The Effect of Labor Force, Exports and Government Expenditures on GDP

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Abstract
High, quality, and sustainable economic growth is needed to encourage the continuity of economic development and increase people's welfare. This study aims to determine the effect of the working labor force, exports, and government spending on economic growth in Indonesia in 2014-2020. Used data consisting of 34 provinces in Indonesia during the period 2014-2020. The analytical model used is multiple regression panel data. The dependent variable in this research is GRDP. Meanwhile, the variables of government spending, working labor force, and exports are considered independent variables. Meanwhile, the measuring dimension in the variable is used as a ratio scale. Based on the fixed effect model (FEM) method, the results show that the working workforce has a significant and positive effect on GDP in Indonesia, exports have a significant and positive effect on GDP in Indonesia, and government spending has a positive and significant impact on GDP in Indonesia during the study period. The year 2014-2020.

Keywords: labor, exports, government spending, gross regional domestic product

Abstrak

Kata Kunci: Angkatan kerja yang bekerja, ekspor, pengeluaran pemerintah, produk domestik regional bruto


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INTRODUCTION

Good sustainable economic growth is driven by resources; a productive workforce, quality government spending, and high exports. In economic theory, government spending is a resource that plays a very positive role in economic growth. However, empirically it is not always true, because in modern economic growth resources are like cotton and coal.

The problem is whether physical resources are still the key to modern economic growth (Stiglitz, 2018; Goldstone, 2015; Acemoglu, 2012; Dasgupta, 2010). Research results show that government spending often damages the economy and has a negative relationship with economic growth (Mitchell, 2005; Muryani, 2018). The indicator of development success is economic growth which is reflected in changes in Gross Regional Domestic Product (GRDP) in a region.

GRDP is the amount of added value generated by all business units in a region. When economic growth in an area increases, the economic activity in that region also gets better. Regional economic growth can be shown from GRDP at constant prices. The indicator of development success is economic growth which is reflected in changes in Gross Regional Domestic Product (GRDP) in a region. GRDP is the amount of added value generated by all business units in a region.

When economic growth in an area increases, the economic activity in that region also gets better. Regional economic growth can be shown from GRDP at constant prices (Todaro & Smith, Pembangunan Ekonomi, 2011). According to Vries, a large number of factors were put forward by economic and global historians to explain the Great Divergence, namely (1) Natural resources, (2) Geography, (3) Labor, (4) Consumption, (5) Capital accumulation, (6) Trade, (7) War, (8) Institutions, (9) Culture and religion, (10) State action, (11) Science and Technology (Goldstone, 2015).

Export conditions in Indonesia always fluctuate from year to year. Exports can have a positive effect on GDP (Hasan, Hossain, & Sayem, 2022). Increasing exports will increase GDP and push economic growth will also increase. Meanwhile, based on existing data, the increase in exports has not been able to increase economic growth.

Population growth and labor force are traditionally considered as one positive factor that can increase economic growth. A high number of workers will be able to provide a stimulus to the level of production, while higher population growth means that the size of the domestic market is getting bigger. Furthermore, it can be interpreted that the positive or negative influence of population growth depends on the ability of a country's economic system to be able to absorb and utilize the increase in labor productively (Todaro, 2000).

Historically, the theory of economic growth has undergone several paradigm shifts. The earliest classical Malthusian/Ricardian ideas analyze economic growth in much the same way as population growth (Dasgupta, 2010). So far, the number of workers working in Indonesia has increased from 2014-2019, in 2020 there was a
decline due to the Covid-19 pandemic which resulted in many workers being laid off because many companies went bankrupt.

When the availability of labor is not followed by adequate job opportunities, it can lead to an increase in the unemployment rate, because unemployment can affect economic growth (Muryani & Pamungkas, 2018). The increase in the workforce working in 2014-2019 has not been able to increase economic growth in Indonesia. Meanwhile, according to Ambya (2020), an increase in the number of workers will be able to increase in economic growth.

Government spending and economic growth have a relationship that depends on the size of the applicable budget in each country, so the relationship can be positive or negative. Government spending provides a reflection of government policies. If the government has set a policy for purchasing goods and services, then government spending reflects the costs incurred by the government to implement the policy (Mangkoesoebroto, 2010). Aggregate demand is a list of all goods and services that will be purchased by sectors of the economy at various price levels.

### Table 1. Export Value, Number of Employed Labor Force and Realization of State Expenditure in 2014-2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Export (Million US$)</th>
<th>Change (%)</th>
<th>Employed Labor Force (Number of People)</th>
<th>Change (%)</th>
<th>Government Expenditure (Trillion IDR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>175.980,0</td>
<td>-3.60%</td>
<td>114.883.540</td>
<td>3.68%</td>
<td>1767,3</td>
</tr>
<tr>
<td>2015</td>
<td>150.366,3</td>
<td>-14.55%</td>
<td>114.819.199</td>
<td>-0.06%</td>
<td>1796,6 2016</td>
</tr>
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</tr>
</tbody>
</table>

Source: (PDSI Kementrian Perdagangan, 2021)

In aggregate demand, there is government spending. Government spending is a form of support for government policies (Stiglitz, 2018). To provide fiscal support, the government annually increases its budget. Based on Keynes’s theory of national income, government spending with GDP has a positive relationship, when the government increases its government spending, economic growth will also increase which can be seen from the value of its GRDP.

According to Keynesian theory, an increase in government spending is able to promote growth by injecting speculative power into the economy, as if by putting money in people’s pockets, then people will spend money which will spur growth. When government spending is assumed to be zero, the chances of economic growth are very small, because enforcing contracts, protecting property, and building infrastructure would be very difficult without a government at all.
In other words, government spending is necessary for successful law enforcement (Mitchell, 2005). But in fact, from 2014 to 2020 government spending has always increased, but not accompanied by an increase in economic growth. Identification of the problem in this study is based on the background of this research, namely the existence of a research gap that occurs between one research and another, then the existence of a theory gap between
existing theory and existing reality. The problem that occurs is that the level of economic growth in Indonesia which is seen based on the value of GRDP in 34 provinces in Indonesia has never succeeded in achieving its target, it is necessary to do this research to see the influence given by the factors that affect GRDP.

RESEARCH METHODS

The type of research used is quantitative research. The research object used is all 34 provinces in Indonesia from 2014 to 2020. The type of data used in this study is secondary data which is processed using E-views 10 software. The data source comes from the Statistics of Indonesia (BPS) which includes the APBD Realization Report and Number of Working Forces and the Ministry of Trade which publishes the value of exports.

The data processing and analysis technique used in this study is using panel data regression analysis, with the area used consisting of 34 provinces in Indonesia with the time period used from 2014 to 2020. The equation model in this study is as follows:

\[
\text{NLogPDRBit} = \alpha + \beta_1 \text{NLogAKBit} + \beta_2 \text{NLogXit} + \beta_3 \text{NLogGit} + e_{it} \] ...................................................(1)

Where PDRB is Gross Regional Domestic Product, N is Cochrane-Orcutt, Log is Logarithm, AKB is Number of the employed labor force, X is Export value and G is Realized government spending.

The technique used in collecting data is the documentation method in which the researcher records written data relating to the problem used. The dependent variable in this study is GRDP on the basis of constant prices, while the independent variables that are thought to have an effect on the dependent variable are the number of the working force, the value of exports, and the realization of government spending.

RESULTS AND DISCUSSION

Contains the results of empirical research or theoretical studies written in a systematic, critical, and informative analysis. The use of tables, figures, etc. is only used as support to clarify the discussion and is limited to really substantial supports, for example, tables of statistical test results, pictures of model test results, etc.

The discussion of the results is argumentative regarding the relevance of the results, theories, previous research, and empirical facts found, as well as showing the novelty of the findings. When using regression with panel data, it is necessary to test the model with three approaches in determining the best model to use, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM).

In this research model, the best model used is the Fixed Effect Model. After choosing which model is the best to use, the next step is to test the classical assumptions, to ensure that the research model used in the study is unbiased, consistent, and accuracy in estimation with the aim of achieving the blue prerequisites.

In this study, the classical assumption test used is that there is normality, autocorrelation, multicollinearity, and heteroscedasticity. From all these tests, it was found that this study was not exposed to the problem of classical assumptions. After the model is
free from the classical assumption problem, a statistical test of regression analysis is carried out to test the suitability of the results of the null hypothesis on the sample used.

The desired level of significance from this study is 5%. Subsequently, a partial test (t-test) was conducted to determine the extent of the influence of one independent variable on the dependent variable with the assumption that the other independent variables were fixed. Based on the partial t-test in this research model, the statistical t-table was obtained with a one-sided test of 1.645.

<table>
<thead>
<tr>
<th>Table 2. Partial T Test</th>
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<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>NLOGAKB</td>
</tr>
<tr>
<td>NLOGEKS</td>
</tr>
<tr>
<td>NLOGRPP</td>
</tr>
</tbody>
</table>

Source: Output Using E-Views 10

Based on the results of the partial test, the variables of the value of exports, the working labor force, and the realization of government spending have a probability value whose value is less than the critical value of 5%, it can be decided that the working labor force, the value of exports, and the realization of government spending have an influence on GDP in Indonesia partially.

After the t-test was carried out, the F-test was then carried out, in which the results found were the value for the F-statistics or F-count, which was 1986.213, where the number was greater than the F-table, which was 2.60, and for the probability value (F-table) statistic is 0.000000, which is smaller than the alpha value, which is 0.05.

So that means, the working workforce, the value of exports, and the realization of government spending have a significant influence on GDP in Indonesia together or simultaneously. As for this research model, the value of adjusted R2 is at 0.997168, which means that the variables of the working force, exports, and the realization of government spending can explain the dependent variable, namely GRDP of 99.71 percent, while the rest is 0.21 percent is explained or influenced by other factors outside the independent variables studied in this research model.

From the test results, it was found that the labor force variable that worked as an independent variable had a coefficient value of 0.478580, which means that if it is assumed that exports and the realization of government expenditures are fixed, then an increase in the labor force by 1 percent will increase GRDP by 0.478580 percent with the assumption ceteris paribus.

Based on the hypothesis described at the outset that the working workforce has a significant positive effect on economic growth described by GRDP, this is in accordance with the output results which show that it is in
accordance with the established hypothesis. This
is in accordance with Solow’s neoclassical
growth model theory which states that an
increase in human and physical capital which
includes labor and labor productivity will result
in an increase in GDP (Todaro, 2011).

Previous research also explains the same
thing as this study, that the variable of the labor
force that works has a significant positive effect
on economic growth (Triwidyati &
Purnamaningsih, 2019). The number of workers
has a positive and significant influence on
economic growth, where increasing the number
of workers will increase the level of productivity
so that economic growth will increase (Widayati,
Laut, & Destiningsih, 2019).

Labor has a significant direct effect on
economic growth (Hellen, Sri, & Fitriadi, 2017).
Research on the influence of the working
workforce on economic growth in Indonesia also
has the same results as research in European
Union countries, where the labor force
participation rate has a significant positive
contribution to economic growth (Soava G.,
Mehedintu, Sterpu, & Raduteanu, 2020).

Previous studies to support this research,
where the working workforce affects GRDP,
further explained the relationship between the
working workforce and GRDP to describe
Indonesia’s economic growth, namely labor,
plays a role as a factor of production which is
reflected in human resources.

Expertise and the capabilities possessed by
the workforce are used in processing natural
resources or producing both goods and services
so that later the production will be marketed to
the public which of course with the quality
possessed by the workforce will be able to
increase their income. The more a person’s
income increases, the more purchasing power of
people will also increase.

When people’s purchasing power
increases, their economic growth will also
increase, because the consumption of goods and
services produced increases and increases
income which will increase economic growth.
The results of the panel data regression test
show that the export variable as an independent
variable has a coefficient value of 0.025315, which
means that if it is assumed that the workforce is
working and the realization of government
spending remains constant, an increase in
exports of 1 percent will increase GDP by
0.025315 percent.

assuming ceteris paribus. This is in
accordance with the theory of comparative
advantage expressed by David Rido, according to
him, each country will choose to export goods
that have a comparative advantage so that both
countries will benefit by doing this trade, the
role of international trade in its contribution to
economic growth is quite large, where an
increase in international trade or exports will
increase the potential for increased economic
growth. Other studies, also shows conformity
with the output results produced in this study,
namely that exports have a significant and
positive influence on economic growth in
Indonesia (Ginting, 2017).

In addition, previous research also said the
same thing that exports have a positive and
significant effect on Indonesia’s economic
growth, a positive relationship between exports
and economic growth in the long term defines
that making a policy to encourage exports, it will
have an impact in the long term in the form of
increasing GDP Indonesia. This is because the
increasing export value will increase APBN
revenues and maintain stability in the trade balance (Primandari, 2017).

Another study explains that exports significantly affect GDP, where GDP is used as an indicator to see economic growth (Affandi, Zulham, & Gunawan, 2018). In previous research, it was explained that exports had a positive effect on economic growth, but this time the effect given by exports on economic growth was not significant (Triwidyati & Purnamaningsih, 2019).

During the pandemic period that began in March 2020, the economic condition in Indonesia was very volatile. In terms of exports, due to the COVID-19 pandemic that hit the world including Indonesia, there were restrictions on trade transactions between countries to avoid the spread of the COVID-19 virus through contacts that occurred due to transactions between these countries.

This has hampered Indonesia's exports to foreign countries, as a result, the income received by Indonesia was reduced due to the inhibition of Indonesian exports. Of course, this will have an impact on economic growth in Indonesia, which will experience a decline in 2020.

In this study, there are results that exports have a positive and significant influence on Indonesia's economic growth which is described by the GDP of 34 provinces in Indonesia, because with export activities domestically must produce goods and services in greater quantities, it will provide large foreign exchange so that the flow of capital into the country increases.

Exports that are carried out widely to various countries or by expanding the domestic market which can then increase the investment will certainly increase the amount of production of goods and services so that later it will increase GRDP and encourage Indonesia's economic growth.

The results of the panel data regression test show that the government expenditure realization variable as an independent variable has a coefficient value of 0.126028, which means that if it is assumed that the working force and exports are fixed, then an increase in government expenditure realization by 1 percent will increase GRDP by 0.126028 percent assuming ceteris paribus.

This is in accordance with the theory expressed by John Meynard Keynes in short-term macroeconomic theory, where Keynes argues that aggregate demand is a key in understanding the occurrence of fluctuations in national income, when the government increases spending on goods and services, spending will increase so that this will make production goods and services that result in an increase in total income (Y) (Mankiw, 2007).

According to Theory of Keynes, recommended that the economy should not be left entirely to the market mechanism, but that the government should intervene in its economic system, so that in overcoming problems in an area, the government must intervene in controlling the national economy, namely by carrying out policies to influence the economy.

Other studies support this, namely stating that government spending as reflected in direct spending has a significant and positive influence on economic growth (Weya, Masinambow, & Koleangan, 2017). In previous research, dividing government spending into several sectors and stating the results that
government spending on education in the long and short term has a significant influence on Indonesia’s GDP, then government spending on the health sector in the short and long term also has a significant impact on Indonesia’s GDP, in addition to government spending in the agricultural sector also has a significant and positive influence on Indonesia’s GDP in the short and long term.

So overall government spending on the education, health and agriculture sectors together has a significant influence on Indonesia’s GDP both in the long and short term. (Anggraeni, 2017). In addition, other studies also say the same thing as this study, that government spending contributes positively to creating economic growth (Nugroho, 2016).

Other research that is in line with the hypothesis explains that government spending has a positive and significant influence on economic growth in an area (Triwidyati & Purnamaningsih, 2019). During the pandemic due to the COVID-19 virus that has occurred since March 2020, Indonesia’s economic growth has declined. The policy taken by the government is to increase its spending budget that focuses on spending in the health sector in order to provide facilities to the community in helping reduce the spread of the COVID-19 virus transmission.

From this study, it was found that the realization of government spending has a positive and significant influence on economic growth which is supported by several previous studies, government spending as an illustration of government policy, when the government establishes a policy to buy goods and services as a result the costs incurred by the government that is a reflection of government spending. The more government spending, the more national income of a country so that it will be able to encourage its economic growth. Government spending can be seen as fiscal policy because it increases aggregate demand.

**CONCLUSION**

Based on the results of the study it can be concluded that the working labor force, government spending, and exports have a positive and significant impact on GDP in Indonesia in 2014-2020. The results of this research support the theory of resources in supporting modern economic growth.

However, the results of this research do not support the results of previous research conducted by (Mitchell, 2005; and Muryani, 2018), which state that government spending has a negative and insignificant effect on economic growth. Unfortunately, this research has limitations in terms of time and other related variables, so it is recommended for future researchers to be able to add more comprehensive variables, data and data.

**REFERENCES**


