot in previous studies. The labor absorption problems mentioned above and the inconsistency of the results of previous studies regarding government spending, investment, economic growth, and inflation in influencing labor absorption are the reasons for researchers to conduct another study with a 10-year research period (2010-2019). This research is expected to contribute to the development of science and further development of labor absorption research and provide input to the government regarding labor absorption. Another contribution to the literature to explore the effectiveness of government spending to labor

absorption in DIY, more effective the government spending to labor absorption more create labor absorption.

Method

Labor absorption as the dependent variable is measured by the number of workers working in all business sectors in the DIY Province. Based on Law No. 13 of 2003, labor is every individual who works to produce products, both in the context of fulfilling their own needs and for the community. In this case, the workforce in question is someone aged 15 years and over who worked during the past week during the research period relate to study from Kurniasih (2017). There are four independent variables in this study. The first independent variable is government expenditure. The government expenditure variable referred to in this study is the total realization of regional expenditure (direct expenditure and indirect expenditure in rupiah) in the DIY Province, as used by several scholars such as Sasana & Kusuma (2018) and Maharda & Aulia (2020). Based on PP No. 58 of 2005 regarding Financial Management, regional expenditures are in the form of all expenditures from the Regional General Treasury Account using current equity funds, which are regional obligations in a budget year which will not be paid back by the regions.

The second independent variable is investment. According to Law No. 25 of 2007, what is meant by investment is all types of investment activities, both domestic and foreign investors to carry out business in the territory of the Republic of Indonesia. The investment variable referred to in this study is the total realization of Foreign Investment (PMA) and Domestic Investment (PMDN) in DIY Province (in rupiah), as in previous research by Yuliana et al (2019) in South Sumatra Province. The third independent variable in this study is economic growth. Economic growth as a material standard of living is expected to increase over time in all countries (Mankiw, 2007). An area with better economic growth conditions, it is believed that the absorbed workforce will be more effective. In this study, the variable of economic growth was measured by the rate of economic growth from the Central Bureau of Statistics of DIY Province database. The notation used to indicate the economic growth variable studied is the GRDP growth rate based on 2010 constant prices based on the business field (percent), such as research conducted by Feriyanto (2016) The fourth independent variable in this study is inflation. Inflation can be interpreted as an increase in the price of goods and services in general and continuously within a certain period of time (Mishkin, 2004). The notation used to show the inflation variable in this study is the annual inflation rate based on the DIY Province during the 2010–2019 period, expressed in percent (%) as in previous research Biro Analisa Anggaran dan Pelaksanaan APBN (2014). All the data was obtained from BPS DIY Province.

In statistical and econometric testing, this study uses observation with panel data. According to

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Widarjono (2010). the advantages of using a panel data regression model include: first, panel data which is a combination of time series and cross section data is able to provide more data so that it will produce a greater degree of freedom. Second, combining information from time series and cross section data can eliminate problems that arise when there is a problem with eliminating variables (committed-variables). The panel data regression model can be written in the following basic equation:

$$\Delta L_{it} = \alpha + \beta_1 GE_{it} + \beta_2 INV_{it} + \beta_3 EG_{it} + \beta_4 INF_{it} + \varepsilon_{it} \quad (1)$$

Where ΔL denotes the the absorption of labor proxied by the number of workers working in all business sectors (people); GE is government spending (total realization of direct spending and indirect spending in billions of rupiah); INV is the investment value proxied by the calculation of investment realization (in billions of rupiah); EG is the growth rate based on GFP at constant 2010 prices based on business sector (percent); INF is the annual inflation rate (percent); α is a constant; β_1, β_2, β_3 and β_4 is the regression coefficient; i is a cross-section (Bantul, Gunung Kidul, Sleman, Kulonprogo, Yogyakarta); t is the time period (2010-2019) and ε is the error term. There are three methods used to estimate the panel data regression model, namely the Common Effect, Fixed Effect, and Random Effect approaches. There are three tests used to determine the most appropriate technique for estimating panel data regression. First, the F statistic test is used to choose between the OLS (common effect) or LSDV (fixed effect) method. Second, the Lagrange Multiplier (LM) test is used to choose between the OLS (common effect) or GLS (random effect) method. Third, the Hausman test is used to choose between the fixed effect or random effect method (Widarjono, 2010).

Results and Discussion

The data in this study uses secondary data which includes labor absorption, government expenditure, investment, economic growth and inflation sourced from BPS DIY Province and BAPPEDA DIY Province. The data period that the researcher uses is containing data in 10 years, starting from 2010-2019, and the cross-sectional data studied consist of 5 districts/cities in DIY Province. The following are the results of the data description of the various variables studied:

Table 1. Descriptive Statistics

	L	GE	INV	EG	INF
Mean	389156.5	1524848.0	6355876.0	5.458600	4.202800
Maximum	649763.0	2776995.0	20330117	13.49000	8.020000
Minimum	185653.0	612912.0	1425086	3.950000	0.900000
Std. Dev	155825.8	521429.7	4311327.1	1.498248	1.879870
Obs	50	50	50	50	50

Source: data processed

Table 1 explains the original of the data and the highest value of labor absorption in the DIY Province occurred in 2019 in Sleman Regency of 649763 workers. Based on Sakernas data in

August 2019, as many as 51.59 percent of the total workforce were workers/employees/employees. Meanwhile, the sector that absorbed the most labor in 2019 in Sleman Regency was the wholesale and retail trade sector with a contribution of 22.17 percent. The lowest value of labor absorption in the province of DIY occurred in 2010 in the city of Yogyakarta, amounting to 185653 workers. Meanwhile, the average labor absorption in DIY Province for the 2010-2019 period was at the level of 389156.5 with a standard deviation of 155825.8. The regency/city with the largest government expenditure was Sleman Regency in 2019 which was 2,776,995 (million rupiah), while the lowest was Kulonprogo Regency in 2010 worth 612,912 (million rupiah). Sleman Regency is a regency in DIY Province with the largest population (1,219,640 people in 2019), while Kulonprogo Regency with a population of only 430,220 people in 2019. Regarding investment, the average annual investment in DIY Province during the 2010-2019 period was 6.35 trillion rupiah. The largest investment in DIY Province occurred in 2019 in Sleman Regency amounting to 20.33 trillion rupiah, or contributed approximately 38.30 percent of total investment in DIY Province in 2019. While the lowest investment value in DIY Province occurred in 2010 in Kulonprogo Regency worth 1.42 trillion rupiah. The average economic growth rate of all regencies/cities in DIY Province reached 5.458600 percent with the lowest figure of 3.950000 percent (Kulonprogo Regency, 2010) and the highest figure of 13.49000 percent (Kulonprogo Regency, 2019). This fact explains that the range of the highest economic growth rate reaches 3.4 times that of the smallest economic growth. This happened because the economic growth of Kulonprogo Regency in 2019 was accelerated by the construction of infrastructure projects such as repairing the southern causeway, repairing irrigation canals and highways, the physical development stage of the New Yogyakarta International Airport (NYIA). The average inflation in the study period (2010-2019) in DIY Province was 4.2 percent with the highest inflation of 8.02 occurring in Gunungkidul Regency in 2013 and the lowest inflation value of 0.9 occurring in Kulonprogo Regency in 2013.

The panel data regression model in this study uses three approaches, namely the common effect model (CEM), fixed effect model (FEM), and random effect model (REM). Table 2 shows the results of the panel data models and specification test of the three methods. The model specification test to select the best model for panel data regression was carried out using three techniques. First, is the Chow test or the likelihood ratio test which is used to choose the right model between the common effect (CEM) or the fixed effect (FEM). The test results show the probability value is 0.0000 <0.05 level of significance, then the null hypothesis is rejected and the first hypothesis is accepted, in other words the correct model is fixed effect (FEM). Second, is the Hausman test which is used to compare the fixed effect (FEM) with the random effect (REM). The test results show the probability value is 0.0530 > 0.05 significance level, then the null hypothesis is accepted and the first hypothesis

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is rejected, in other words the right model is random effect (REM). The results obtained from the chow test and the hausman test found the two best models, namely fixed effect (FEM) and random effect (REM), then one more test was conducted to choose the most appropriate model between the two using the lagrange multiplier (LM) test. The results of the LM Breusch-Pagan test obtained a probability value of 0.0000 > 0.05 level of significance. This means that the test results are significant at the 5% significance level so that the null hypothesis is rejected and the first hypothesis is accepted. The right model used in this study is the random effect (REM).

Table 2. Panel Data Estimations

Variables	CEM	FEM	REM
Constant	11.69339	12.53945	11.69339
	(0.0000)	(0.0000)	(0.0000)
GE	7.46E-07	1.48E-07	7.463-07
	(0.0000)	(0.0144)	(0.0000)
INV	-1.72E-08	3.74E-10	-1.72E-08
	(0.3271)	(0.9707)	(0.0002)
EG	-0.040746	0.004397	-0.040746
	(0.2021)	(0.6165)	(0.0000)
INF	0.067962	-0.001542	0.067962
	(0.0144)	(0.8367)	(0.0000)
Diagnostic Tools			
R-Squared	0.504477	0.972592	0.504477
F-Stat	11.45327	181.8656	11.45327
	(0.00002)	(0.0000)	(0.000002)
Chow Test	144.739347		
	(0.0000)		
Hausman Test		7.265604	
		(0.0530)	
LM Test	72.99100		72.99100
	(0.0000)		(0.0000)
Obs	50	50	50

Source: data processed

The estimation used in this study uses panel data regression with the chosen approach being the random effect model (REM). In this study, the significance value of was 5% (0.05). Simultaneous statistical test results can be seen that the probability value of F is 0.000 less than the 5% alpha significance level. So the decision is that the null hypothesis is rejected and the alternative hypothesis is accepted. Based on the output Table 3, the results of panel data regression with a random effect approach are as follows:

$$E = 11.69339 + 0.000000746\,GE - 0.0000000172\,INV - 0.040746\,EG + 0.067962\,INF \quad (2)$$

The constant value of the regression results is 11.69339 which means that if all independent variables are zero, then there is an increase in labor absorption of 11.69339. With a probability value of 0.0000 which is smaller than the significance level of = 5%, it means that when all independent variables are zero, it will have an effect on the labor absorption variable. The

government expenditure variable has a coefficient value of 0.000000746 with a probability of 0.00000 less than 0.05 which means that the level of government expenditure has an influence on labor absorption. Because the variable of government expenditure is not logarithmic, while the variable of labor absorption is logarithmic, the econometric concept is called the semilog model (Gujarati, 2004). This means that the coefficient value can be interpreted as the elasticity value if it is multiplied first by a value of 100. The coefficient value of 0.000000746 indicates that a 1 percent increase in government expenditure will increase labor absorption by 0.0000746 percent. Based on this description, the hypothesis H1 is accepted. Keynesian economists justify government intervention through public policies aimed at achieving full labor absorption and price stability. Government spending can be used effectively as an exogenous macroeconomic instrument to increase national income by multiplying aggregate demand and output. According to Keynesian aggregate demand theory, independent government spending has a beneficial impact on economic growth (Arestis et al., 2021). Proactive and appropriate fiscal policy, especially at the early stages of development, can become a powerful macroeconomic policy apparatus on the part of the government to stimulate economic activity and create jobs (Yusri, 2022).

Table 3. Random Effect Models

Variables	Coefficient
GE	7.46E-07
	(20.21921)***
INV	-1.72E-08
	(-4.021124)***
EG	-0.040746
	(-5.253878)***
INF	0.067962
	(10.33463)***
C	11.69339
	(161.0163)***
Diagnostic Tools	
Adj. R-Squared	0.460430
F-Statistic	11.45327***

Noted: ***;**;* significan at 1%, 5% and 10% respectively

The investment variable has a coefficient value of -0.0000000172 with a probability of 0.0002 less than 0.05 which means that the level of investment has an influence on labor absorption. This means that the coefficient value can be interpreted as the elasticity value if it is multiplied first by a value of 100. The coefficient value of -0.0000000172 indicates that a 1 percent increase in investment will reduce labor absorption by 0.00000172 percent. Based on this description, the hypothesis H2 is rejected. This finding is not able to support the Harrod-Domar theory which postulates that investment will increase production capacity, production has an impact on increasing labor (Jhingan, 2014). The economic growth variable has a coefficient value of -0.040746 with a probability of 0.00000 less than 0.05 which means that economic growth has an influence

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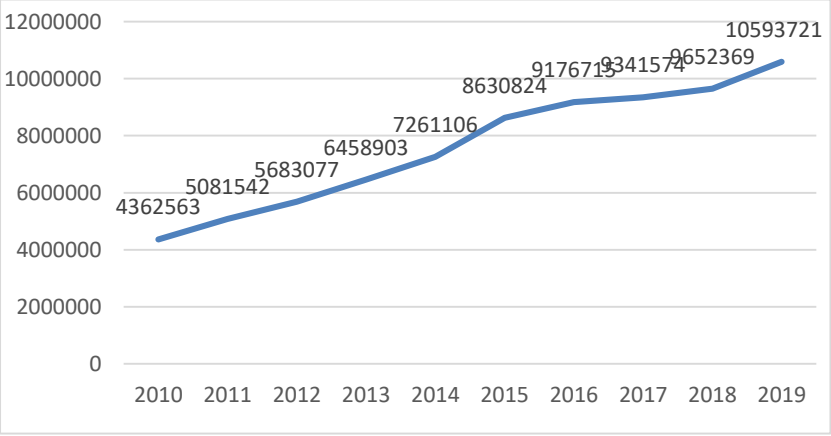
on labor absorption, but in a negative direction. This means that the coefficient value can be interpreted as the elasticity value if it is multiplied first by a value of 100. The coefficient value of -0.040746 indicates that a 1 percent increase in economic growth will reduce labor absorption by 4.0746 percent. Based on this description, the hypothesis H3 is rejected. This result is inconsistent with economic theory (Okun's law) which states that there is an inverse relationship between economic growth and the unemployment rate or there is a positive correlation between economic growth and labor absorption (Hjazeen et al., 2021). The inflation variable has a coefficient value of 0.067962 with a probability of 0.0000 less than 0.05 which means that the inflation rate has an influence on labor absorption. This means that the coefficient value can be interpreted as the elasticity value if it is multiplied first by a value of 100. The coefficient value of 0.067962 indicates that a 1 percent increase in inflation will increase labor absorption by 6.7962 percent. Based on this description, the hypothesis H4 is accepted. The results of this study support the Phillips curve which states that there is a negative correlation between unemployment and inflation. In 1958, A. W. Phillips found that the correlation between unemployment and the rate of change in the British money wage was negative (Phillips, 1958). The Philips curve is the long-run relationship between inflation and growth or between inflation and unemployment. The higher the growth, the higher the inflation. Alternatively, the lower the unemployment, the higher the inflation (Jalaee et al., 2019).

Government Expenditure on labor absorption

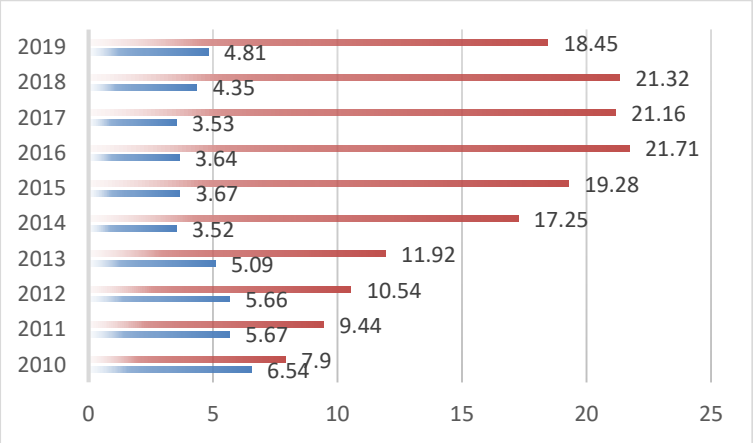
Government expenditure is a policy in which the government uses its expenditure programs to produce the desired effects such as the provision of good roads, infrastructure facilities, poverty alleviation, provision of schools and health centers, job creation and avoiding unwanted effects such as poverty, poor health care, education. poor housing, poor housing, unhealthy food and low income and unemployment (Obisike et al., 2020). When the supply of labor increases, the unemployment rate will eventually decrease.



Source: data processed

Figure 2. Graphic Regional Expenditure in DIY 2010-2019

The results of this study support the findings Ewubare & Maeba (2018) and Maku & Alimi (2018) which explain that government expenditure has the potential to create more jobs if allocated to appropriate projects that are able to facilitate job creation. Figure 2 explain the realization of the DIY Provincial government expenditure always increases every year (during the research period). The improvement in the quality of regional expenditures can be seen from the decreasing portion of personnel expenditures. The smaller the portion of Regional Revenue and Expenditure Budget (RREB) expenditure used for personnel expenditure, the RREB can be optimized to support other types of expenditures that are more related to public services such as capital expenditures for the construction of community facilities or to support expenditure that is effective in driving the wheels of the regional economy, such as increasing connectivity with developments. which absorbs a lot of manpower. This means that a larger portion of capital expenditure than personnel expenditure is a quality regional expenditure.



Source: data processed

Figure 3. Graphic Capital Expenditure in DIY 2010-2019

The regional expenditures of the DIY Province are classified as quality, because the realization of capital expenditures is always greater than the realization of direct personnel expenditures. This phenomenon in Figure 3 from the percentage of sub-elements of capital expenditures and direct personnel expenditures to total regional expenditures. Therefore, the DIY Provincial Government must maintain the stability of the amount and structure of the allocation of capital expenditures in subsequent periods in accordance with development needs and regional potential, in order to create labor absorption opportunities and increase labor absorption absorption and avoid unwanted effects such as poverty and unemployment.

Invesment on labor absorption

Based on Table 3, that an increase in investment of 1 percent will affect a decrease in labor absorption by 0.00000172 percent. This finding is not able to support the Harrod-Domar theory which postulates that investment will increase production capacity, production has an impact on increasing labor (Jhingan, 2014). This study confirms the previous findings by Liu (2012); Sitompul

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& Simangunsong (2019) and Inekwe (2013) which state that the inflow of foreign investment will hamper the growth rate of labor absorption. Another study by Makhoba & Kaseeram (2019) also concluded where foreign investment was not able to absorb a lot of labor (even the effect was negative). One of the factors that causes investment to be unable to increase labor absorption in the DIY Province is the asynchronous relationship that occurs between investment and job opportunities. The relationship occurs because of the accumulation of capital used to purchase sophisticated machinery and equipment. This means that the industry in DIY Province is more capital-intensive (capital-intensive) than labor-intensive (labor-intensive).

Table 4. GFCF Value and Labor Absorption in DIY Province 2017-2019

Business Field	GFCF (Billion)			Employment (Percent)		
	2017	2018	2019	2017	2018	2019
Agriculture, Forestry and Fisheries	425.94	485.41	293.56	21.37	20.40	19.01
Mining and excavation	51.36	141.50	44.96	0.68	0.89	0.74
Processing industry	3.235.34	2.462.00	3.038.24	16.09	16.38	17.05
Electricity and Gas Supply	86.43	64.28	108.16	0.17	0.28	0.17
Water Supply. Waste. Waste and Recycling Management	17.37	22.64	41.41	0.21	0.25	0.19
Construction	2.711.01	4.612.88	5.743.52	7.25	7.58	6.73
Wholesale and Retail Trade; Car and Motorcycle Repair	1.844.94	1.610.43	1.586.32	18.16	18.57	18.96
Transportation and Warehousing	3.287.27	5.481.50	4.167.18	2.69	3.60	3.98
Provision of Accommodation and Drinks	3.049.27	2.938.76	3.986.90	8.85	9.81	9.43
Information and Communication	3.443.93	3.277.64	4.019.88	1.39	0.77	0.98
Financial Services and Insurance	525.66	1.003.81	1.482.05	1.83	1.62	1.54
Real Estate	1.460.05	1.471.54	1.666.57	0.09	0.09	0.07
Company Services	327.44	274.94	355.40	2.98	2.36	2.45
Government Administration. Defense and Mandatory Social Security	2.036.44	1.630.66	1.380.09	3.14	3.49	3.60
Education Services	2.117.50	2.068.56	2.401.40	6.16	5.58	6.91
Health Services and Social Activities	725.65	677.79	784.74	2.16	1.66	2.18
Other services	723.23	700.61	752.26	6.76	6.68	6.02

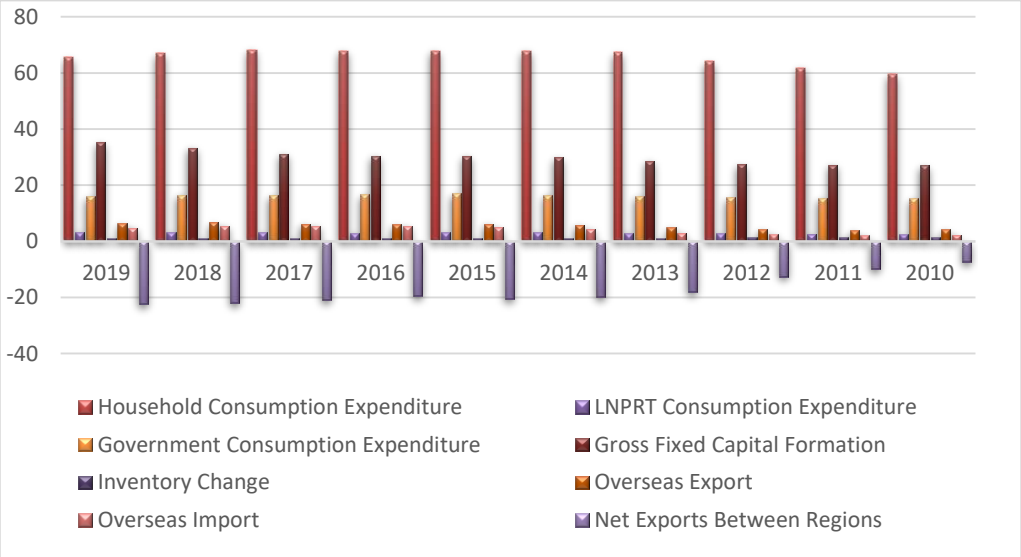
Source: data processed

Table 4 shows that in 2019, the highest GFCF investment was in the construction sector with a value of 5,743.52 billion rupiah, but the construction sector was only able to absorb 6.73 percent of the workforce. Furthermore, in the transportation and warehousing sector with a GFCF investment value of 4,167.18 billion rupiah, which is only able to absorb labor as much as 3.98 percent. In the same year, the investment value of the GFCF in the agriculture, forestry and fisheries sectors was

only IDR 293.56 billion and absorbed the most labor as much as 19.01 percent. This fact further emphasizes that the industry in DIY Province is more capital intensive than labor intensive.

Economic Growth on labor absorption

Economic growth has a negative effect on labor absorption in the DIY Province. This finding is not able to support the production function seen on the demand side, which explains that the number of workers needed depends on certain production and outputs. This finding is also unable to support Okun's Law, which describes a positive correlation between economic growth and labor absorption or a negative relationship between economic growth and the unemployment rate. This law states in its simplest form that a one percent increase in GDP will result in a 0.3-0.5 percent decrease in unemployment (Okun, 1962). Economic growth has a negative effect on labor absorption in the DIY Province, meaning that the high rate of economic growth is not able to increase labor absorption. According to Kurniasih (2017) this can be influenced by several factors, including the percentage of economic growth which is dominated by the amount of household consumption expenditure (Figure 4). DIY Province is a province with economic growth which is dominated by household consumption with an average of 65.12 percent per year (during the study period).



Source: data processed

Figure 4. Percentage of GDP in DIY Based on Expenditure 2010-2019

Another reason from the elasticity of employment opportunity (EEO), because the higher the elasticity of labor absorption opportunity means that every rate of economic growth will be able to create wider job opportunities (Kurniasih, 2017). But the fact is that in the research period (2010-2019), the elasticity of labor absorption opportunities in the DIY Province is inelastic, which is only 0.34. The figure can be interpreted that the economic growth in the DIY Province during this period is more capital intensive and is still less able to absorb job opportunities. It could be that economic

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growth is based more on industry with the use of increasingly sophisticated technology so that there are fewer available job opportunities.

Inflation on labor absorption

Inflation has a positive effect on labor absorption in the DIY Province, the higher the inflation, the more workers are absorbed. This finding supports the Philips Curve which states that there is a negative correlation between the unemployment rate and inflation, meaning that a low inflation rate tends to have a low labor absorption absorption, while a high inflation rate tends to have a high labor absorption as well (Mankiw, 2007). This finding confirms the results of research conducted by Škare & Caporale (2014) which found the inflation variable to have a positive direction on labor absorption in the short term. This confirms the idea that inflation has a beneficial impact on labor absorption in the short run. The results of another study conducted by Bhattarai (2016) also concluded similarly, that the Phillips curve phenomenon is still empirically significant for 28 of the 35 OECD countries. This shows that inflation affects labor absorption (labor absorption) in 28 OECD countries.

This research shows that the Phillips Curve is valid in DIY Province. This means, if inflation occurs, the company will try to increase its output to meet market needs, thus the company will need a lot of manpower to meet the needs of the community, as a result unemployment will decrease. The results showed that there was a positive and significant relationship between inflation and labor absorption in the DIY Province. This condition occurs because the inflation that occurred in the DIY Province was caused by an increase in aggregate demand, as a result, the volume of public demand for goods and services increased, the price also continued to increase. The development of the inflation rate (from year to year) by expenditure group for the last five years (2015-2019) generally shows an increase. In 2016, the food expenditure group experienced an increase of 6.58 percent (the highest). Meanwhile, only the transportation and communication expenditure group experienced a 2.07 percent decline in prices in 2016. From an economic policy perspective, the DIY Provincial Government should not ignore the role of inflation, because inflation has a significant contribution to creating jobs and thereby reducing unemployment Drobyshevskiy et al (2019). Therefore, to create price stability and expand labor absorption opportunities that can absorb a lot of workers in DIY Province at the same time, harmonization of macroeconomic policies that are well-targeted, especially inflation targeting policies, is very important.

Conclusion

In this final section, conclusions are presented from the results of the analysis and discussion, as well as answering the formulation of the problems posed in this study. The conclusions that can be drawn from this study are (1) Government spending has a significant positive effect on labor

absorption in the Special Region of Yogyakarta Province. These findings support the idea that government spending has the potential to create more jobs if allocated to the right projects that facilitate job creation. (2) Investment has a significant negative effect on labor absorption in the DIY Province. This has implications for the need for effective investment in other productive (labor intensive) sectors as well as the need for policies that regulate labor absorption to support more labor participation. (3) Economic growth has a significant negative effect on labor absorption in the Province of the Special Region of Yogyakarta. This finding does not support the production function seen from the demand side, which explains that the amount of labor required depends on a particular production and output. (4) Inflation has a significant positive effect on labor absorption in the DIY Province. This finding supports the Philips Curve which states that there is a negative correlation between the unemployment rate and inflation. According to the results of this study, the DIY provincial government must be able to increase investment in various sectors in order to increase regional economic growth which will later have an impact on creating new jobs and being able to reduce unemployment and also make policies regarding fair wages and in accordance with the wishes of the workforce and the ability of the owner of the company.

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