

The Role Of Women Labors In Indonesian Economic Growth

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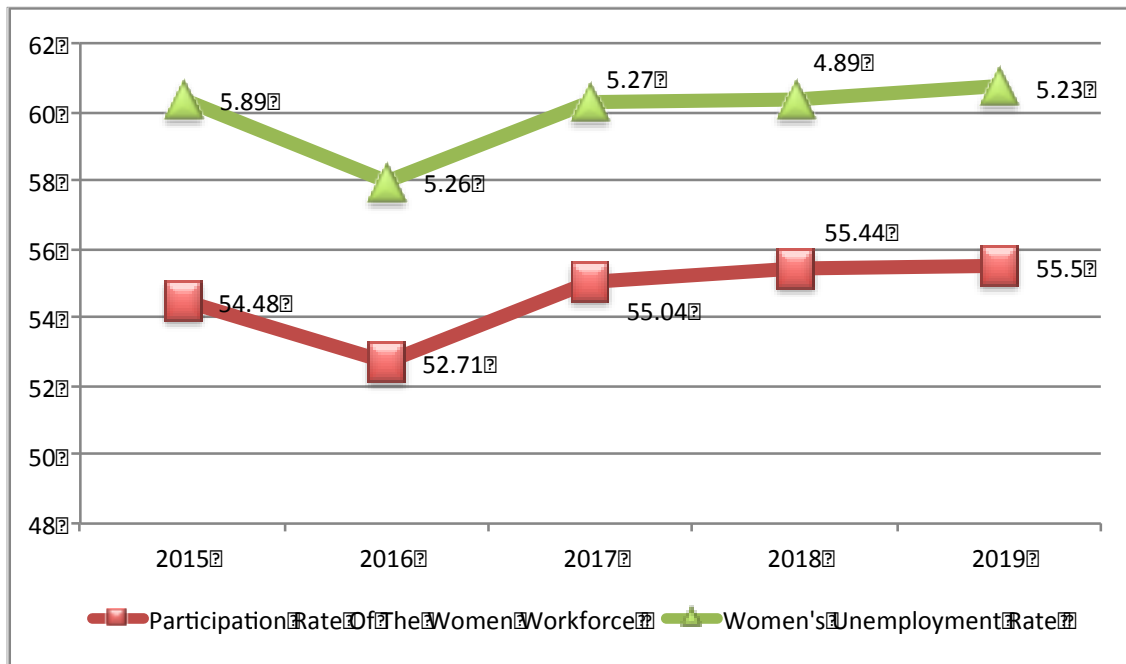
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Abstract: Indonesia has the fourth population rank in the world, the women's population is greater than man. The increasing number of women's population, along the growth of women's labors in Indonesia who are active in the economy, it can be seen from the increasing number of Women's Labor Force Participation Rates from year to year. This is driven by the existence of the gender equality principle which is one of the targets in the Sustainable Development Goals (SDGs). The increasing population who work, both men and women have a role in economy. This research aims to study the role of women labors in Indonesia's economic growth 2015-2018. We used 34 provinces data from the publication of the National Labor Force Survey, the variables are economic growth, man labor, women's labor and the number of poor people. The results in this study using panel data regression showed there is no spillover between women labors and man labors. In addition, the growth of women labors in Indonesia is not statistically significant on economic growth. While the growth of man labors and the government expenditure has a significant positive effect on economic growth and the growth of the poor population has a significant negative impact on economic growth.

Keywords: Women labor; Economic growth; Panel data regression

1. INTRODUCTION

The population of Indonesia is increasing every year and became the fourth populous country in the world after China, India and the United States. The composition of the population showed that number of women is greater than men. The high number of women's population causes the growth of women labors in Indonesia who are active in the economy which can be seen from the increasing of participation rate of the women workforce from year to year. It follows with the decline of women's unemployment Rate.



Source: *Keadaan Angkatan Kerja Indonesia 2019*, BPS(Statistik, 2019), *Processed*
Figure 1. Participation Rate of Women Worker and Women Unemployment Rate in Indonesia 2015-2018

Figure 1 illustrates that women have a significant role in improving the economy. It is driven by the existence of the principle of gender equality which is one of the targets in Sustainable Development Goals (SDGs) related to gender equality issues. The factors that cause the increase of female labor force participation in economic activities are: (1) changes in views and attitudes in society about education for men as important as women's education and awareness of the importance of women's participation in development, (2) the independence of women in economy, which is trying to finance her needs and also her family burden. (3) the need to have additional income, (4) there is opportunity in workplace for women, for example the rise of handcraft industries dan other light industries (Ananta, 1990).

Increased participation of women in the labor market is influenced by macro policies and changes the economy structure. The work women tendency is related to structural transformation that can change the demand for labor. When there is an economic transition from an industry-based economy it will cause a decrease level of women labor participation, whereas if the transition from an industry-based economy to services oriented to public services will increase women's labor participation. The participation of women workers depends on the economic cycle, when the economic crisis occurs there is a decline in the participation of man workers while the participation of women workers increases. When a country experiences a crisis or economic shock, the country has the power to maintain labor market stability through several factors. One way is to maintain the stability of the labor market especially the pattern of participation of women workers, because this is quite important in supporting the economic growth of a country. (Altuzarra, Gálvez-Gálvez, & González-Flores, 2019)

The study of the relationship between woman participation rate in labor force and economic growth is very interesting. Sinha (1965), Boserup (1970), Durand (1975) hypothesize that the relationship of economic development and participation of women worker follow U-shape in the long run. The U-hypothesis stated that in the first stage of economic development, the participation of women worker is increasing because of economic structural change in

Indonesia from agriculture to industrial sector, and the next stage, the participation of women worker is increasing when the country undergoing a transition to modern economy, the fertility rate is decreasing dan the education rate of woman is increasing.(Boserup, 1970; Durand, 1975; Sinha, 1965)

Another factor besides labor force participation rate that influence the economic growth is poverty. The poverty will decrease when the economic growth is increasing, the higher the GDP growth rate, the faster the poverty rate decreases. Based on that idea, it will be more interesting to study the impact of the growth of women labors, men labors and the growth of poverty to economic growth(Tambunan, 2011).

One other variable that has a relationship with economic growth, ther is government expenditure. Government expenditure is part of fiscal policy, which is a government action to regulate the economy by determining of government revenue and expenditure annually, which is reflected in the National Budget (*APBN*) for the national budget and Regional Budget (*APBD*) for the region or regionally. The purpose of this fiscal policy is in order to stabilize prices, output levels, and employment opportunities and stimulate or encourage economic growth. Regional government expenditures (provincial and district / city) that are reflected in the *APBD* are divided into two main groups, routine expenditure or regional apparatus expenditure and development expenditure or public service expenditure. It is hoped that the government can further increase the allocation of development expenditure to be able to stimulate economic growth.

Based on the background description, this study will analyze the role of women labors and other variables on economic growth. This research aims is to know whether there is a spillover between men labors to women labors. The spillover can be seen when the coefficient value of women labors in the model is greater than the coefficient value of women labors. This study also aims to describe the variables used in the model.

2. LITERATURE REVIEW

2.1 *Economic Growth*

Economic growth is the development of fiscal production of goods and services prevailing in a country, such as the increase and the amount of production of industrial goods, the development of infrastructure, the increase in the number of schools, the increase in service production sectors and the increase in capital goods production (Sukirno, 2005). Economic growth is measured by the total income of each person in a country (Gross Domestic Product), where an income increasing will increase the consumption of goods and services (Mankiw, 2012). The Theories about economic growth mentioned in Sukirno's 2005 like Classical Growth Theory, Schumpeter Theory, Harrod-Domar Theory dan Neo-classical Growth Theory talked about how to reach economic growth.

Based on those theories, this research use Classical Growth Theory and Neo-classical Growth Theory. There are four factors influence economic growth, namely, population, capital stocks, land, natural resources and technologies. Classical economists place more emphasis on the role of labor because excessive labor will affect economic growth. Neo-classical theory looks at the supply side. The neo-classical growth theory developed by Abramovits and Solow explains that economic growth depends on the development of factors of production. This can be stated in the following equation:

$$\Delta Y=f(\Delta K,\Delta L,\Delta T) \quad (1)$$

Where ΔY is rate of economic growth, ΔK is rate of capital growth, ΔL is rate of population growth, and ΔT is rate of technology growth. Equation (1) showed that according to Neo-Classical Growth theory, capital, population and technology influence ton economic growth.

Based on that theory, we can say that economic growth can be influenced by investment, labor force and technology.

The provincial economic growth in this paper use Gross Regional Domestic Product (GRDP) in constant price. GRDP is the amount of gross value added arising from all economic sectors in a region. Value Added is the value added from a combination of factors of production and raw materials in the production process. Value added calculation is the value of production (output) minus the intermediate costs. Traditional development approaches are more interpreted as development that is more focused on increasing the GRDP of a province, district, or city (Kuncoro, 1997). According to the Asian Development Bank dynamic economic growth has greatly reduced poverty levels (A. D. Bank, 2018). While economic growth can be seen from the growth in GDP (Gross Regional Domestic Product). Total GDP shows the total value added generated by the population in a certain period. So it can be seen that the GRDP is negatively correlated with the level of poverty in an area.

2.2 *Labors*

Labor force is persons of 15 years old and over who in the previous week were working, temporarily absent from work but having jobs, or those who did not have work and were looking for work or in the process of establishing new business (Statistik, 2019). Excluding who are still in school, taking care of the household or carrying out other activities besides personal activities. The higher of workforce number, that means more people have the potential to work.

Labor force consists of working people and unemployment. Working is an activity done by a person who worked for pay or assisted others in obtaining pay or profit for the duration at least one hour during the past week. Including unpaid worker who helped conduct an economic activities. Those who did not doing any job or worked less than one hour but still classified as working people, with condition:

- Employee are government/private employees who are not actively working on the grounds of leave, sickness, strikes, loss to follow-up or the company to temporarily rest their workers.
- Farmers in who are not working on their land due to waiting for the rainy season to start farming again.
- People who work in areas of expertise such as doctors, puppeteers and others

In labor market, the competition between men and women sometimes caused gender inequality. Eventually this gender equality become important factor to increase economic growth to higher level. The participation rate of women labors is correlated with the rate of national income and formed a U-shaped. When the income rate is low, the participation rate is high. The participation rate is slowing down when the income rate is increasing. At a low per-income level, the participation rate will be quite high. Participation rates fall when per capita income rises. At a low level of economic development, women are involved in a large number of agricultural activities and non-agricultural household businesses. As a country develops, an increase in employment opportunities for men and an increase in income causes a decrease in the participation of the women workforce (Goldin, 1995; Mammen, 2000). For developing countries, the world of work available to women can change by increasing their education. Women can also compete in the labor market and engage in the workforce (Borchers & Pieler, 2010; Mammen, 2000)

2.3 *Poverty*

Poverty is a multidimensional problem. In efforts to alleviate poverty, it involves various aspects of life. The definition of poverty is loss of welfare. When the definition of poverty is linked to welfare, the poverty is the inability to meet welfare or there is a lack of access to

resources to satisfy their daily needs (W. Bank, 2000). Based on this definition poverty is a condition where a person cannot enjoy all kinds of choices and opportunities in meeting his basic needs. The needs here are both in terms of food and non-food.

Poverty also defined as a condition where a person cannot meet the minimum standard of living needs with his monthly per capita expenditure (BPS). The minimum standard used is the poverty line, which is the minimum per capita expenditure per month to meet the minimum food and non-food needs, which is formed from the sum of the Food Poverty Line (FPL) and Non-Food Poverty Line (NFPL). The Food Poverty Line used refers to the 1978 National Widya Karya and Nutrition recommendations, namely expenditure to meet food needs with an energy intake of 2,100 kilo calories. Whereas the Non-Food Poverty Line (NFPL) is the minimum need for housing, clothing, education and health. Commodity packages for non-food basic needs are represented by 51 types of commodities in urban areas and 47 types of commodities in rural areas. While the poverty level is the percentage of the number of people who are below the poverty line (poor) in that location or region. The poor population is defined as the population that has an average monthly per capita expenditure under the poverty line.

Many studies have suggested that economic growth has a relationship with poverty. If economic growth is high then it can reduce the amount of poverty. The increasing economic growth is significantly related to reducing poverty levels for all families (Stevens & Sessions, 2008). High economic growth and accompanied by results of growth to all business sectors is needed in an effort to reduce poverty levels. So to accelerate poverty reduction, economic growth must be increased. It is expected that the agriculture sector, the manufacturing sector and the service sector.

That economic growth can reduce poverty if inequality decreases (Bruno, 1998). In developing countries economic growth is an important suggestion in reducing poverty. When economic growth is measured based on the average value of income (consumption), economic growth has a strong and significant relationship to poverty reduction. Whereas at the same time economic growth is measured using GDP per capita, resulting in a relationship that is not strong enough between economic growth and poverty reduction.

2.4 Government Expenditure

Government expenditure reflects government policy. Government expenditure has a theoretical basis that can be seen from identity the balance of national income namely $Y = C + I + G + (X - M)$ which is source the legitimacy of Keynesian views on the relevance of deep government interference economy. The equation it can be seen that the increase or decrease government expenditure will increase or decrease national income. Many considerations that underlie government decision-making in regulating of the expenditure (Dumairy, 2006). In macroeconomic theory, government spending consists of three main items can be classified as: (Boediono, 1998)

- a) Government expenditures for the purchase of goods and services;
- b) Government expenses for employee salaries;
- c) Government expenditure for transfer payment. Transfer payment is not a purchase goods or services by the government in the goods market but rather record payments or direct giving to its citizens which includes for example payments or subsidies direct assistance to various groups of people, pension payments, interest payments for government loans to the public. Economically transfer payment has the same status and influence as an employee salary item although both administratively are different.

In fiscal policy, there are several budget policies known as budget balanced, a surplus budget and a deficit budget. In a general sense, budget balanced is a condition where revenue equals expenditure. The surplus budget is expenditure less than revenue. While the deficit budget is

expenditure budget is greater than revenue. A surplus budget is used if the government wants to overcome the problem of inflation. Whereas the budget deficit is used if The government wants to overcome the problem of unemployment and increase economic growth.

Theory of development and government expenditure was developed by Rostow and Musgrave which links government expenditure with the stages of development. The economy is distinguished between the initial, intermediate and advanced stages. (1) Initial stage, in the initial stages of economic development a large percentage of investment, because the government must provide infrastructure, such as education, health, transportation infrastructure and so on. (2) The intermediate stage, government investment is still needed to increase the economy growth in order to take off, but the role of private investment has grown. In the next stage, economic development and government activities shift from providing infrastructure to expenses for social activities such as welfare programs for old age and community health service programs (Mangkoesoebroto, 2001).

3. METHODOLOGY/MATERIALS

3.1 Data

This study uses secondary data derived from the publication of the Statistics Indonesia with a study period of 2015-2018. The data used is panel data, which is a type of data is a combination of cross section data and time series. The cross section or individuals used in this data is the province and the type of time used is annual. This study uses panel data with 34 provinces and cross section for 4 years (2015-2018). This study uses a mathematical model in which economic growth is a function of the growth of men labor, women labor, government Expenditure and poverty. The operationalization of the variables is as follows in Table 1.

Table 1. Operational Variables

Variable	Name	Definition	Source
Poor	Poverty	Number of poor people by province	https://bps.go.id/
GRDP	Output	GRDP at constant price by province	https://bps.go.id/PDRB Provinsi
Male	Men labors	Number of man age 15 and above who work	https://bps.go.id/
Female	Women labors	Number of women age 15 and above who work	Keadaan Angkatan Kerja
Govt	Government Expenditure	realization of government Expenditure	Statistik Keuangan Pemerintah Provinsi 2015-2018

3.2 Analytical Method

There are two analytical methods used in this study, namely descriptive analysis and inferencing analysis. Descriptive analysis is used to describe labor conditions and macro conditions of the study are. Inferencing analysis is used to achieve predetermined goals. This study uses panel data, so the regression method used is the panel data regression method. Basically, the regression used has the same principle as the regression in other types of data such as cross sections and time series, using OLS estimation methods. The difference is the assumptions used to describe the cross-sectional variations from the panel data.

There are three models to illustrate the effect of variations in this panel data cross section, namely the common effect model, the fixed effect model and the random effect model. The common effect model assumes the intercepts and slopes of each cross section are the same

and all OLS assumptions are met. The fixed effect model assumes that the intercepts for each cross section are different but have the same slope. If there are OLS assumptions that are not fulfilled, such as homoscedastic and no cross-sectional autocorrelation that is violated, then the estimated parameter can use SUR (Seemingly Unrelated Regression). Whereas in the random effect model it is assumed that the intercept and slope of each cross section is different.

We examine the model used in this study using several tests to get the best model. The Chow, Hausman and Breusch Pagan - Lagrange Multiplier (BP-LM) tests were performed. The chow test is applied to choose a model between the common effect model and the fixed model. With the null hypothesis that there is no slope difference between cross sections, the fixed effect model is chosen if the null hypothesis is rejected. Hausman Test is used to determine the best model between the fixed effect model and the random effect model. Hausman test tests the correlation between the effects of cross section and error in the panel data regression model. If there is a correlation, then the right panel data regression model is the fixed effect model and if not, the right model is the random effect model. While the BP-LM test is used to determine the best model between the common effect model and the random effect model. BP-LM tests whether there is a correlation between cross sections in errors. If there is a cross section correlation in error, then the best model is the random effect model. In fixed effect models and random effects we can issue cross section effects. This effect will be added to the intercept value obtained from the model.

This study uses the following equation model.

$$\log(\text{GRDP})_{it} = \alpha + \lambda_i + \beta_1 \log(\text{MALE})_{it} + \beta_2 \log(\text{FEMALE})_{it} + \beta_3 \log(\text{GOVT})_{it} + \beta_4 \log(\text{POOR})_{it} \quad (2)$$

Where:

Log(GRDP)_{it} = log Gross Regional Domestic Product

Log(Male) = log number of men labor

Log(Female) = log number of women labor

Log(GOVT) = log government expenditure

Log(POOR) = log number of poor people

i = 1th, ..., 34th province

t = 2015, 2016, 2017, 2018

α = intercept

λ_i = ith individual effect

β = coefficient regression

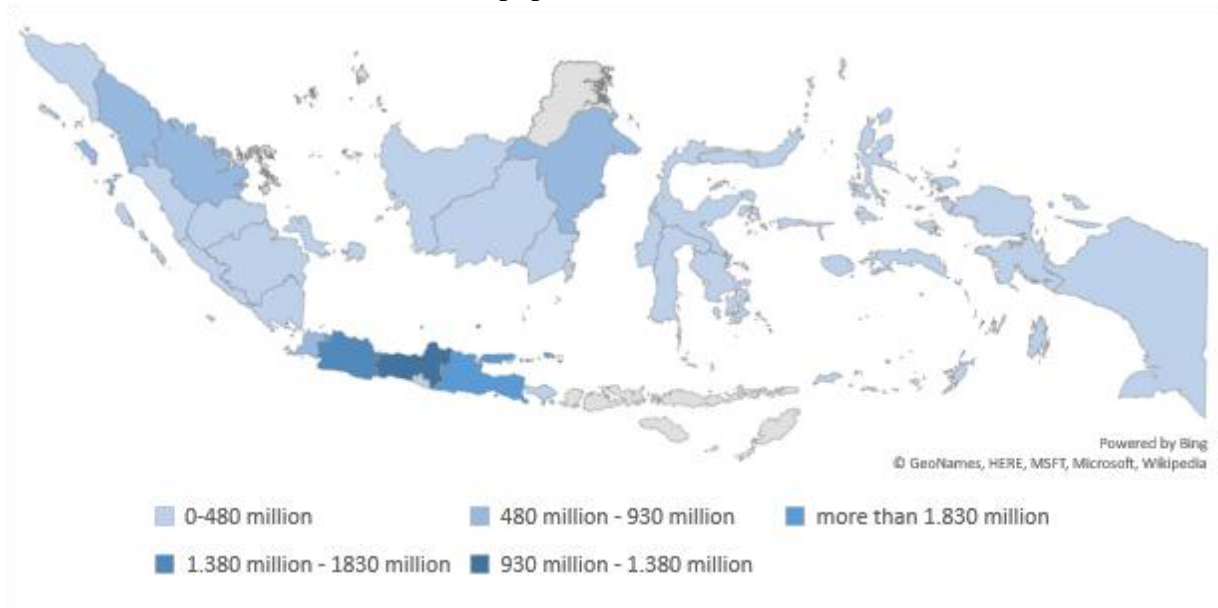
The model panel data must receive classical assumption, such as non-multicollinearity, normal distribution and non-autocorrelation. The first reason for using the panel data model can control heterogeneity by allowing for individual-specific variable. The second, that model provides more informative data, more variability, more efficiency, more degrees of freedom, less collinearity among the variables. The Third, the model are better to determine and measure effect that are not determined simply by pure cross section or pure time series data.

4. RESULTS AND FINDINGS

4.1 Description of Variables Used in The Model

Economic growth is an indicator of the success of economic development. In this study, the provincial economic growth used is GRDP at constant prices. During the study period, the average value added created by Indonesia was 12,739,919,287 billion rupiah. DKI Jakarta Province recorded the largest contribution to the formation of this added value. While North Maluku Province contributed the smallest. The following thematic maps show GRDP data showing the added value created by each province. The dark color in Figure 2 shows the regions that have contributed a lot to the creation of gross added value in Indonesia. Mostly

the province located in Java island have higher value added than provinces in other islands. Java Island is the island with the most population in Indonesia.



Source: BPS, Processed

Figure 2. The Average of Gross Regional Domestic Product by Province in Indonesia 2015-2018

The creation of value added is supported by production factors such as labor. According to International Labor Organization, labor is a worker who are residents aged 15 years and over who work. The average population aged 15 years and over who work in Indonesia during 2015-2018 per year is 100.880.501 people. The distribution of labor by province can be seen in the following graph which shows that labor is concentrated in Java. The average population aged 15 years who worked during the study period was mostly found in the provinces of East Java, West Java and Central Java. This condition is a natural thing considering that most of Indonesia's population is on the Java island. The population is not evenly distributed in every province since Indonesia is an archipelago country that has more than 17.000 islands. Figure 3 showed how the average of labor force during the research period (2015-2018) is distributed by gender and provinces.

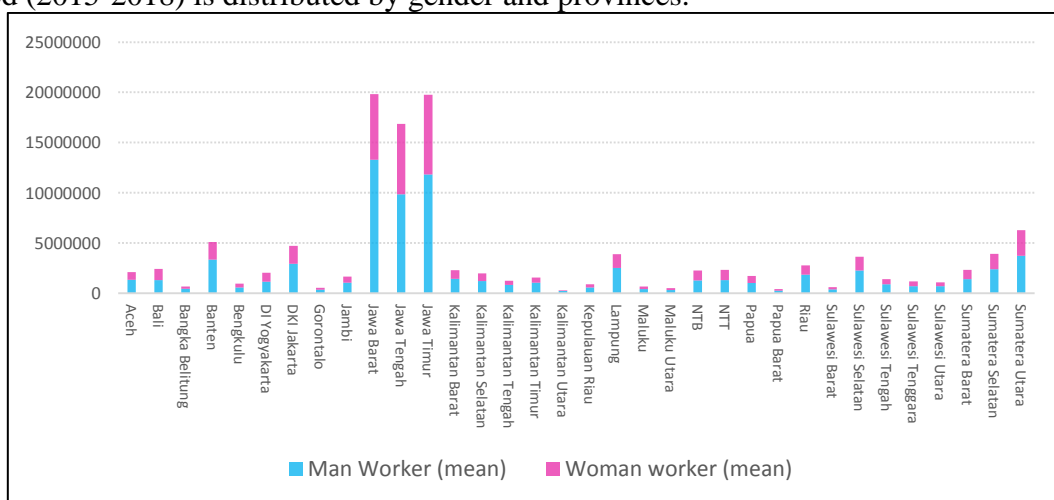


Figure 3. The Average Population Age 15 Years and Over Who Works by Province and Gender in Indonesia 2015-2018

Overall, the proportion of men workers is far greater than women workers (Figure 3). The average ratio of workers by sex (sex ratio) is 1.6. This means that the number of men workers is 1.6 times more than women workers. All provinces showed sex ratio values above 1, which shows that workers in Indonesia are still dominated by men. The highest sex worker ratio was found in North Kalimantan province with a ratio of 2.17 while the lowest male employment ratio was found in the province of Bali. This shows that the population aged 15 years who worked in Bali was dominated by women during the study period. Sex Ratio of worker in Indonesia is not equal if we take a look in provincial worker. It depends on number of population in every province and the characteristic of economic activity in every region. Provinces with industrial sector as leading sector tend to have men worker higher than women worker. It also happens when the leading sector in the province is agricultural sector. The structural change is not always happen in every province.



Figure 4. Scatter Plot of GRDP, Average Number of Men Labors and The Average of Women Labors

The scatter plot in Figure 4 showed that there is positive correlation between the average number of men and women labors with the average GRDP by province. It seems the increasing number of workers, both male and female, also shows an increase in GRDP. But we need to be careful to read the figure. It looks like we have four outlier in the men and women labors. So, further examination is needed to be proven by statistical testing to check the correlation between number men and women labors with GRDP.

Another variable that influences economic growth is poverty. The poor population in Indonesia is decreasing from year to year. This decrease was due to the increased gross value added generated by Indonesia during the study period. But if we take a look closely, in the scale of province, it will be different. Gross added value that is shown from the Gross Regional Domestic Product (GRDP) in provincial data have different pattern. The following chart shows the relationship between GRDP and the number of poor people in provincial level.

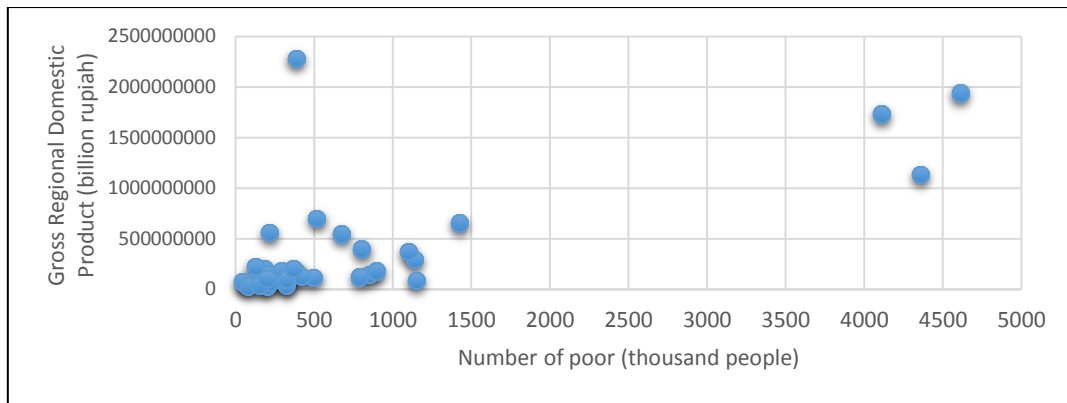


Figure 5. Scatter Plot of GRDP and The Average Number of Poor

The scatter plot slightly showed that there is positive correlation between the average number of poor and GRDP by province (Figure 5). It seems that when the region has more poor people the GRDP is increasing. But we need to be careful to read the figure. It looks like we have four outlier in the figure. From the figure we know that there is inequality between provinces. So, further examination is needed to check the correlation between number of poor and GRDP. This needs to be proven by statistical testing.

Next we look at the variable government spending on economic growth. The Figure 6 showed the positive correlation between the average of government expenditure. It means that when there is an increase in the average government expenditure it will causes an increasing in the GRDP variable (economic growth).

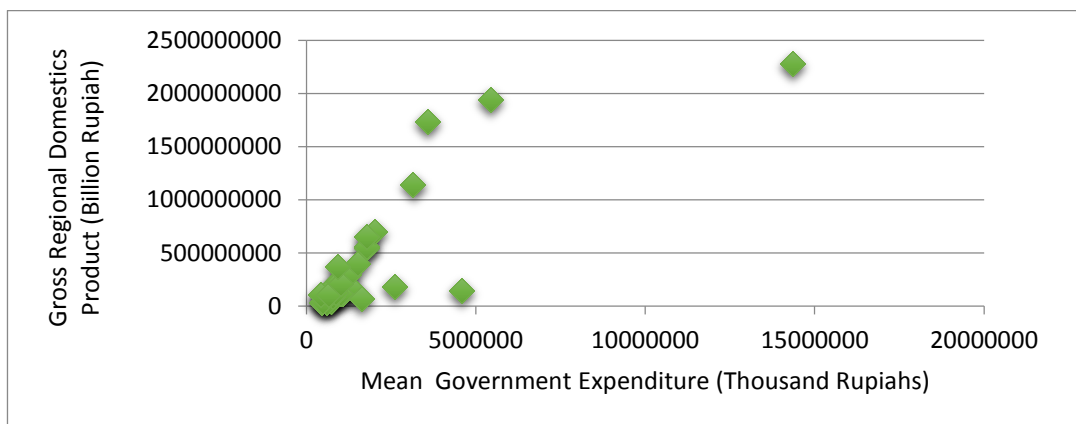


Figure 6. Scatter Plot of GRDP and The Average of Government Expenditure

4.2 The Spillover of men worker to women worker

The study of the spillover of men worker to women worker is interesting. Because the women labor have an indispensable role in economic growth which is an indicator of improving welfare. Women are agents of development. The spill over from men worker to women worker can be seen by using panel regression model as we mention above. Panel data regression analysis is used to estimate the impact of women's labor, men labor, poverty and government expenditure to the economic growth. The stages of analysis performed in panel data regression include the identification of the model, the residual variance-covariance structural test, the classical assumption submission and the model specification test. Tabel 2 gives the summary of stages in the model.

Tabel 2. Summary Of Diagnostics Models

Diagnostics		Null Hypothesis	Results	Conclusion
Identification	Chow Test	Preferred model is Common Effects vs Fixed Effects	p-value = 0.000	Fixed Effect performs better than common effect
	Hausman Test	Preferred model is Fixed Effects vs Random Effects	p-value = 0.000	Fixed Effect performs better than random effect
Residual variance-covariance structural test	LM Test	Homoscedastic	LM = 67.0067 $\chi^2_{(0.05, 33)} = 20.8665 < LM$	Heteroscedastic
	λ LM Test	Non Cross Sectional Correlation	$\lambda LM = 1017.952 > \chi^2_{(0.05, 561)} = 507.0638$	Cross Sectional Correlation
Classical Assumption	Multicollinearity Test	Non Multicollinearity	VIF of All Variable < 10	Non Multicollinearity
	Normality Test	Normal distribution of residual	Jarque_Bera = 0.855841	Normal distribution

Based on the Tabel 2, we find that fixed effect model is the best model after we examined the assumption using chow test and hausman test. We also test the classic linear regression assumption to check whether the estimator we get is BLUE. The test showed violation in homoscedasticity and non-cross-correlation assumption. So we need to use Seemingly Unrelated Regression (SUR) to estimate the parameter. After applying SUR to our model, we get the best model to know whether there is spill over or not. The result of the model can be seen in Table 2 as follow.

Table 3. Result of Panel Regression Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-12.96697	4.795081	-2.704223	0.0081
LOG(MALE)	2.183834	0.308930	7.069024	0.0000
LOG(FEMALE)	0.170908	0.149378	1.144129	0.2554
LOG(GOVT)	0.076616	0.020707	3.700044	0.0004
LOG(POOR)	-0.405619	0.075626	-5.363516	0.0000
R-squared	0.997657	Mean dependent var		19.06245
Adjusted R-squared	0.996772	S.D. dependent var		1.153740
S.E. of regression	0.065548	Akaike info criterion		-2.380945
Sum squared resid	0.421055	Schwarz criterion		-1.567115
Log likelihood	199.9043	Hannan-Quinn criter.		-2.050225
F-statistic	1127.759	Durbin-Watson stat		1.996487
Prob(F-statistic)	0.000000			

The result from the panel regression model (Tabel 3) showed all variable jointly affect economic growth with the p-value 0.000 in F-statistic. The value of Adjusted R-squared means that 99.68 percent of the diversity of economic growth can be explained by the four independent variables in the model. While the other 0.32 percent is explained by other

variables outside the model. Variable log female is not statistically significant since the p-value is greater than level of significance (5%). It means that women labors do not significantly influence to economic growth. Thus means that is no spillover effect from the men labors to women labors during period of research. This happens because the culture in Indonesia is still very thick where it is generally assumed that women work only as part-time work to helping family income. Generally women are motivated work to support their families and generally work in the informal sector (M.Th.Handayani, 2009). The reason women choose to work in the informal sector, because there are no jobs that are suitable for the education level of women (Mukhlis, 2006). One of the many informal sector activities that is carried out is trading business. In employment data, BPS August 2019, categories of trade, manufacturing, food and drink, education, services health and other services is dominated by women. When women work in the informal sector such as trading on a small scale, they assume that they do not work and their income is not significant for their family income. The number of moves in the informal sector, often these women's incomes are not received in the data collection.(Statistik, 2019)

The results of a study of Melbourne Australia universities in Indonesia (2020) stated that there were several phenomena that caused women's participation in the workforce to be insignificant. First, there is a decrease in the participation of women in the labor force during marriage and childbirth. Secondly, after giving birth a woman will quit her formal work and switch to the informal sector because it is assumed that childbirth will hamper their formal work. Third, there is still wage discrimination for women in Indonesia. Fourth, labor law in Indonesia is still considered to restrict women from working because there is no guarantee for women to take care of their domestic territory.(Suarez, 2020)

The model we know that the growth of men labors (Log male), government expenditure, and poor people are statistically significance influence the growth of Indonesia's economic. The negative significant of poor people means that as number of poor people gets bigger, it will reduce the growth of economy. The significant of men labors and government expenditure are positive means that the increase on those variables will increase economic growth. The government should increase government spending as part of fiscal policy to spur economic growth. Along with this, employment opportunities will stabilize and poverty will decrease, thereby contributing to economic growth as well.

The model also provides us the individual effect of every province. Assumes in the FEM model that individual effects are fixed parameters, other errors are distributed with IID (Independent and Identically Distributed) and independent variables on other errors for all individuals (provinces) and time periods (years) (Baltagi, 2005). This assumption makes the error component of individual effects can be part of the intercept so that the FEM model has different intercept values for each individual. Table 4 showed the individual effect by province. Individual effect how the cross section (in this case the province) varies in the intercept. The negative sign means that the intercept of the province will reduce the intercept of the model.

Table 4. Individual Effect Resulted From Model by Province

No	Province	Individual Effect	No	Province	Individual Effect
1	Aceh	-0.325359	18	Kepulauan Riau	1.463202
2	Bali	-0.519933	19	Lampung	-0.897100
3	Bangka Belitung	0.713108	20	Maluku	0.844134
4	Banten	-1.174478	21	Maluku Utara	0.681615
5	Bengkulu	0.479379	22	NTB	-0.361840

6	DI Yogyakarta	-0.327421	23	NTT	-0.573549
7	DKI Jakarta	0.162391	24	Papua	0.597434
8	Gorontalo	1.056794	25	Papua Barat	2.380385
9	Jambi	0.152473	26	Riau	0.367299
10	Jawa Barat	-2.572372	27	Sulawesi Barat	0.784516
11	Jawa Tengah	-2.323510	28	Sulawesi Selatan	-0.500280
12	Jawa Timur	-2.222915	29	Sulawesi Tengah	0.340866
13	Kalimantan Barat	-0.539614	30	Sulawesi Tenggara	0.614050
14	Kalimantan Selatan	-0.538299	31	Sulawesi Utara	0.428110
15	Kalimantan Tengah	0.067127	32	Sumatera Barat	-0.326110
16	Kalimantan Timur	1.132546	33	Sumatera Selatan	-0.519258
17	Kalimantan Utara	2.431086	34	Sumatera Utara	-0.974477

5. CONCLUSION

The role of women labors in Indonesia is still progressing. It can be seen by the participation of women worker that increase every year. But the sex ratio of women worker in Indonesia is still dominated by men. It turns out that after we run the model, the participation of women worker is not statistically significant to economic growth. The model showed that there is no spillover from men worker to women worker. The distribution of women worker by province also showed that women worker is concentrated in Java island. The poverty is negative significant to growth of economy, and the men labors and government expenditure are positive significant to economic growth.

Acknowledgement

The authors gratefully for the services, facilities, and funding from the Pilitchnik Statistika STIS.

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