Fiscal Decentralization of the Government of the City of Surabaya Indonesia

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Abstract

Surabaya City Government is part of the regional government system in Indonesia which adopts a decentralized system. In line with these various regulations, regional fiscal or financial management consists of three main components, namely Regional Revenue, Regional Expenditure, and Regional Financing. This study aims to calculate the fiscal potential of the City of Surabaya for the 2017-2021 period. Furthermore, to obtain and complete optimal results, research uses a quantitative approach. The results showed that the economic growth of Syria showed good performance. However, in terms of inflation, the numbers also continue to increase. It is recommended to the Surabaya City Government that inflation control must be carried out through various policies that can increase economic growth that can improve people's welfare.

Keywords: government, economic, growth, potential, fiscal

1. Introduction

Surabaya City is the capital of East Java Province, Indonesia as well as the largest metropolitan city in the province. Surabaya is also the second largest city in Indonesia after Jakarta. Surabaya has an area of approximately ± 326.81 km², and 3,158,943 residents in 2019. (Note 1)

Surabaya City Government is part of the regional government administration system in Indonesia, which adopts a decentralized system in regulating and managing government affairs by itself.

The Surabaya City Government is led by a democratically elected Mayor. Meanwhile, as an autonomous region, the Government of the City of Surabaya must be able to provide regional finance consisting of three main components, namely Regional Revenue, Regional Expenditure, and Regional Financing. In this context, the fundamental question is the extent to which the fiscal capacity of the Surabaya City Government, whose mayor is **Tri Sri Rismaharini (Risma)** for the 2017-2021 period.

Research Purposes

This study aims to calculate the fiscal potential of the Surabaya City Government for the 2017-2021 period.

Problem

1.   Is the effectiveness and efficiency of fiscal decentralization in the City Government of Surabaya?

2.   Is fiscal decentralization in the City Government of Surabaya able to improve the welfare of the people?

2. Literature Review

2.1 Fiscal Decentralization

Fiscal decentralization in Indonesia is still often debated, especially in terms of its effectiveness and efficiency when compared to previous policies or with a centralized system. In this connection, *Martinez-Vazquez and McNab (2001)* suggest that some of the fundamental reasons that governments in developing countries choose to do fiscal decentralization are: (Note 2)

1.   With fiscal decentralization, it is expected that government spending will be more efficient.

2.   With fiscal centralization recognized as having experienced a failure.

3. The role of local governments will be greater and local governments will not be dictated by the central government.

In Indonesia, fiscal decentralization is based on Law of the Republic of Indonesia Number 33 of 2004 concerning Financial Balance between Central and Regional Government. (Note 3) This law describes decentralization as the transfer of authority of the Central Government to the Government to autonomous Regions to regulate and manage government affairs in the system.

Rodriguez-Pose danKroijer (2009) stated that fiscal decentralization is expected to improve people's welfare. Thus, what deserves special attention in relation to fiscal decentralization policies in order to be successful is that this policy must be followed by clear and effective authority between the central government and regional governments. The policy must be fair and transparent, especially in terms of transfer of funds from the central government to local governments. (Note 4)

Tiebout's research (1956) found that one of the advantages of fiscal decentralization is that decentralization will increase the economic efficiency of local governments because the government will be better able to provide better services to its citizens. (Note 5)

According to *PranadBardhan (2002)*, a study on fiscal decentralization states that many decentralization policies are not successful, especially in improving the welfare of the community. (Note 6)

Based on the Law of the Republic of Indonesia Number 33 of 2004, regional revenue in the implementation of decentralization consists of regional income and financing, (Note 7) and Other Legitimate Regional Revenue. (Note 8)Meanwhile, the financing comes from the excess of the regional budget calculation; receipt of regional loans, regional reserve funds; and proceeds from the sale of separated regional assets. (Note 9) The amount of this regional revenue will largely determine government spending.

2.2 Regional Original Income

Regional Original Income consists of regional taxes, regional levies, proceeds from the management of separated regional assets and other legal regional income.

2.3 Balancing Fund

Balancing funds consist of profit sharing funds, general allocation funds and special allocation funds. This balancing fund aims to reduce the fiscal gap between the government and local governments. This balancing fund consists of: Production Sharing Funds, General Allocation Funds, and Special Allocation Funds. The amount of the balance fund for each fiscal year is stipulated in the State Budget.

2.4 Local Government Expenditures

Regional government spending is inseparable from regional revenue, because theoretically, spending is a function of regional revenue. The higher the regional income, the higher the level of regional spending. For this reason, the regions try to increase their own local revenue with local governments trying to increase their own local revenue and the balance fund.

2.5 Investation

Investment is defined as the accumulated form of an asset with the hope of obtaining future benefits. *Budi Supriyatno (2018)* said that investment in the economy has a very important role, especially in moving the economy. According to *Huang (2009*) states that private investment has a positive impact on economic growth. (Note 10)

2.6 Economic Growth

Todaro and Smith (2006) stated that in this case there are three main factors or components that are important in the economic growth of a country or region. *The first* is what is the level of capital accumulation which includes all forms or types of new investment allocated in the economy. *Second* is how much the population growth rate will increase the number of labor force, and *Third* is the level of technological progress that will directly affect the production process and ultimately increase the quantity of production. (Note 11)

Similar to Todaro, Romer's (2001) growth theory focuses on four variables, namely output (Y), capital (C), labor (L) and Knowledge or the effectiveness of labor (K) (Note 12).

Romer's growth model formulation is: (Note 13)

$$Yt = F\ (Ct,\ Kt,\ Lt)$$
t: represents time

Economic growth can be seen from the demand side and the supply side. In this context, from the side of aggregate demand, an increase in domestic output can be identified by four components of the economy, namely:

C = household consumption expenditures,

I = investment spending by businesses and households,

G = government spending on goods and services, and

X-M = nett export (X-M) by Dornbusch, Fischer and Startz, (2004). (Note 14)

This formula was adapted by McCann (2006) for a regional economy known as the Keynesian standard aggregate demand for the region which can be described as follows. (Note 15)

$$Yr = Cr + Ir + Gr + Xr - Mr$$
Where
Yr: Regional income
Ir: Regional investment
Cr: Regional consumption
Gr: Local government expenditure
Xr: Regional export
Mr: Imports of the region.

The above formula implies that economic growth in the regions is highly dependent on the four components above. This means that economic growth will increase if consumption, investment, government spending, and net exports also increase or the total value of the four components is positive.

3. Research Methods

The data used in this study are secondary data obtained from various sources. This study uses data series for the 2017-2021 period.

The analysis used can be grouped into two, namely descriptive and quantitative analysis.

The quantitative approach used is to use a simultaneous equation model. The structured simultaneous equation model is divided into five blocks consisting of 33 equations, of which 19 equations are structural equations and 14 equations are identity equations. The complete equation can be described as follows:

3.1 Fiscal Block Regional Revenue

a. Locally-Generated Revenue

$$T_t = a_0 + a_1 GRDP_t + a_2 BL_t + a_3 TP_t + a_5 T_{t-1} + u_{1t1}$$
$$RET_t = b_0 + b_1 GRDP_t + b_2 TP_t + b_3 RET_{t-1} + u_{2t2}$$
$$LGR_t = T_t + RET_t + RGWM_t + LGR_{t3}$$

The estimated values and marks of the expected parameters: a_1, b_1, a_2, b_2, $a_3 > 0$; b_3, $a_4 < 0$; dan $0 < b_4$, $a_5 < 1$.

Information:

T	= Tax
GRDP	= Gross Regional Domestic Product
BL	= Business License
TP	= Total Population
LGR	= Locally-Generated Revenue
RET	= Regional Retribution
RGWM	= Results of Regional Wealth Management
LGR	= Lag. Locally-Generated Revenue

b. Balancing Fund

$$TPS_t = {}_{c0} + {}_{c1} PCC_t + {}_{c2} NV_t + {}_{c3} TPS_{t-1} + u_{3t1}$$
$$NTPSE_t = d_0 + d_1 GRDP_t + d_2 TP_t + d_3 NTPSE_{t-1} + u_{4t2}$$
$$GAF_t = {}_{e0} + {}_{e1} GRDPC_t + {}_{e2} FC_t + {}_{e3} GAF_{t-1} + u_{5t3}$$
$$PSF_t = TPS_t + NTPSE_{t4}$$
$$MF_t = GAF_t + SAF_t + PSF_{t5}$$
$$FC_t = LGR_t + PSF_{t6}$$
$$TR_t = LGR_t + MF_t + LI_t + F_{t7}$$

The estimated values and marks of the expected parameters: c_1, d_1, e_1, c_2, $d_2 > 0$; e_2, c_3, d_3, $e_3 < 0$; and $0 < c_4$, d_4, $e_4 < 1$.

Information:

NTPSE = Non-Tax Profit Sharing Equation
TPS　　= Tax Profit Sharing
PCC　　= Per Capita Consumption
NV　　 = Number of Vehicles
GRDPC = Gross Regional Domestic Product Per Capita (IDR)
GRDP = Gross Regional Domestic Product
MF　　 = Maintenance Fund
PSF　　= Profit Sharing Fund
FC　　 = Fiscal Capacity
TR　　 = Total Revenue PDRB
LI　　 = Lag. Income
F　　　= Financing
GAF　　= General Allocation Fund
SAF　　= Special Allocation Fund

c. Fiscal Gap

$$FC_t = TE_t - FC_{t1}$$

3.2 Regional Expenditure Fiscal Block

$$ES_t = f_0 + f_1 FC_t + f_2 NE_t + f_3 ES_{t-1} + u6_{t1}$$
$$SG_t = {}_{g0} + {}_{g1}FC_t + {}_{g2} SG_{t-1} + u_{7t2}$$
$$TE_t = ES_t + SG_t + OS_{t3}$$
$$HGRDP_t = GRDPC_t * 100 / CPI_{t4}$$
$$EG_t = (HGRDP_t - HGRDP_{t-1}) / HGRDP_{t-1} * 100_5$$

The estimated values and marks of the expected parameters:
f_1, g_1, $f_2 > 0$; g_2, $f_3 < 0$; dan $0 < g_3$, $f_4 < 1$.

Information:
ES　　 = Employee Spending
FC　　 = Fiscal Capacity
NE　　 = Number of Employees
TE　　 = Total Expenses
SG　　 = Shopping for Goods
OS　　 = Other Shopping

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3.3 Block GRDP

$$C_t = h_0 + h_1(GRDP_t - T_t) + h_2 ES_t + h_3 TP_t + h_4 C_{t-1} + u_{8t1}$$
$$PCC_t = C_t / TP_{t2}$$
$$I_t = i_0 + i_1 GRDP_t + i_2 IR_t + i_3 CS_t + i_4 I_{t-1} + u_{9t3}$$
$$GE_t = j_0 + j_1 TI_t + u_{10t4}$$
$$E_t = k_0 + k_1 GRDP_t + k_2 ERAD_t + k_3 E_{t-1} + u_{11t5}$$
$$I_t = l_0 + l_1 GRDP_t + l_2 ERAD_t + u_{12t6}$$
$$GRDP_t = C_t + I_t + GE_t + E_t - I_{t7}$$
$$GRDPC_t = GRDP_t / TP_{t8}$$

The estimated values and marks of the expected parameters: h_1, i_1, j_1, k_1, l_1, h_2, k_2, h_3, $i_3 > 0$; i_2, j_2, l_2, k_3, l_3, h_4, $i_4 < 0$; dan $0 < k_4$, h_5, $i_5 < 1$.

Information:

C   = Consumption
LGR = Locally-Generated Revenue
TOTREV = Total Revenue PDRB,
EG   = Economic Growth
T   = Tax
I   = Investation
IR   = Interest Rate (Percent)
CS   = Community Savings
GE   = Government Expenditure
E   = Export
ERAD = The Exchange Rate of Rupiah against Dollars
I   = Import

3.4 Block Inflation and Exchange Rates

$$CPI_t = m_0 + m_1 MS_t + m_2 ERAD_t + m_3 RPFO_t + m_4 BET_t + m_{6I} CPI_{t-1} + u_{13t1}$$
$$INF_t = (CPI_t - CPI_{t-1}) / CPI_{t-1} * 100_2$$
$$ERAD_t = n_0 + n_1 FER_t + n_2 INF_t + n_3 ERAD_{t-1} + u_{14t3}$$
$$MS_t = o_0 + o_1 AGRDP_t + o_2 BIC_t + u_{15t4}$$

The estimated values and marks of the expected parameters: m_1, o_1, m_2, n_2, m_3, $m_4 > 0$; n_1, o_2, o_3, $m_5 < 0$; dan $0 < n_3$, $m_6 < 1$.

Information:

CPI   = Consumer Price Index
MS   = Money Supply (Million Rupiah)
RPFO = Retail Price of Fuel Oil
BET   = Basic Electricity Tariff
FER   = Foreign exchange reserves
INF   = Inflation
AGRDP = Average Gross Regional Domestic Product
BIC   = Bank Indonesia Certificate

3.5 Block HDI, Poverty, and Labor

$$HDI_t = p_0 + p_1 ASE_t + p_2 PMW_{t1}$$
$$NPP_t = q_0 + q_1 GRDPC_t + q_2 INF_t + q_3 NPP_{t-1} + u_{17t2}$$
$$PW_t = NPP_t / TP_t * 100_3$$
$$ASE_t = r_0 + r_1 GRDPC_t + r_3 ASE_{t-1} + u_{18t4}$$
$$L_t = s_0 + s_1 GRDPC_t + s_2 L_{t-1} + u_{19t5}$$

The estimated values and marks of the expected parameters: p1, r1, s1, p2, q2, q3 > 0; q1, r2, s2 < 0; and $0 < r3$, s3, $q4 < + u_{16t}$

Information:

HDI   = Human Development Index
ASE   = Average School Entry
PMW = Provincial Minimum Wages
NPP   = Number of Poor Population
PW   = Poor Workforce
L   = Labor

Identification of Estimation Models and Methods

According to Koutsoyionis (1978), an econometric approach using a system of simultaneous equations requires that the number of equations be equal to the number of endogenous variables. This requires a complete model identification. (Note 16)

According to *Gujarati (1995)* the conditions that must be met in the identification process are the order condition of identification, namely that the number of endogenous and exogenous variables that are not included in the equation but are included in other equations in the simultaneous equation system must be equal to or greater than the number of endogenous variables in the equation in the model minus one. (Note 17) The description can be formulated as follows:

$(K - M) \leq (G - 1)$
Information:
K = number of variables in the model (endogenous and predetermined variables)
M = the number of endogenous and exogenous variables contained in the identified equation,
G = the number of equations in the model, which is equal to the number of endogenous variables in Model.
1. Based on the order conditions:
2. If (K–M) > (G–M) = then the equation is said to be said to be overidentified.
3. If (K – M) = (G – M) then the equation is said to be exactly / exactly identified.
4. If (K – M) < (G – M) then the equation is said to be unidentified (unidentified).

4. Results of Discussion

Surabaya City Government Financial Performance

The estimation results from the model that have been compiled are then tested based on economic, statistical and econometric criteria. From the results of the six blocks under study, the following are discussed in detail as follows:

a. Based on economic criteria, the parameter estimation results of each structural equation in the model compiled are as expected. This is indicated by the sign and the value of the parameter estimation to describe the relationship between endogenous variables and their explanatory variables. Based on this explanation, then statistical criteria are used to test the equations that have been compiled. The estimation results of the model also showed quite good results. The coefficient of determination (R^2) for each structural equation is between 0.73 and 0.99, except for the Non-Tax Profit Sharing Equation and the general allocation fund, which are 0.41 and 0 respectively. , 61. This shows that in general the explanatory variables used in this study are able to explain between 73 percent and 99 percent of the diversity of the endogenous variables.

b. The value of the F-test statistic that is generated to test whether the explanatory variables used have a significant effect on the endogenous variables are all less than 0.01. This means that the explanatory variables used in the model together have a significant effect on the endogenous variables. Statistical results of t-test to test whether an individual explanatory variable affects the endogenous variable or not. With an error rate of (a) up to 20 percent, it indicates that most individual explanatory variables have a significant effect on the endogenous variables. However, there are several explanatory variables in the model that do not statistically affect the endogenous variables. Based on the results of testing these parameter estimates, the model used in this study is quite good in explaining the behavior of economic variables on the finance and economy of the Surabaya City Government.

4.1 Fiscal Block Regional Revenue Original Regional Revenue

Original regional income comes from local taxes, levies, separated regional assets management, and other legitimate local revenue.

a. Local Tax

The results of the estimation of the regional tax revenue equation parameters are presented in Table 1 No. 1. It can be seen that local tax revenue in the Surabaya City Government is significantly influenced by the Gross Regional Domestic Product (GRDP).

The estimated parameter of GRDP is 0.007324 and has a positive relationship, which indicates that the increase in GRDP is Rp. 357 million has the potential to increase tax revenue for the Surabaya City Government by Rp. 7.33 million. This shows that the greater the economic capacity of a region, the greater the revenue received by the government in that area. This is reinforced by the business factor of the Surabaya City Government which has

become a business center and business center.

Table 1. Parameters of estimated results of regional tax revenue, regional original income, for taxes, for non-tax results, general allocation funds, employee expenditure, and household consumption, surabaya government 2017-2021

NO	Variable	Estimate Parameter	Prob > t	Information
1	Intercept	-3233481	0,4537	Estimation Results Parameters of the Equation of Local Tax Revenue Original Local Income.
	GRDP	0,007324	0,0053	GRDP = Gross Regional Domestic Product
	BL	60,28327	0,2892	Amount of BL=Business License
	TP	281,5803	0,5817	TP = Total Population (000 people)
	LT	0,318601	0,1936	Lag. T= Tax
				Adj-R^2 = 0,96832; F-Stat = 146,52; Pr > F = < 0,0001; DW = 1,970146
2	Intercept	-210423	0,7159	Estimation Results of Estimated Parameters of the Equation of Original Local Income
	GRDP	0,000134	0,2225	GRDP = Gross Regional Domestic Product (Million IDR)
	TP	34,81372	0,6170	TP = Total Population (000 people)
	LRET	0,559503	0,0194	Lag. RET = Regional Retribution
				Adj-R^2 = 0,96832; F-Stat = 146,52; Pr> F = <0,0001; DW = 1,970146
3	Intercept	-381604	0,3573	Results of Estimation Parameters of the Tax Profit Sharing Equation.
	PCC	4,976617	0,9487	PCC = Per Capita Consumption (000 IDR)
	NV	0,239028	0,2625	Number Of Motorized Vehicles (unit)
	LTPS	0,755666	0,0169	Lag. TPS = Tax Profit Sharing
				Adj-R2 = 0,96707; F-Stat = 181,25; Pr > F = < 0,0001; DW = 1,66267
4	Intercept	-14290,1	0,9599	Estimation of Non-Tax Profit Sharing Equation Parameters
	GRDP	0,000052	0,3891	GRDP = Gross Regional Domestic Product (Million IDR)
	TP	4,456293	0,8939	TP = Total Population (000 people)
	LTPS	0,517442	0,0231	Lag. TPS = Tax Profit Sharing
				Adj-R2 = 0,44813; F-Stat = 5,68; Pr > F = 0,0034; DW = 2,174885
5	Intercept	87091,78	0,2496	Estimation Results of the General Allocation Fund Equation Parameters.
	GRDPC	9,706076	0,2798	GRD per capita (000 IDR)
	FC	-0,04239	0,2375	Fiscal capacity (Million IDR)
	LGAF	0,751911	<0,0001	Lag. GAF = General Allocation Fund
				Adj-R2 = 0,64141; F-Stat = 11,28; Pr> F = < 0,0001; DW = 2,153374
6	Intercept	-1,034707	0,1997	Estimation Results of Employee Expenditure Equation Parameters.
	FC	0,246921	0,0326	Fiscal Capacity (Million IDR)
	NE	134996,3	0,2037	Number of employees (000 people)
	LES	0,356995	0,1647	Lag Employee Spending
				Adj-R2 = 0,97853; F-Stat = 276,34; Pr> F = < 0,0001; DW = 2,130631
7	Intercept	-44174,1	0,6527	Estimation Result Parameter Expenditure Equation.
	FC	0,064450	0,0880	Fiscal Capacity (Million IDR)
	LSG	0,966878	<,0001	Lag Shopping for Goods
				Adj-R2 = 0,98963; F-Stat = 741,62; Pr > F = < ,0001; DW = 2,838366
8	Intercept	-1,493706	0,6051	Estimation Result of Household Consumption Equation Parameters.
	DISP (GRDP-T)	0,411206	<0,0001	Disposable Income (Million IDR)
	PE	0,539245	0,7274	Personnel Expenditure (Million IDR)
	TP	849,9433	0,8012	Total Population (000 people)
	LC	0,323081	0,0177	Lag. C= Consumption
				Adj-R2 = 0,9990; F-Stat = 5099,77; Pr> F = < ,0001; DW = 2,150053

*Note: F-Stat = The F-statistic; Adj-R2 = Adjusted R-Square.

**Data source: Data processing by Researchers 17 August 2020

b. Regional Retribution

The results of the estimation of the parameters of the regional levy acceptance equation are presented in Table 1 No. 2. It can be seen that the local retribution receipts in the Surabaya City Government are below.

c. Balancing Fund

Apart from originating from local revenues, the Surabaya City Government also receives transfers of funds from the central government in the form of balance funds consisting of tax and non-tax revenue sharing and general allocation funds.mTax Profit Sharing The results of the estimation of the tax revenue sharing equation parameters are in Table 1 No. 3.

Non-Tax Profit

Sharing The estimation results of the non-tax profit sharing equation parameters are presented in Table 1 No. 4. It can be seen that the non-tax revenue sharing of the Surabaya City Government.

General Allocation Fund

The results of the estimation of the parameters of the general allocation funds equation are presented in Table 1 No. 5. It can be seen that the receipt of general allocation funds. Local capacities and needs usually will not change drastically over time. Apart from that, the relatively stable general allocation funds from time to time will also help the sustainability and certainty of development financing in a region. General Allocation Fund. See table 1 No. 5. Surabaya City Government Surabaya City Government 2017-2021.

4.2 Regional Expenditure Fiscal Block

The structure of regional government spending in this study blocks regional expenditures divided into personnel spending, goods and services expenditures and other expenditures.

a. Employee Spending

The results of the estimation of the employee expenditure equation parameters are presented in Table1 No. 6. It can be seen that the expenditure for employees of the Surabaya City Government is significantly influenced by the fiscal capacity and the number of employees owned by the Surabaya City Government. The estimated parameter of fiscal capacity is 0.246921 and has a positive relationship, which means that the increase in the financial capacity of the Surabaya City Government has the potential to increase expenditure for employees. Meanwhile, the estimated number of employees is 134996.3 and has a positive relationship, which means that an increase in the number of employees in the Surabaya City Government will increase spending to pay employees. This is understandable because each new employee recruitment must be followed by a budget to pay the employees.

b. Shopping for goods and services

The results of the estimation of the parameters for the goods and services expenditure equation are presented in Table 1 No. 7. It can be seen that the expenditure of goods and services by the Surabaya City Government. The estimated parameter of fiscal capacity is 0.064452 and has a positive relationship, which means that an increase in the financial capacity of the Surabaya City Government has the potential to increase spending on goods and services.

4.3 Block GRDP

In the economy, gross regional domestic product (GRDP) is very important because this indicator can be used to measure the economic condition of a region. In addition, GRDP is also an indicator that can be used to measure the economic growth of a country, region or region. In macroeconomic theory, GRDP is the identity equation of household consumption, investment, government spending, exports and imports.

a. Household Consumption

The results of the estimation of the total household consumption equation parameters are presented in Table 1 No. 8. It can be seen that the total household consumption is significantly influenced by disposable income and consumption in the previous year.

The estimated disposable income parameter is 0.411206 and has a positive relationship, which means that an increase in disposable income has the potential to increase its consumption value. From the value of these parameters, it can also be seen that the average city of Surabaya only spends about 41 percent of their disposable income for consumption.

b. Investation

The results of the estimation of the investment equation parameters are presented in Table 2 No. 9. It can be seen that the investment value in the Surabaya City Government is significantly affected by the GRDP and the amount of public savings stored in banks. The estimated parameter of GRDP is 0.253026 and has a positive relationship, which means that an increase in GRDP has the potential to increase the value of the investment that occurs.

The estimation results of these parameters also indicate that the greater the economic capacity of a region, it will encourage investment in that area. One of the sources of funds for investment is from banks, while the credit provided by banks is very much influenced by the amount of public savings they save.

The estimated parameter of public savings is 0.329854 and has a positive relationship, which means that the greater the public savings funds deposited in banks have the potential to increase the value of investment that occurs.

c. Government Expenditure

Even though the value is relatively small, government spending has a very important role in turning the economy in the Surabaya City Government. This is due to the participation of the government as a regulator and controller of all economic activities that occur, as well as distributing the required aspects to all levels of society. See Table 2 No. 10. Estimation Results of the Surabaya City Government Government Expenditure Equation Parameters for 2017-2021.

Surabaya City Government expenditure is influenced by the total expenditure budgeted in the regional expenditure budget. The estimated parameter of total expenditure is 2.530813 and has a positive relationship, which means that an increase in government spending has the potential to increase the role of government spending in the economy.

d. Export of Goods and Services

The results of the estimation of the export equation parameters are presented in Table 2 No. 11. It can be seen that the export value of the Surabaya City Government is significantly influenced by GRDP, the rupiah exchange rate against the US dollar and the export value of the previous year.

The estimated parameter of GRD is 0.313411 and has a positive relationship, which means that an increase in GRD has the potential to increase the value of exports of goods and services. The results of the estimation of these parameters also indicate that the greater the economic capacity of a region, it will boost the region's exports.

The estimated parameter of the rupiah exchange rate against the US dollar is 0.313411 and has a positive relationship, which means that the weakening of the rupiah exchange rate against the US dollar has the potential to increase the value of exports of goods and services. This occurs because the weakening of the rupiah against the dollar causes domestic goods to be cheaper than abroad, so producers tend to sell their goods abroad to get bigger profits.

e. Imports of Goods and Services

The results of the estimation of the import equation parameters are presented in Table 2. No. 12. In Table 12, the estimated GRD parameter is 0.56832 and has a positive relationship, which means that an increase in GRD has the potential to increase the value of imported goods and services. The estimation results of these parameters also indicate that the greater the economic capacity of a region, it will encourage imports of that region. This occurs because some products are highly dependent on imported goods, so that when demand increases, imports of raw materials will increase.

The estimated parameter of the rupiah exchange rate against the US dollar is 3249.55 and has a negative relationship, which means that the weakening of the rupiah exchange rate against the US dollar has the potential to reduce the value of imports of goods and services. This occurs because the weakening of the rupiah against the dollar causes domestic goods to be more expensive than abroad so that producers tend to sell their goods domestically to get bigger profits.

4.4 Block Inflation, Interest Rates and Exchange Ratesa

a. Consumer Price Index

The results of the estimation of the parameters of the Consumer Price Index (CPI) equation are presented in Table 2 No. 13. It can be seen that the CPI is significantly influenced by the money supply, the rupiah exchange rate against the United States dollar, and the retail price of fuel.

The estimated money supply parameter is 9.99×10^{-6} and has a positive relationship, which means that the increase in the money supply triggers an increase in the CPI and thus triggers inflation. Meanwhile, the estimated

parameter of the rupiah exchange rate against the US dollar is 0.001294 and has a positive relationship, which means that the weakening of the rupiah exchange rate against the US dollar can trigger inflation. This is because the weakening of the rupiah against the US dollar causes domestic prices to be more expensive than foreign goods, or in other words, domestic prices increase.

The estimation parameter for the retail price of Fuel oil is 0.002287 and has a positive relationship, which means that the increase in fuel prices can trigger an increase in the CPI and thus trigger inflation. This is because Fuel oil is one of the main energy sources for the business world, so that the increase in fuel prices will cause an increase in production costs.

As a result, the price of the product also tends to rise to cover production costs.

b. The Exchange Rate of Rupiah against United States Dollar

The results of the estimation of the parameter of the rupiah exchange rate equation against the US dollar are presented in Table 2 No. 14. In Table 14, the estimated inflation rate parameter is 51.78111 and has a positive relationship, which means that inflation can trigger a weakening of the rupiah exchange rate against the US dollar.

Table 2. Estimation results of parameters of the investment equation, government expenditure, exports of goods and services, imports of goods and services, consumer price index, and rupiah exchange rate against united states dollar surabaya city government 2017-2021

NO	Variable	Estimate Parameter	Prob> t	Information
9	Intercept	-9066592	0,4545	Estimation Results of Government Investment Equation Parameters
	GRD	0,253026	0,0005	GRD (Million Rp)
	IR	-57973,4	0,9275	Interest Rate (Percent)
		0,329854	0,0917	Public Savings (Million Rp)
	LI	0,128068	0,6133	Lag nvestation
				Adj-R2 = 0,9903; F-Stat = 480,35; Pr> F = <,0001; DW = 1,634143
10	Intercept	-1008995	0,7477	Estimation Results of Expenditure Equation Parameters
	TE Total Expenses	2,530813	<0,0001	Total expenditure (Million IDR)
				Adj-R2 = 0,81364; F-Stat = 58,63; Pr> F = < ,0001; DW = 0,335896
11	Intercept	-696127	0,8699	Results of the Estimated Parameters for Exports of Goods and Services
	GRD	0,313411	0,0006	GRD (Million Rp)
	ERAD	2962,680	0,0043	ERAD = The Exchange Rate of Rupiah against Dollars $
	LE	0,385694	0,0305	Lag Export
				Adj-R^2 = 0,99574; F-Stat = 1380,45; Pr > F = < ,0001; DW = 1,741443
12	Intercept	6943440	0,2626	Estimation Results of the Parameter of the Import of Goods and Services Equation
	GRD	0,56830	<,0001	GRD (Million Rp)
	ERAD	-3249,55	0,0208	ERAD = The Exchange Rate of IDR against Dollars $
				Adj-R^2 = 0,99142; F-Stat = 909,14; Pr> F = < ,0001; DW = 2,372878
13	Intercept	2,060536	0,0302	Estimation Results of the Consumer Price Index Equation Parameter.
	MS	9,99x10-06	0,0562	MS = Money Supply (Million Rupiah)
	ERAD	0,001294	<0,0001	ERAD = The Exchange Rate of Rupiah against Dollars $
	RPFO	0,002287	0,0002	RPFO = Retail Price of Fuel Oil (IDR0.
	BET	0,003272	0,4654=3	BET = Basic Electricity Tariff
	L CPI	0,675463	<0,0001	Lag CPI = Consumer Price Index
				Adj-R2 = 0,9975; F-Stat = 2950,32; Pr > F = < ,0001; DW = 1,700095
14	Intercept	20,30756	0,9605	Estimation Results of the Equation Parameter for the Rupiah Exchange Rate against the US Dollar.
	FER	-0,00195	0,8612	FER = Foreign exchange reserves (Million US $).
				Inflation rate
	INF	51,78110	0,0010	(Percent)
	LERAD	0,966386	<0,0001	LagERAD = The Exchange Rate of Rupiah against Dollars
				Adj-R2 = 0,92794; F-Stat = 116,88; Pr > F = < ,0001; DW = 2,258540

*Note: F-Stat = The F-statistic; Adj-R2 = Adjusted R-Square.

**Data source: Data processing by Researchers 17 August 2020

c. Money Supply

The results of the estimation of the money supply equation parameters are presented in Table 3 No. 15. It can be seen that the money supply in the Surabaya City Government in 2017-2021 is influenced by the real GRD of the City of Surabaya.

The estimated parameter of real GRDP is 0.0037106 and has a positive relationship, which means that an increase in real GRDP can trigger an increase in the money supply. This is due to the increase in GDP, which means that an increase in economic capacity will require more money, so that the money supply also increases.

5. HDI Block, Poverty, and Length of Schooling

a. Human Development Index

The results of the estimation of the parameters for the human development index (HDI) equation are presented in Table 3 No. 16. It can be seen that the HDI in Surabaya is influenced by the average length of schooling.

The estimated parameter of average length of schooling is 2.203457 and has a positive relationship, which means that an increase in the average length of schooling will increase the HDI. This is because the average length of schooling is one component of the HDI calculation.

b. Number of Poor Population

The results of the estimation of the parameter of the equation for the number of poor people are presented in Table 3 No 17. It can be seen that the number of poor people in the city of Surabaya is influenced by the inflation rate and the number of poor people in the previous year.

The estimated inflation rate parameter is 0.861547 and has a positive relationship, which means that inflation will trigger an increase in the number of poor people. This is because if there is inflation, the real income of the community will decrease, so that people who are slightly above the poverty line can fall into poverty.

c. Average Length of Schooling

The results of the estimation of the parameter equation for the average length of schooling are presented in Table 3 No. 18. It can be seen that the average length of schooling for residents of Surabaya City is 0.933656. This can happen as people's income improves, in addition to the tendency for parents to want their children to have a better education than them.

d. Labor Absorption

The results of the estimation of the parameter of the equation for the number of workers are presented in Table 3 No. 19. It can be seen that the number of workers in the Surabaya City Government is 0.933656. This is influenced by the real GRDP. The measurement standard with the estimated real GRDP parameter has a positive relationship with the amount of labor absorbed. Where an increasing economy will be followed by rapid workforce growth. This implies that an increase in real GDP will increase the amount of labor absorbed. This is because the increase in economic capacity will require more labor. This absorption is a positive aspect in itself when viewed from the standard measurement of the estimated GRDP parameters.

Table 3. Estimated results of the government of surabaya city government estimated amount of money equation, human development index, number of poor populations, school average, and manpower absorption of surabaya city government, 2017-2021

NO	Variable	EstimateParameter	Prob > t	Information
15	Intercept	-991728	<0,0001	Estimation Result of Parameter of Amount of Money Equation.
	AGRDP	0,0037106	<0,0001	Average Gross Regional Domestic Product
	BIC	-3691,86	0,4658	BIC= Bank Indonesia Certificate
				Real GRDP (Million IDR)
				Adj-R2 = 0,97658; F-Stat = 320,65; Pr > F =
16	Intercept	43,99171	<0,0001	Estimation Results of Human Development Index Equation Parameters
	ASE	2,203457	<0,0001	ASE = Average School Entry (year)
	PMW	0,006164	0,2326	PMW = Provincial Minimum Wages
				(000 IDR)
				Adj-R2 = 0,72955; F-Stat = 32,01; Pr > F = < ,0001; DW = 0,166576
17	Intercept	133,8098	0,0173	Results of Estimation Parameters for the Equation of the Number of Poor People
	GRDPC	-0,00011	0,6811	Gross Regional Domestic Product Per Capita (000 IDR)
	INF	0,861547	0,1788	Inflation rate (Percent)
	LNPP	0,625289	0,0003	LagNPP = Number of Poor Population
				Adj-R2 = 0,71214; F-Stat = 15,94; Pr> F = < ,0001; DW = 1,696704
18	Intercept	0,652145	0,2104	Estimation Results of Parameters for the Equation of Average Years of Schooling.
	GRDPC	3,54E-06	0,4706	Gross Regional Domestic Product Per Capita (000 IDR)
	LASE	0,933656	<0,0001	Lag ASE = Average School Entry
				Adj-R2 = 0,98482; F-Stat = 498,23; Pr> F = < ,0001; DW = 2,944845
19	Intercept	100,8531	0,4130	Estimation Results of Labor Absorption Equation Parameters.
	AGRDP	781,521.2	0,0747	GRDP = Gross Regional Domestic Product
				Real (Million IDR)
	LL	0,718245	0,0002	Lag. L= Labor
				Adj-R2 = 0,96269; F-Stat = 198,81; Pr> F = < ,0001; DW = 2,6218

*Note: F-Stat = The F-statistic; Adj-R2 = Adjusted R-Square.

**Data source: Data processing by Researchers 17 August 2020.

FISCAL POTENTIAL PROJECTIONS

Based on the calculations and models described in the previous description, the results of the projected fiscal potential of the Surabaya City Government for 2017-2021 can be described as in the following table.

Table 4. Basic value of proposal variables of endogen the government of Surabaya city in 2017-2021

No	Endogenous	Information	2017	2018	2019	2020	2021
1.	LGR	LGR = Locally-Generated Revenue (Billion IDR)	15,709	16,712	17.193	18.732	19.213
2.	FC	FC = Fiscal Capacity (Billion IDR)	20,578	22,828	23,528	32,228	40,828
3.	TR	TR = Total Revenue PDRB (Billion IDR)	31,321	32,821	34,821	35,821	42,821
4.	Fiscal Gap	CelahFiskal (Billion IDR)	6,875	7,921	8,213	8,652	9,134
5.	TE	TE = Total Expenses (Billion IDR)	30,293	34,372	35,723	40,213	43,672
6.	GRDP	GRDP = Gross Regional Domestic Product (Billion IDR)	954,714.48	1, 187,333.1	1,413,241.2	1,735.423.2	1,462.352.2
7.	AGRDP	AGRDP = Average Gross Regional Domestic ProductReal (Billion IDR)	781,521.2	98,324.5	1.016,123.12	1,217,212.2	1,391,821.1
8.	*EG*	*EG= Economic Growth* (Percent)	5.45	6.72	6.52	6.63	6.67
9.	INF	INF = Inflation Inflation Rate (Percent)	4.32	5,15	5.32	5.47	5.58

Source: Processed data by Researchers 20 August 2020.

The data in Table 4 is the result of economic projections without any policy intervention, either by the Central Government or the City Government of Surabaya. Thus it can be said that the economic condition is a non-policy condition or a Business As Usual condition.

The results of the analysis show that the economic conditions of the Surabaya City Government in 2017-2021 tend to improve. This can be seen from the development of several factors, including: Local Own Revenue, Fiscal Capacity, Total Revenue, GRDP, Economic Growth tends to increase, as described below:

1. Local Own Revenue tends to continue to increase. In 2017 the Surabaya City Government reached Rp. 15.709 trillion and in 2021 it will increase to Rp. 19,213 trillion. This shows that the City Government of Surabya has quite good potential in managing its revenue.

2. The GRDP of Surabaya City reached Rp. 954,714.48 billion and in 2021 it will increase to Rp. 1.391 trillion. This indicates that the economic growth of Surabaya City continues to be sustainable. This means that the policies taken by the Surabaya Government must be pro-growth so that the economy remains in quality and is able to bring maximum benefits to the people of Surabaya.

3. The economic growth of Surabaya City for the 2017-2021 period shows quite good growth. Economic growth in 2017 is estimated to grow in the range of 5.45 percent, while in 2021 economic growth will reach 6.67 percent.

4. Inflation turns out that the Surabaya City Government continues to increase. In 2017 it was only 4.32 percent but in 2021 inflation is estimated to reach 5.58 percent. Of course, this requires holistic management so that inflation in the City of Surabya can be managed properly so that the ever-increasing economic growth is not eroded by rising inflation.

5. In 2017 the Fiscal Capacity of Surabya City only amounted to Rp. 20.578 trillion while the projection for 2021 increases to Rp. 40.828 trillion. This shows that the fiscal potential of the Surabya City Government is very pro towards growth.

6. In 2017, the total revenue of Surabya City amounted to Rp. 31.321 trillion while the projection for 2021 will increase to Rp. 42.821 trillion. This shows that the revenue management in the City Government of Surabya is very smart in taking advantage of the moment of economic growth.

7. In 2017 the total expenditure of the City Government of Surabya reached Rp. 30.293 trillion, while the projection for 2021 will increase to Rp. 43,672 trillion.Fiscal Gap in the City of Surabya for the 2017-2021 period also shows an improved performance in 2017 Rp. 6.875 trillion and will increase in 2021 to Rp. 9,134 trillion because in 2021 the gap is projected to decrease when compared to 2020. This shows that the revenue performance earned by the Surabaya City Government has increased.

6. Conclusions and Suggestions

Conclusion

1. Fiscal decentralization in the City Government of Surabaya has been effective and efficient, this can be seen in the 2017-2021 economic growth.

2. Fiscal decentralization in the Surabaya City Government has been able to improve community welfare. This is indicated by the total revenue received by the Surabaya city government which continues to increase.

Suggestion

1. The economic growth of the Surabaya City Government in 2017-2021 shows a fairly good performance. However, in terms of inflation, it also continues to show improvement. For this reason, it is recommended that inflation control should be carried out through various policies.

2. In order for the fiscal capacity of Surabaya City to continue to grow well, it is suggested that the formulation of regional expenditure policies be directed at activities that can increase economic growth and improve the welfare of the community.

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