ANALYSIS OF ECONOMIC GROWTH AT REGIONAL DISTRICT SUB PROVINCE SEMARANG IN THE FISCAL DECENTRALIZATION ERA

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Abstract

Every regions government must be able increasing their own regional income. The finance of resources in fiscal decentralization era, such as: regional original income, general allocation funds and natural resources revenue sharing and tax revenue sharing

This research aims to analyze the fiscal decentralization impact to economic growth at regional district in sub province Semarang. The tool of analisis is regression using panel data with Generalized Least Square (GLS) method and Fixed Effect model. It uses district-level data and supplied by the Indonesian Central Bureau of Statistics during 2002 - 2006

The regression result shows that regional income, natural resources revenue sharing and tax revenue sharing, and labor forces have positive impact on economic growth at regional district in sub province Semarang. General allocation funds have negative effect towards economic growth at regional district in sub province Semarang. Fiscal decentralization brings more advantages for regions to manage their own fiscal capacities. The regions governments must be have informational advantages concerning resource allocation with optimal

Keywords: Fiscal Decentralization, economic growth, Fixed Effect Model

INTRODUCTION

At the time, the implementation of regional autonomy widely aims to develop the whole of potential economy and encourage the increasing of economy regional activity that eventually enhancing the national economy. This implementation is suitable with the Law No 33/2004, requiring the financial balancing between central and regional government. The financial balancing between central and regional government is a financial government system in the country consisting of the financial distribution between central and regional government, the equality between the regional proportionally, fairly, democratic and transparency.

Fiscal decentralization will not beneficial if it does not have adequate financial ability support from regional government. Therefore, by creating the Law No.33/2004 is expected to overcome that problem. Based on the Law No.33/2004, the revenue source that used to finance the regional government in decentralization consisting of the regional original income (PAD), special allocation funds (DAK), general allocation funds (DAU), revenue sharing (DBH), regional loan, and the other legal revenues. The Law No.33/2004 is giving the authority toward regional to enhance their income ability that is by broadening the tax revenue and the natural resources revenue sharing with central government. Central government must be increasing their revenue to finance the development activity; however that hopes is not optimal yet in decentralization fiscal. It showed by the growth of Gross regional Domestic Product (GRDP). The real GRDP shows the variation between the regional in Central Java after the implementation of decentralization fiscal.

In the picture 1, it can be seen that during 2002-2006 the growth of economy in the regional district of Central Java is not good enough yet. From

year 2002 to 2006 where the fiscal decentralization era had been starting since year 2001, in fact only certain regional district that have a high GDRP such as Cilacap, Kudus, regional district Semarang and Semarang city. It shows that the fiscal decentralization era where every region has been giving the authority to manage their financial regional actually still cannot give the significant impact toward their GRDP. Thus, GDRP is not the only one becoming the development indicator.



Source: BPS, 2007

Picture 1

Table 1: Gini Ratio per Karesidenan in Central Java

In the year 2002 - 2006

| Karesidenan | Average |
|-------------|---------|
| Banyumas | 0,2351 |
| Kedu | 0,2426 |
| Surakarta | 0,2485 |
| Pati | 0,2039 |
| Semarang | 0,2532 |
| Pekalongan | 0,2301 |

Source: BPS, 2007

The assumption of increasing the high inequality between Kabupaten/Kota in Central Java by seeing a very various economic growth condition after the fiscal decentralization implementation and it is very far from the government expectation. Based on Karesidenan region, the division of Central Java area consists of 6 karesidenan which are karesidenan Banyumas, karesidenan Kedu. karesidenan Surakarta, karesidenan Pati, karesidenan Semarang, and karesidenan Pekalongan. The inequality in Central Java also shows by seeing among the *karesidenan* area. In the table 1 above, it can be seen the inequality among the karesidenan by using Gini Ratio. Thus, the highest inequality is happened in karesidenan Semarang.

By seeing the description of the condition after decentralization fiscal implementation, it can be understand that the region is not capable yet to enhance the economic growth significantly and there is still inequality among the region in *Kabupaten/Kota*, Central Java provision even though the region have given more financial resources and authority to manage their region needs. The purpose of this research is to estimate the effect of regional finance variables which are regional original income (PAD), general allocation funds (DAU), revenue sharing (DBH) and the effect of labor toward the economic growth in *Kabupaten/Kota* in *karesidenan* Semarang area.

PREVIOUS STUDY REVIEW

Waluyo, Joko (2007) had done the research about the impact of decentralization toward the economic growth and the inequality distribution among the region in Indonesia. The simulation equation econometric by using the panel data between province in the year 2001-2005 and Two Stage Least Square (TSLS) estimation technique is used in this research method. The result had shown that the impact of fiscal decentralization in the business central and the rich natural resources regions have higher impact relatively than in the non regional business central and the poor natural resources regions. The PKPD fund transfer during this time (Law No.33 year 2000) is more beneficial toward the rich of natural resources regions through the earning share of natural resources mechanism. The allocation fund of the natural resources earning share toward investment is becoming a key sector to enhance the regional economy growth. The DBHP mechanism is more bring advantage in the city area that become industrial and business central because of the higher regional tax base. Otherwise, the regions those become poor natural resources and non industrial and business central is rely on DAU and DAK for their regional revenues. Moreover, fiscal decentralization will reduce the inequality income among the regions particularly among the regions in the Java Island and the outside Java Island, among the West Indonesia area (KBI) and East Indonesia area (KTI). It is caused by equalizing transfer mechanism through PKPD fund that will reduce Java development centrally. The relatively low amount of natural resources (oil, gas and forest) in Java Island has been affecting toward the earning share funds of natural resources revenues in Java Island compare with the rich natural resources regions in the outside Java Island. Even though it is balanced with the better of tax earning share fund revenues and the existing of DAU and DAK.

Priyo Hari, Adi (2006) had done the research about the relationship between the regional economy growth, government spending, and original income in Kabupaten/Kota in Java-Bali. The data analysis that used is the realization APBD data of government Kabupaten and City in the year 1998-2003. The result of research had shown that the regional economy growth has significant impact toward the increasing of PAD. However, the economic growth of regional government in *Kabupaten* and City is still lower, and the impact is the lower of PAD. Relating with PAD, the reliable revenues are regional tax and retribution. The high amount of retribution is able to become as government straightness indicator to give the better quality of public services. The government spending has give a positive and significant impact toward PAD and the economic growth.

Sasana, Hadi (2005) had done the research about the impact of fiscal decentralization toward the economic growth in Kabupaten/Kota D.I. Yogyakarta province. The Pooled Least Square (PLS) during 2001-2003 is used as the tool analysis in this research. The result of research had shown that PAD has a positive relationship and give the significant impact toward economic growth only in *Kabupaten* Sleman and Yogyakarta city. The general allocation fund (DAU) has negatively and significant impact toward the economic growth in *Kabupaten* Bantul. *Kabupaten* Sleman, *Kabupaten* Gunung Kidul, and Jogjakarta city. The role of labor toward the economic growth has positive and significant impact toward the economic growth in the whole of *Kabupaten/Kota* Jogjakarta province. DAU has no significant impact toward the economic growth in *Kabupaten/Kota* Jogjakarta province.

From monetary authority side, the centralregional fund transfer mechanism has potentially creates the problem in the monetary controlling operation. The fiscal decentralization potentially creates the behavior movement risk of fiscal controlling in the regions. If the regional government is allocating the funds to make stronger their regional economy base, thus it will give the positive impact toward the economic growth. However, if that fund transfer is allocated toward non productive activities, speculative and consumptive that can be creates the idle money and thus has impact also toward the monetary control (particularly about the sum of supply money) (Ismal; 2002). This result was supported the previous research in China that the decentralization economy will increase the economic growth, but inflationary (Brandt and Zhu, 2000).

Abdullah and Halim (2003) had done the research about the effect of general allocation fund (DAU) and the regional original income (PAD) toward the regional government spending. The study case had done in *Kabupaten/Kota* in Java and Bali. The result of research is that DAU and PAD has significant impact toward the regional spending.

L. Jay Helms (1985) research was using inter countries Panel data showing that the increasing

of central and regional taxes will slow the regional economic growth, if the tax revenue is used as the central-regional balancing funds. This result also indicates the balanced funds beneficial toward the public goods supply will give the impact toward the quality of local goods. The conclusion showed that the balanced fund based on the spending incentive is better than based on the tax revenue.

THEORETICAL FRAMEWORK

The Economic Growth

Based on Todaro (2000), there are three main factors or components in development economy from every nation aspect, which are the capital accumulation consisting the whole form or the sort of new investment in land, physical device, and capital or human resources, the population growth n the next years will adding the amount of capital accumulation, the technology progress.

The neo classic growth model is found by Robert M. Sollow in the year 1950. This model has been implementing toward many empiric studies in many countries. The base assumption that is used in this model are; the output that produced from the two outputs, capital and human labor, the economy in the used of full labor condition, and the perfect competition condition economy.

There are two main thing discussions in this model, which are the capital role and the technology change in the growth economy. However, for a while the technology changes is assumed to be constant so it will be known how the capital role in the development process. The capital accumulation and capital inside is happened when the supply growth of capital stock is faster than the labor growth. In the condition without the technology changes, the modal accumulation will encourage the growth of output per labor, increasing the labor marginal product and the wages. However, the modal accumulation also will encourage the less of capital return and decreasing the level of real interest rate.

Fiscal Decentralization

Decentralization is a part of every institution strategy that has the eagerness to still alive in global competition. It is a competitive strategy. Thus, decentralization also happened in every country. Decentralization divides into a small part that integrated and become "an organic species" which efficiently to overcome the global challenges. In practical, the authority and decentralization are being overlap. However, they have different meaning. Decentralization is a management system that centralized overly. If the centralization is the centralized management, thus the decentralization is the distribution and delegation. Rondinelli and Cheema Sarundajang, 1999). (quoted by Decentralization is "the transfer of planning, decision making, or administrative authority from the central government to the field organizations, local administrative units, semi-autonomous and parastatal organizations".

Based on Prawirosetoto (2002), Fiscal decentralization is the responsibility delegation and the authority distribution to take decision making in fiscal that consist of tax assignment and expenditure assignment. This decentralization fiscal is related with the regional government duty and function in public goods or public service.

Fiscal decentralization is the core of decentralization itself because of the authority give in politic and administration aspect thus it will be useless if it is not going together with the decentralization, and because to implement the responsibility and delegation and the public service duties without authority is given in tax assignment and expenditure assignment, fiscal decentralization will not be effective. Therefore, fiscal decentralization will give the freedom of action toward the region to excavate regional potential and to gain transfer from central in the fiscal balancing framework. There are some reasons to have a decentralized government system (Simanjuntak, 2001): (1) Democratic representative, to make sure the citizen right to participate directly toward the decision that will influence the region or area (2) the centralized making decision cannot be implemented, it is not realistic if the centralized government having decision related the whole public services of country, particularly for big population countries such as Indonesia (3) Local knowledge, the local people has more knowledge toward their local needs, priority, conditioned, etc (4) Mobility resources, the aid and resources mobility can be facilitated with the stronger connection among the population and the local decision maker.

Based on Diliger, in Sidik (2002), basically there are four kinds of decentralization, which are: Political decentralization that is a right gift toward the citizens through the representative had been chosen by strong power to take public decision, administrative decentralization that is the abundant authority to distribute the authority, responsibility and the financial resources to provide the public services, particularly related with the planning, funding and the management of government function from central government toward the regional apparatus, certain authority institution or certain company, Fiscal decentralization is the abundant authority to manage financial resources, consist of : a) self-financing or cost recovery in public services particularly for burdening regional retribution b) Co financing or coproduction, where the service user is participated in the form of service payments or labor contribution c) Central government transfer that comes from special allocation funds (DAK), general allocation funds (DAU), revenue sharing (DBH), emergency donation, regional loan (natural resources), and economic or market decentralization, which is the privatization policy and deregulation related with the abundant policy of public service function from government toward private sector suitable with the liberalization policy.

RESEARCH METHOD

Type and the Data Sources

The secondary data from Bureaucratic statistic (BPS) particularly the data year 2002 to 2006 is used in this research. The primary data that needed is all the research variable consist of Gross Regional Domestic Product (GRDP), the regional original income (PAD), general allocation funds (DAU), revenue sharing (DBH), and labor. The data type that used is Panel data which combination between Time Series and Cross Section. The Time series data is from year 2002 to 2006. The object of research is 6 *kabupaten/kota* in *Karesidena*n Semarang area, which are Semarang, Salatiga, Kabupaten Semarang, Kendal, Demak and Grobogan.

Variable Operational Definition

The variable operational definition that used in this research is the regional original income (PAD) is (1) the regional original income consist of the regional tax, retribution, dividend, and other legal revenues (2) economic growth is peroxide with Gross Regional Domestic Product (GRDP) based on constant price at 2000 (3) revenue sharing is a part of balancing funds to overcome vertical inequality through earning share between central and the outcome region, from some of tax revenue (national) and the natural resources revenue (4) general allocation funds (DAU) is a transfer such as block grant generally to overcome the horizontal inequality with the main purpose is the financial distribution ability among the regions (5) Labor is the total incumbent that the age is 10 years above that working during last month ago.

The Analysis Tools

Assessment Model Technique

To estimate the effect of PAD, Revenue Sharing, General Allocation Fund and Labor toward the economic growth is using the regression analysis tool that is data panel model. There are two basic approaches that used to analyzes the panel data. First, the Fixed Effect approach and second is the Random effects. Before the model is estimated with the exact model, specification test is examined whether the Fixed Effects nor Random Effects or both effects has the same result. The choice between Fixed Effects or Random Effects is determined with the goodness of fit test. For the Fixed Effects approach or common is using the F statistic test. Therefore, the F test that has done is as follows:

$$F(n-1, nT - n - K) = \frac{(R^2_u - R^2_p)/(n-1)}{(1 - R^2_u)/(nT - n - K)}$$

Where: u=unrestricted model, p=restricted model, n=the total unit of cross section, T=the total unit of time and K=the total parameter that estimated (Green, 2000:562). If the fact of estimation result of F test \geq F (n-1, nT-n-K) it means that Ho is rejected, meaning that the intercept for the entire cross sections unit is not the same. Thus, the Fixed Effects will use to estimate this regression equation.

GLS (generalized Least Squares) method had chosen in this research because there is a more value in GLS than OLS in estimating the regression parameter. Gujarati (2003) stated that the common OLS method is not assumed that variable variation is heterogeneous, in fact the data variation in pooling data is tend to heterogeneous. GLS method has been estimating the heterogeneity already that obtained in independent variable explicitly until this method is able to produce estimator that fulfill the BLUE criteria (best linear unbiased estimator).

Analysis Method

The model is used of this research as follows:

By the assumption of A (technology) is assumed as the exogenous variable PAD, DBH, DAU = K and TK = L also GDRP = Q

Y = f (PAD, DBH, DAU, TK).(3)

From the equation (1) and (2) can get:

PDRB = A PAD α_1 DAU α_2 DBH α_3 TK α^4 (4)

To use the linear empiric model from the equation (3) is derived by using log, thus the equation will be as follows:

$$\begin{split} LY_t &= {}_{\alpha 0} + {}_{\alpha 1} LPAD + {}_{\alpha 2} LDBH + {}_{\alpha 3} LDAU + {}_{\alpha 4} LTK \\ + {}_{e t} (5) \end{split}$$

Whereas:

LY = Gross Regional Domestic Product

LDBH = Revenue Sharing

LPAD = Regional Original Income

| LDAU | = General Allocation Funds |
|---------|----------------------------|
| LTK | = Labor |
| α0 | = Constanta |
| α1 - α4 | = Parameter Coefficient |
| et | = Disturbance error |

The Classical Assumption Test

This classical assumption test had done in this research is the Multicollinearity test, Heterocedasticity test, and Autocorrelation test.

THE RESULT OF DISCUSSION

Regression Result

Specification Model test

To estimate whether the regional original income (PAD), general allocation funds (DAU), revenue sharing (DBH), and labor (TK) are effecting toward the economic growth (GRDP), so the specification model test is needed to do by using F test. Basically F test is comparing between common models that assumed the intercept for all cross section unit is same with the Fixed Effect model that assumed different intercept among the cross section unit. Otherwise, to choose the Fixed Effect or Random Effect is using the examination by seeing their goodness of fit.

The result of significance F test that can be concluded the result of F_{hit} as 14, 2340 and F _{table} with α =0,05 since $F_{hit} > F_{table}$, thus significant means that the model which used to estimate the effect of fiscal decentralization implementation toward economic growth in *Kabupaten/Kota* in Karesidenan Semarang is the Fixed Effect.

The Estimation Result

The table 3 is giving the sum up of estimation result model that used (fixed effect) with the total observation 30 that calculated by using Eviews 3.1. The complete regression (common, fixed effect, random effect) can be seen in the appendices 2-4. By comparing the estimation result of the fiscal decentralization implementation *kabupaten/kota* in *karesidenan* Semarang from the three different models, the goodness of fit (\mathbb{R}^2 , t statistic, F statistic), thus the model is choose that is Fixed effect. Therefore, the equation is as follows:

LPDRB_GROBOGAN

= 2753687+ 0.007323 LPAD

+ 0.164632LDBH - 0.001289 LDAU

+ 0.766495 LTK

LPDRB_DEMAK

= 218999.7 + 0.007323 LPAD

+ 0.164632LDBH-0.001289 LDAU

+ 0.766495 LTK

LPDRB_SEMARANG

= 27569.48 + 0.007323 LPAD + 0.164632 LDBH - 0.001289 LDAU + 0.766495 LTK

LPDRB_KENDAL

- = 1121296. + 0.007323 LPAD
 - + 0.164632 LDBH 0.001289 LDAU +

0.766495 LTK

LPDRB_KSALATIGA

= 225563.0 + 0.007323 LPAD

+ 0.164632 LDBH - 0.001289 LDAU + 0.766495 LTK

LPDRB_KSEMARANG

= 128562.8 + 0.007323 LPAD

+ 0.164632 LDBH - 0.001289 LDAU + 0.766495 LTK

THE DISCUSSION

Based on the estimation result, the regional original income (PAD) shows positive and significant statistically in the confident level 1 percent for all *kabupaten/kota*. This research is consistent with the research result of Sasana (2005), Adi (2006), Saragih (2003) and Bappenas (2003) and Lin and Liu (2000). Saragih (2003) stated that the PAD growth is the excess of economic growth. It also agreed by *Bappenas* (2003) that stated the PAD growth should being sensitive toward the increasing of GRDP, means that in each rise of GDRP will give the positive impact toward the raise of PAD.

The regional governments (*Kabupaten and city*) during this time had mistake to explain the fiscal decentralization. The ineffective of new regulation that emerged shows the insensitive government toward their local strength. The government should able to balance all the new product variety with the local potential economy development, for instance giving the wider opportunity toward the investor. It needed the high sensibility toward many investor needs activity to enhance this investment activity. The high of this activity will give the additional local revenue (Lin and Liu (2000), Saragih (2003), and Bappenas (2003). PAD coefficient as 0,01 means that if there is an increasing of PAD as 10% the economic growth (GRDP) will raise 0,1 percent.

The revenue sharing (DBH) shows positive and significant impact positively in the level confident of 1 percent to all *kabupaten/kota*. It is consistent with the research result of Sasana (2005). The result indicates that *kabupaten/kota* in Karesidenan Semarang can optimize the revenue sharing for the regional development interest. The DBH coefficient as 0, 16 means that if there is increasing DBH as 10 percent, so that the economic growth (GDRP) will raise 1, 6 percent.

The general allocation fund (DAU) shown the negative and significant statistically in the confident level 1 percent to all kabupaten/kota. The regional original income (PAD) in kabupaten/kota in Karesidenan Semarang has the average amount around 60,5 percent from the APBD revenues. It can be stated that the majority of *kabupaten/kota* rely on their regional spending toward DAU. This research is suitable with the research result from Sasana (2005), with the negative sign for the effect of DAU toward the economic growth (GRDP), means that the regional government in decentralization era still cannot determine their regional development priority scale optimally toward the development sectors that give the wide multiplier effect toward the economic society. Moreover, there are still relatively high the level of leakage that happened, so that the effect of general allocation fund is become negative toward economic growth (Sasana, 2005).

The labor had played important role in this research, by seeing the high number coefficient. The labor coefficient number had shown positive and significant sign statistically in the confident level 1 percent to all *kabupaten/kota*. The high number coefficient of labor is not able to state yet that there is an increasing quality of labor but it is only from quantity side. It can be seen from the incumbent in the age of 10 years above that the average graduation is from *kabupaten/kota* in Karesidenan Semarang mostly in the junior school level which as 70 percent except Salatiga and Semarang city 40 percent

averagely, even though if it can be seen from the total working hour per week for the worker who work more than 35 hour/week averagely 67 percent to all *kabupaten/kota* in the year 2005. The labor coefficient number is 0, 76 means that if there is an increasing labor as 10 percent will enhance the economic growth (GRDP) as 7,6 percent. The higher number of total labor is expected to add the productive labor which can be encouraging the economic growth.

The classic assumption divergent test for Multicollinearity had done by detecting the R^2 number and the significance from the variable that used. Rule of Thumb stated if the R^2 number is high meanwhile there is almost or the entire variable partially insignificant, so it assumed that there is multicollinearity in that model (Gujarati, 2003). More than that, multicollinearity usually happened in the estimation that used the time series data. By combining the time series data and cross section data as technique can reduce the multicollinearity problem. This research is used the panel data, so actually as technique can be stated that there is no multicollinearity problem anymore. It is supported by the result estimation model all the variable that used is significant and has the high number R^{2} , so that this model is free automatically from the multicollinearity problem.

The heterocedasticity test, this problem came out especially from the cross section variety data that used. The GLS (Generalized Least Squares) method that the importance is giving the heaviness toward the data variation is used, by using the variants square of the model. The facility that provided in Eviews programmed by choosing the cross section weight and White Heterocedasticity Covariance then the Heterocedasticity problem can be solved.

The autocorrelation test, the simplest way is using the Durbin Watson (DW) test. As the rule of thumb, the DW value estimation that nearly 2 is assumed that the model is freely from autocolinearity (Gujarati, 2003). From the estimation result, it is known that the Durbin Watson (DW) statistic as 2,100. If it based on the rule of thumb actually it can be stated that the model is freely from the autocorrelation. The comparison can be used to make it sure by comparing the DW statistic with DW table. The value of d_1 and d_2 with the independent variable 4 and N as 30 for each 1,143 and 1,739, so the decision will stated that the model is free from the autocorrelation model if $d_u < d < 4$ d_{μ} (1,179<2,100<2,261) can be accepted. It means that the model is already free from the autocorrelation problem.

CONCLUSION

The estimation regression result is effecting the fiscal decentralization toward the economic growth in kabupaten/kota in karesidenan Semarang as follows: the regional original income (PAD) has positive and significant impact toward the economic growth. The increasing of PAD that assumed as capital, as cumulate, it will create more externality positively and will accelerate more the economic growth, revenue sharing (DBH) has positive and significant impact toward the economic growth. The optimization of revenue sharing gain that assumed as capital for regional development interest will accelerate the economic growth; the general allocation fund (DAU) has negative and significant impact toward the economic growth. This result does not support the Neo Classical growth theory that

assumed if the capital will accelerate the growth. It proven that even though there is some freedom to manage the regional finance, the region is not able to determine the regional development priority scale optimally for development sectors. The development priority scale determination will give the multiplier effect toward the society economic, labor (TK) as an important factor accelerating the economic growth has the positive and significant impact toward the economic growth. The bigger amount of labor will add the amount of productive labor. The additional of productive labor will increase the output so that encourage the economic growth. needed an increasing PAD effort through the regional tax and retribution revenues optimally. Thus, the retribution that is not optimal yet is the child day care retribution, liquid sewage management retribution. Besides that, the increasing of administration efficiency and push the collection cost is needed to do by one stop service, concerning every regional eminent products and the sectors that produce the multiplier effect toward the economic growth so that the fiscal decentralization implementation that having authority managing the regional finance has positive impact toward the economic growth.

The Policy Implication

The policy implication in this research is that the regional original income (PAD) based on the result of research the coefficient is small, so that it

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