THE ANALYSIS OF MINIMUM WAGE ON
EMPLOYMENT: STUDY IN EAST JAVA

SCIENTIFIC JOURNALS

BY:

ROSALINA MARCELLACORNELIA
NIM. 125020107121007

INTERNATIONAL PROGRAM IN ECONOMICS
ECONOMICS AND BUSINESS FACULTY
BRAWIJAYA UNIVERSITY
MALANG
2016
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Written by:
Name: Rosalina Marcellacornelia
NIM: 125020107121007
Faculty: Economics and Business
Department: International Undergraduate Program in Economics

This journal article has been made for requirement of Minor Thesis Examination that maintained in front of the examiners on 29th July 2016.

Malang, 5th August 2016

Supervisor

Wildan Syafri, SE., ME., Ph.D.
NIP: 19691210197031003
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By:
Rosalina Marcellacornelia
Email: rosalinacornelia@yahoo.co.id
Wildan Syafitri

ABSTRACT
The purpose of this research is to analyze the influence of minimum wage towards employment. This study used quantitative panel data as the method. Data used were time-series data from 2009 to 2012. The data collected were secondary data collected from the website of Badan Pusat Statistik (BPS). The analysis method used in this research was regression analysis of linear panel data (pooled data) using Model Fixed Effect as the instrument to process the data using Eviews 7. The result of this research showed that minimum wage gave influence to the employment in East Java, while GRDP (Regional Gross Domestik Product) and the total of industry did not give influence to the employment in East Java.

Keywords: Employment, Minimum Wage, GRDP, Total of Industry

INTRODUCTION

Background of Study
The development of the employment condition in East Java in 2012 to 2014 shows the changing into better condition, even though in some areas there are the natural disasters and the global economy changing, which influence the economy and the job field activities. The Labor Force Participation Rate (TPAK) which is the ratio between the labor force compared to the entire population of the working age (above 15 years old) decreases from 69,54 percent in 2012 to be 68,12 percent in 2014. Meanwhile, the Open Unemployment Level also continually decreases from 4,10 percent in 2012 to be 4,09 percent in 2014. The decreasing of the unemployment amount indicates that the economy development is able to increase the labors absorption.
The labor market in the economy is controlled by the power of the demand and supply, but the labor market is different with most of the other markets because the labor demand is the derived demand that the demand of the labor is very depending on the demand of the output produced (Borjas, 2010; Mankiw, 2006). In the producing process to produce the goods and services, the labor is one of the production factors used in that production process. Seeing the relation between the goods production and the labor demand, it can be recognized the balance wage determinants.

**Figure 1**

The Figure 1 shows that the open unemployment rate (TPT) in East Java from year to year tends to decrease compared to the National Open Unemployment Level (TPT). The Open Unemployment Level (TPT) in East Java in 2006-2013 decreased for 3.77 percent. It was in the contrary with the fact that the Minimum Wage in East Java Province between 2009 – 2012 increased for 14.33 percent.
Figure 2 is how the existing Minimum Wage raising in East Java Province. The development of the minimum wage level in East Java Province shows the increasing in 2009 – 2012. The minimum wage always increases every year. It is in the contrary with the Figure 1 shows that the open unemployment rate in East Java Province decreases. The high increasing of the minimum wage should affect the decreasing of the labors absorption which will affect to the increasing number of the unemployment, because one of factors that can absorb the labors is the minimum wage.

Therefore, based on the described background above, the research will be interesting to be reviewed further. So that it will bring out the interest and the will to do the study minimum wage on employment.

Research Question
Based on the background of the study, the research question is ‘’How the influences of minimum wage on employment in East Java?’’

LITERTURE REVIEW

Employment
According to Simanjutak (1985) explains that the labors is the population which has worked or been working, which is seeking for a job and doing another activities such as studying or arranging the household with the age limit of 15 years.

Labor Absorption
According to Kuncoro (2002) The labor absorption is the amount of the jobs field which is filled and seen from the amount of the working population. The working population is absorbed and spread in some of the economy sectors. The
population absorption is caused because of the labors demand. Therefore, the labors absorption is called as the labors demand.

**Wage**

Based on the economy theory, wage can have the meaning of the payment which is given to the labors as the physic or even the mental service provided by the businessman and the entire amount set as the service substitute that is established by the labors including the period or the certain requirements (Sukirno, 2005).

Based on the Regulations Number 12 Year 2003 states that the minimum wage is only meant for the labors in the time period 0 (zero) until 1 (one) year. According to Sumarsono in Pratomo and Saputra (2011) defines that there are two main elements of minimum wage namely: a) The starting wage is the lowest wage that should be received by the labors when the first time they are accepted. b) The amount of the minimum wage should be able to fulfill the labors living needs minimally, it is the needs of the foods, clothes, and the households.

**The Minimum Wage in the Competitive Market**

**Figure 3**

![Diagram showing the Minimum Wage in the Competitive Market](image)

Source : Pratomo and Saputra, 2011

From this figure shows the condition of the price and labors balance seen from the competitive model. The balance level of the wage and the labors rate is shown by the meeting of the demand curve (D) and the supply curve (S). As seen in the picture 2.1, the balance wage rate is W0, while E0 is the working balance. If the minimum wage is on the balance level W1, this condition will create the excess supply of labor which illustrates that only E1 will be hired by the available labors amount E2. This excess of supply causes the decreasing of the labors that will be hired from E0 (the balance level) to E1. E1 automatically shows the new balance level after the policy of the minimum wage in the competitive market (Pratomo and Saputra, 2011).
The Minimum Wage in the Monopoly Market

Figure 4

Source: Pratomo and Saputra, 2011

If the minimum wage increasing is \( W_1 \), where it is higher than the balance wage level, so the marginal cost of labor (and also the curve of the labors supply) is horizontal in the level of \( W_1 \), because hiring extra labors does not mean that the availability of the extra minimum wage.

RESEARCH METHODOLOGY

Research Object

This research uses the quantitative research type. The purpose of the quantitative approach is to recognize how big is the variables (in numbers). By using the quantitative method, the researcher will recognize the significance of the different groups or the significance of the correlation among the variables.

The Type and Source of the Data

The type of the data which is used in this research is the quantitative data, and the data resource which is used in this research is the secondary data in the form of panel data in 2009-2012. The panel data is the combination between the time series data and the cross section. In this research the data is obtained from the Central Bureau of Statistics (CBS) about the minimum wage data, GRDP, industry and the employment (also another source which has relation with the research title).
Definition Operational Variable

Dependent Variable
- Labor

Independent Variable
- Minimum Wage (X1)
- GRDP (X2)
- Industry (X3)

Methods of Collection data

By using panel data which are the combination of time series data and cross section data, then applying the panel data. The estimation process will simultaneously be estimated into individual characteristics that reflects the dynamics between the times of each independent variable.

Methods of Analysis data

Panel Data Regression Estimation

On the panel regression estimates there are three models, namely the model OLS (Ordinary Least Square), FEM (Fixed Effects Model), and REM (Random Effects Model). Furthermore, these models will be tested to determine the most appropriate model used in panel regression. In addition to view the data from the large number of time series and cross sections, the use of selection between the fixed effects model and random effects model can be through two tests, namely test Chow (Chow Test) and Haussman test. Based on the test, results are obtained by the panel regression estimation model chosen, then doing the test to choose estimators with the structure of the better residual variance-covariance. In this study, the model will be selected by looking at the best estimation level panel data regression model fit plus test Chow and Haussman test if there is two or more regression models were fit to the requirements of the model match rate.

Statistics Test

Determinant Coefficient Test ($R^2$)

Determinant coefficient ($R^2$) aims to measure how much the ability of independent variables to explain the dependent variable.

F- Statistic Test

F statistic test is a test of regression relationships simultaneously or variables simultaneously - the independent variable on the dependent variable.

T- Statistic Test

T- statistic test is used to determine the effect of independent variables on the dependent variable partial.
RESULT AND DISCUSSION

Eviews Pooled Least Square Illustration

Table 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>2.709112</td>
<td>3.065950</td>
<td>0.0026</td>
</tr>
<tr>
<td>WAGE?</td>
<td>1.83E-06</td>
<td>1.630388</td>
<td>0.1051</td>
</tr>
<tr>
<td>GRDP?</td>
<td>2.51E-11</td>
<td>0.172610</td>
<td>0.8632</td>
</tr>
<tr>
<td>INDUSTRY?</td>
<td>0.002021</td>
<td>1.842102</td>
<td>0.0675</td>
</tr>
<tr>
<td>R-squared</td>
<td></td>
<td></td>
<td>0.114770</td>
</tr>
<tr>
<td>F-statistic</td>
<td></td>
<td></td>
<td>6.396087</td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td></td>
<td></td>
<td>0.000419</td>
</tr>
</tbody>
</table>

Fixed effect Eviews 7 and Redundant Fixed Effect results are obtained in the following output:

Eviews Chow Test Illustration

Table 3

<table>
<thead>
<tr>
<th>Test cross-section fixed effects</th>
<th>Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section F</td>
<td>8.183410</td>
<td>0.0000</td>
</tr>
<tr>
<td>Cross-section Chi-square</td>
<td>200.004503</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

These results indicate the probability value of F at 0.0000 and 0.0000 Chi-Square is smaller than α=5% or 0.05, so that H₀ refused and H₁ accepted. Thus the method can be used as the fixed effect is one test in determining the best method.
Eviews Haussman Test Illustration

Table 4

<table>
<thead>
<tr>
<th>Test Summary</th>
<th>Chi-Sq. Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section random</td>
<td>31.927082</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Of the value of the probability of which is owned by 0.0000 variable cross section which is smaller than $\alpha=5\%$ or 0.05, so that $H_0$ refused and $H_1$ accepted. Thus the method can be used as a random effect is one test in determining the best method. The probability of Chi-Square of cross section random effect lower than 0.05, so the best approach to be used is fixed effect.

Fixed Effect Eviews Illustration

Table 5

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>11.38861</td>
<td>8.618023</td>
<td>0.0000</td>
</tr>
<tr>
<td>Wage</td>
<td>-5.18E-06</td>
<td>-3.516440</td>
<td>0.0000</td>
</tr>
<tr>
<td>GRDP</td>
<td>-7.90E-10</td>
<td>-1.036001</td>
<td>0.3025</td>
</tr>
<tr>
<td>INDUSTRY</td>
<td>-0.010439</td>
<td>-1.553219</td>
<td>0.1232</td>
</tr>
<tr>
<td>R-squared</td>
<td></td>
<td>0.762533</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td></td>
<td>8.910842</td>
<td></td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td></td>
<td>0.000000</td>
<td></td>
</tr>
</tbody>
</table>

Output of Eviews above can be explained some important points, among others:

1. Determinant Coefficient Test ($R^2$)
   Results of regression estimates indicate that the value of $R^2$ of 0.762533 or 762533 %.

2. F Test
   F test is a test of the model simultaneously, where in the output result of the F-statistics by 8.910842 with significant value by 0.0000. F probability value which is much smaller than 0.05 so that the model used is the wage, GRDP, and industry.
3. Partial Test (t test)

Partial test or t test is conducted to be done in order to explain the effect individually or partially of variable wage, GRDP, and industry in influencing labor absorption. With a significance level of 5% or 0.05, variable wage has a probability of 0.0000 is significant because the probability is much smaller than 0.05, but each variable GRDP has a probability 0.3025, industry 0.1232 is not significant because the probability is much bigger than 0.05.

The Influence of the Minimum Wage on Employment

From the regression results, it is known that the minimum wage (X1) has the negative and significant influence to the labors absorption in East Java with coefficient for $-5.18 \times 10^{-6}$ which means that if the minimum wage increases for one percent so the labors absorption will decrease for $-5.18 \times 10^{-6}$ percent. It shows that the minimum wage probability is 0.0000 that is smaller than alpha (0.05). It is in accordance with the hypothesis in the research which states that the minimum wage has the negative and the significant influence to the labors absorption in East Java.

From the result of the research, it is found that the minimum wage is able to decrease the employment. It indicates if the minimum wage raising occurs, it will give a good potential to decrease the employment, especially the low productive employee. In addition, the wage rate raising will make the company to apply the budget capital into the production process so the productivity rate and the bigger efficiency which is achieved will sacrifice the employee. From this research, it is suitable with the previous researches which explained that the minimum wage has negative and significant influence to the employment. Furthermore, it can be concluded that this research hypothesis is acceptable.

The Influence of the GRDP on Employment

From the regression result, it is known that the GRDP (X2) has the negative and the significant influence to the labors absorption in East Java with the coefficient for $-7.90 \times 10^{-10}$ which means that if GRDP increases for one percent so the labors absorption will decrease for $-7.90 \times 10^{-10}$ percent. It is showed by the GRDP probability for 0.3025 which is bigger than alpha (0.05).

From this research, it indicates that the GRDP has non-significant influence and the negative effect to the employment, and one of the reasons is the employee quantity. With more number of the employee, it is not a guarantee, it will cause to the goods and service quality produced by the employee especially from the low productive employee. The decreasing of GRDP will generate to the employee number. The GRDP is the output of the economic activity if the produced output decreases, the number of hired people will also decrease. From the research result, it is not suitable to the previous researches which became the basic theory on the research. It is concluded that the research hypothesis is not acceptable.
The Influence of the Industry Amount on Employment

The industry amount is the amount of the industry spread in East Java Province. From this regression result, it is known that the industry amount (X3) has the negative and non-significant influences to the labors absorption in East Java with the coefficient for -0.010439 which means that if the industry amount increases for one percent so the labors absorption will decrease for 0.010439. It is showed by the industry amount probability for 0.1232 which is bigger than the alpha (0.05).

As the example according to the research of Mahendra (2013) entitled the influence of the Industry Amount and the Production Capacity to the Labors Absorption in Blitar City explains that the industry amount has the negative influence to the labors absorption because not all of the industries hire the employee because of the capital limitless. Besides, the wood industry uses some machines so the new industries do not hire the employee because the industry owner do the order independently. In this case, it is not significantly happened because the company does the changing, but also recruits the needed labors.

CONCLUSION AND SUGGESTION

Conclusion

Based on the result of the research and the analysis of the Minimum Wage Analysis on the Labors Absorption in East Java Province year 2009-2012, so it can be concluded as followings:

The minimum wage has the negative influences on the labors absorption. Therefore, if the government applies the minimum wage rise, so the company / the industry will have the big burden in managing the budget which is allocated to the labors, therefore the industry chooses to hire less labor, especially the low productivity labors that will give the influence on the decrease amount of the labors absorption.

Simultaneously, the GRDP (Gross Domestic Regional Bruto) variable and the amount of the industries do not give any influences to the labors absorption in East Java Province. It means that the high and low of GRDP in a city / district do not give any influences to the labors absorption, it is similar to the amount of the industries, the high and low of the industry amount in a city / district do not give any influences to the labors absorption as well.

Suggestion

By the increasing of the wage, so it will give more benefit to the labors that have the jobs and it will inflict the labors seeking the jobs. The government should determine the level of the minimum wage as normal as possible by considering the living cost standard. By determining the normal minimum wage level, it has to be followed by the skill improvement of the labors, so that the productivity will increase, equal with the minimum wage raise.
In order to increase the labors absorption, the government should keep doing the surveying and the monitoring the influences of the Provincial Minimum Wage determination so the labors absorption can be improved simultaneously.

It is expected that the government maximizes more on the excellent sectors in East Java Province so that the labors absorption will increase year by year.

With this research result, it is expected that it can be the reference for the other researchers, for future researchers to use another method and using the latest year to analyze the minimum wage on employment.

**BIBLIOGRAPHY**


