UDC 332

THE EFFECT OF MACROECONOMIC VARIABLES ON PUBLIC SAVINGS AT COMMERCIAL BANKS IN BADUNG REGENCY, INDONESIA

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ABSTRACT

Public savings can be a source of funding for businesses if they are redistributed in the form of credit, so that they can encourage growth in the real sector which has a positive impact on economic growth. Badung Regency is the center of tourism in Bali Province so that the economy is growing rapidly from year to year and has a high population. The purpose of the study was to analyze the relationship between macroeconomic variables, namely the Inflation Rate, GRDP, BI Rate on Public Savings in Commercial Banks. The study used annual data from 1990-2020 and used multiple linear regression analysis methods and processed using the E-views program. The results of the analysis show that simultaneously the Inflation Rate, GRDP, BI Rate affect Public Savings in Commercial Banks. The partial test of GRDP and BI Rate has a significant positive effect, while the Inflation has no significant effect on Public Savings in Commercial Banks. The results of the study indicate that GRDP has the most dominant influence among the macroeconomic variables in the study that affect Public Savings in Commercial Banks.

KEY WORDS
GRDP, public saving, inflation rate, bi rate, commercial banks.

Robert Solow argues that economic growth is influenced by labor, technology, and capital factors (Jhingan, 2018: 280). Public savings are capital that is not used for investment and can be a source of funding for businesses if redistributed in the form of credit, so that it can encourage real sector growth which has a positive impact on economic growth (Yudiana et al., 2019). According to Harrod Domar, to support economic growth, new investments are needed as capital stock. The more savings that are then invested, the faster economic growth occurs (Todaro, 1993:65-66). There is regulation and monitoring based on the functions of Bank Indonesia such as the determination of the BI Rate as a reference for interest rates set by Commercial Banks to operate. According to the Classical Public *Savings* in banking can also be influenced by macroeconomic variables. Macroeconomic variables are variables in the economy that discuss economic mechanisms within a country's economic structu re (Dornbusch et al., 2004). In the economy, the macroeconomic variables that can affect public savings are the inflation rate and the bi rate. According to research by Lailatuniyar (2017), the BI Rate has a significant positive effect on the amount of deposits at commercial banks. Meanwhile, the BI Rate simultaneously has a significant effect on the amount of deposits at commercial banks. In line with the research of Ranchman et al. (2013) stated that the BI Rate has a significant effect on the amount of public savings. According to research by Bastari (2015), the BI Rate has a significant positive effect on deposits in banks. When the BI Rate increases, it will be followed by an increase in interest rates for savings and time deposits at banks. The high interest of customers to save is influenced by high interest rates, so that customers generally invest their funds in banks. El-Seoud's research (2014) shows GDP has a positive effect on national saving in the short term and is significant at the 5 percent level in the long term but the effect in the long term is positive but not significant. Research conducted by Hallaq (2003) shows that GDP has a significant positive effect on private savings. While the research of Ozioma et al. (2016) found that GDP per capita has a significant negative effect on private savings in the long term and insignificant in the short term. research by Ahmad and Mahmood (2013) shows that the inflation variable has a significant negative effect on savings in Pakistan. with research by El-Seoud (2014)

showing the inflation rate has a positive and significant effect on the national saving rate in both the long and short term. Then research by Larbi (2013) shows that the inflation rate has a positive and significant effect on personal savings. Based on the description above, this research is limited to the Influence of Inflation Rate, GRDP, and BI Rate on Public Savings at Commercial Banks in Badung Regency in 1990-2020. The results in this study also support the theories used in this study such as the savings theory by Classics and Keynes about interest rates and national income can affect a savings.

HYPOTHESIS DEVELOPMENT

Keynes's theory is known as the Liquidity of Preference theory which explains people's behavior in holding money (Boediono, 1994:27). According to Keynes, the need for money is not only for regular needs for money, such as conducting transactions (Yuliadi, 2008: 53). Keynes stated in his analysis that a person holds money because he has three motives, namely holding money for transactions, in economic activities the role of money is very important to carry out economic activities such as buying and selling activities or in other words transactions. Public savings are a manifestation of a person's motive for holding money which is carried out for precautionary purposes. According to Keynes, having money on hand just in case provides a sense of security against unexpected bills, for example for medical expenses and sudden repairs. Keynes believed that the amount of demand for money was basically determined by the expected level of transactions in the future (Lestari, 2018:13). Keynes considered the demand for money as a precaution is also a reflection of the uncertainty regarding income and expenditure (Priscylia, 2014).

According to the BPS Indonesia (2014) saving is the difference between income and expenditure where this difference is called savings if someone chooses to save or not use it for expenses or transactions. According to Samuelson and Norhaus (1997:327) Savings is a part of people's income that is chosen not to be consumed and then stored and used for the future. According to Simorangkir (2014:79) Savings are said to be deposits of third party funds to banks where withdrawals are only made depending on the terms that have been agreed upon by both parties, namely between the bank and the customer. The theory of the model developed by Harrod-Domar in Arsyad (2010: 82-87) states that in an economy without taking into account the foreign sector, investment is said to be a function of savings (I = S). to make investments. Furthermore, increased investment adds more capital and through a multiplier process results in a higher rate of economic growth and an increase in per capita income. Furthermore, higher incomes can increase savings. Savings allow for investment, where investment will increase the production capacity of the economy. This process of capital formation goes through stages (Jhingan, 2000:47).

The concept of this study is to analyze several factors that affect public savings at commercial banks in Badung Regency. The hypotheses of the theories used to support the research are:

H1: Inflation, GRDP, and BI Rate simultaneously have a significant effect on Public Savings at Commercial Banks in Badung Regency in 1990-2020.

H2: Inflation Rate has a negative effect on Public Savings at Commercial Banks in Badung Regency in 1990-2020.

Keynes's theory of money demand states that inflation has a negative effect on saving. When inflation occurs, the prices of goods and services in general will increase, increasing the demand for money for transactions by consumers. Whereas in the short term people's income is considered not to increase, then consumption to meet consumer needs will use the money saved in this case will reduce the level of savings (Anwar & Andria, 2016). Inflation can increase the saving rate because of the impetus to spend on durable goods so that it will reduce the saving rate. When inflation increases, it will increase the demand for consumption, causing savings to decrease because it is used for consumption (Fitri et al., 2014). On the investment side, the inflation rate that occurs will ultimately affect interest rates. when inflation occurs, the central bank advises financial institutions to reduce lending (credit) to cool the hot economy (Hadi and Romli, 2020). So that inflation will have an impact

on domestic investment where due to changes in the ability of the community to buy goods produced (Hadi and Romli, 2020).

H3: GRDP has a positive effect on Public Savings at Commercial Banks in Badung Regency in 1990-2020.

Keynes's theory states that saving is a function of income, and saving is determined by national or regional income (Muhklis and Irwanto, 2012). Keynes associates GRDP with a positive effect on the saving rate. GRDP is used as a measure of the welfare of a country, the higher the average income of a country's population, the higher the welfare of society, increased productivity, and stability of economic growth. The higher the standard of living of the people, the people no longer use their income only to consume goods and services, but some people choose their income to be saved either in time deposits or other forms of savings. (Anwar and Andria, 2016).

H4: The BI Rate has a positive effect on Public Savings at Commercial Banks in Badung Regency in 1990-2020.

Theory, saving is a function of interest rates, that the higher the interest rate, the higher the public's desire to save, meaning that at a higher interest rate, people will be more motivated to sacrifice consumption in order to increase savings (Nopirin, 1992: 125). While investors will look for more loan funds at lower interest rates (Nopirin, 1988:75). By lowering the BI rate, commercial banks will adjust to lower interest rates and can directly reduce the number of deposits because people tend to choose to spend their money or vice versa to borrow money from banks to invest.

H5: GRDP has the most dominant influence affecting Public Savings at Commercial Banks in Badung Regency in 1990-2020.

METHODS OF RESEARCH

This study includes an analysis of the influence of macroeconomic variables, namely inflation rate,GRDP, and BI Rate on Public Savings at Commercial Banks in Badung Regency. Community Savings data in the study is all forms of Savings, namely current Savings, Savings deposits, and savings deposits in commercial banks in Badung Regency. The choice of Badung Regency as a research location because Badung Regency has a strong economic development and a large population so that the potential for high savings. The object in the study is the development of public savings in commercial banks in Kabupeten Badung period 1990-2020 as a bound variable as well as macroeconomic variables namely inflation rate, GRDP, BI Rate in Badung Regency period 1990-2020 as a free variable.

Deposits at Commercial Banks is the amount of money that people save on Commercial Banks in Badung Regency. The size used in billions of rupiah. Inflation rate is the magnitude of the increase in the price of goods in general or changes in the price of goods tend to rise in one year in badung regency. The size used in percent units. GRDP is the amount of gross regional domestic product produced by Badung Regency every year. The size used in units of Billion Rupiah. BI Rate is the amount of policy interest rate set by Bank Indonesia. The size used in percent units.

This research uses quantitative data obtained from related agencies or bodies regarding variables of Inflation Rate, GRDP, BI Rate, and Public Savings at Commercial Banks. Qualitative data in this study is a theory, statements about the variables related to this study. The study will use secondary data sources. Secondary data in this study is quoted from the publication of relevant agencies or agencies such as the Indonesian Central Statistics Agency, Bali provincial statistics agency, Badung regency statistics agency, regional financial services authority 8 Bali and Nusa Tenggara, and Bank Indonesia.

The data used in this study is from 1990 to 2020 so that the number of observation years is thirty-one years multiplied by four variables used so that the data numbers 124. In this study, data collection was done with non-behavioral observation techniques, namely observations or observations by not involving themselves in primary data collection. In this study researchers were only involved as independent observers. Data is collected by

studying documents and records related to research conducted (Sugiyono, 2009: 204).

The study used multiple linear regression analysis techniques to analyze the variable relationship of inflation rate, GRDP, and BI Rate to public Savings at Commercial Banks in Badung Regency simultaneously and partially and analyzed the free variables that most dominantly affect public Savings in Badung Regency. In the study conducted a classical assumption test with the aim to ensure the feasibility of the model made is valid and does not violate the assumptions of the smallest square method, namely BLUE (Best, Linear, Unbias Estimator). In the classical assumption test will be used the following test: Normality test; Multicollinerity Test; Autocorrelation Test; Test heteroskedastisity.

RESULTS AND DISCUSSION

The research was conducted with annual data from 1990-2020 so that the number of data observed for each variable was 30 data. In the study of multiple linear regression analysis, the E-views program was used. the following is the result of multiple linear regression analysis.

Table 1 – Multiple Linear Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.970139	2.302427	-3.027301	0.0054
X1	0.010976	0.010248	1.071038	0.2936
X2	1.196224	0.113992	10.49390	0.0000
X3	0.069564	0.030178	2.305156	0.0291
R-squared	0.927284	Mean dependent var		21.18032
Adjusted R-squared	0.919204	S.D. dependent var		2.408673
S.E. of regression	0.684656	Akaike info criterion		2.200115
Sum squared resid	12.65637	Schwarz criterion		2.385146
Log likelihood	-30.10179	Hannan-Quinn criter.		2.260431
F-statistic	114.7685	Durbin-Watson stat		1.248224
Prob(F-statistic)	0.000000			

Source: Secondary Data, 2021.

Based on table 1, the results of the F test are obtained by looking at the Fcount value of 114.768 and the probability of 0.000. When compared with Ftable of 2.99 and (0.05) it can be concluded that Fcount (114.768) > Ftable (2.99) and probability value (0.000) < (0.05) then H1 is accepted and shows that the Inflation Rate, GRDP, and BI Rate simultaneously have a significant effect on the Public Savings variable at Commercial Banks in Badung Regency in 1990-2020. The Adjusted r-square value of 0.919 means that the variance of the public savings variable at commercial banks can be explained by the Inflation Rate, GRDP, BI Rate of 92 percent and the remaining 8 percent is explained by other variables outside the research model. Based on table 1, it can also be seen that the results of the t-test are as follows: The results of testing the inflation rate variable (X1) on public savings at commercial banks (Y) in Badung Regency in 1990-2020 can be seen from the t-statistic of X1 which shows the t value -statistic (1.071) < t-table (1.697) with a probability value of 0.29 > 0.05 (α=5 percent) it can be concluded that H2 is rejected and shows the inflation rate (X1) partially has no effect on public savings in commercial bank (Y) in Badung Regency 1990-2020. These results indicate that the inflation rate (X1) cannot directly affect public savings at commercial banks (Y) in Badung Regency in 1990-2020. The results of testing the GRDP variable (X2) on public savings at commercial banks (Y) in Badung Regency in 1990-2020 which are seen in the t-statistics of X2 show the t-statistic value (10.493) > t-table (1.697)

with a probability value of 0.000 < 0.05 (α=5 percent) then it can be concluded that H3 is accepted and shows that GRDP (X2) has a significant positive effect on public savings at commercial banks (Y) in Badung Regency in 1990-2020. The results indicate that if there is an increase in GRDP (X2), it will increase public savings at commercial banks (Y) in Badung Regency in 1990-2020. The coefficient value of 1.196 means that an increase in GRDP (X2) by one million will increase public savings in commercial banks (Y) by 11.96 percent.

The results of testing the BI Rate variable (X3) on public savings at commercial banks (Y) in Badung Regency in 1990-2020 which are seen in the t-statistics of X3 show the t-statistic value (2.305) > t-table (1.697) with a probability value of 0.029 < 0.05 (α = 5 percent) then the conclusion is that H4 is accepted and shows the BI Rate (X3) has a significant positive effect on public savings at commercial banks (Y) in Badung Regency in 1990-2020. The results indicate that an increase in the BI Rate (X3) will increase public savings at commercial banks (Y) in Badung Regency in 1990-2020. The coefficient value of 0.069 means that an increase in the BI Rate (X3) by one percent will increase public savings at commercial banks (Y) by 0.69 percent (0.069 x 100 percent).

Table 1 shows the coefficient value of each independent variable which can be seen with the variable with the highest beta coefficient, namely the GRDP (X2) variable with a beta coefficient value of 1.196 so that it can be concluded that H5 is accepted, which is 119.6 percent of the GRDP variable affecting the Community Savings variable at the Bank. General (Y) in Badung Regency 1990-2020.
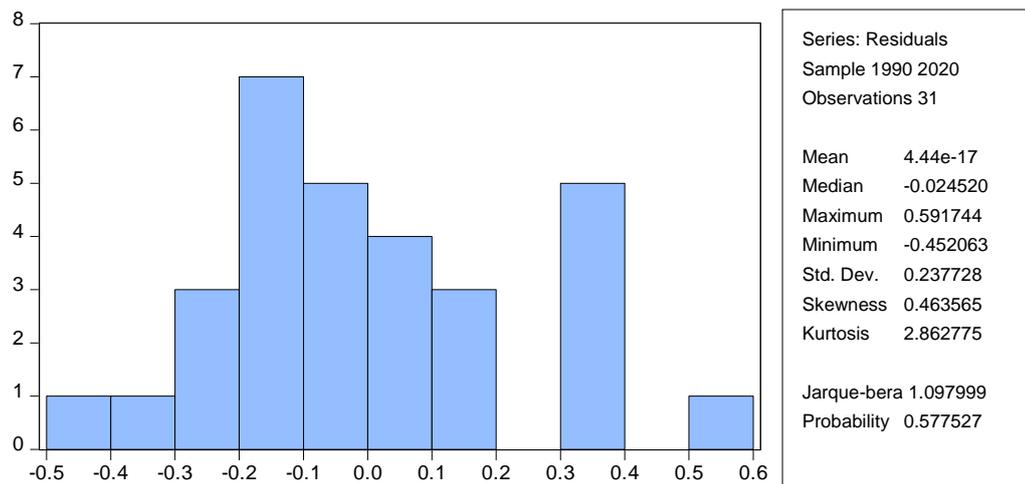

Figure 1 – Normality Test Results (Source: Secondary Data, 2021)

Normality test is used to test whether the data distribution is normal or not. In this study, normality testing was carried out using the Jarque-Berra method. The normality test using Jarque-Berra obtained the results shown from the Jarque-Berra probability value as shown in Figure 1. It can be seen that the Jarque-Berra probability value of 0.577527 is greater than the real level used, which is 0.05 percent (α = 5 percent) so it can be concluded that the data used is normally distributed.

Table 2 – Multicollinearity Test Results

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.003029	1.441377	NA
X1	5.31E-05	8.120060	8.115951
X2	0.027696	1.891389	1.349995
X3	0.000413	8.374023	8.316687

Source: Secondary Data, 2021.

Multicollinearity test aims to test whether there is a correlation between the independent variables in the regression model. To detect whether or not there is a correlation between the independent variables, it can be seen from the tolerance value and the value of the variance inflation factor (VIF). If the VIF value is less than 10, it means that there is no multicollinearity. Based on the test results, it is known that the centered VIF value of each variable is less than 10, so it can be said that there is no correlation between the independent variables or has passed the multicollinearity test.

Table 3 – Heteroscedasticity Test Results

Heteroscedasticity Test: White			
F-statistic	0.592546	Prob. F(9,20)	0.7882
Obs*R-squared	6.315401	Prob. Chi-Square(9)	0.7080
Scaled explained SS	4.418100	Prob. Chi-Square(9)	0.8818

Source: Secondary Data, 2021.

Heteroscedasticity testing in this study was carried out with the white test. The presence or absence of heteroscedasticity can be determined from the probability value of Obs*R-square which will be compared with the level of significance. If the significance probability value is above 0.05, it can be concluded that there is no heteroscedasticity. Based on the test results, it is known that the probability value of Obs*R-square is 0.7080. This is in accordance with the white test criteria that the test results have a probability value of Obs*R-square greater than the significance (0.70802>0.05). So it can be concluded that the data does not have a heteroscedasticity problem because in accordance with the provisions it exceeds the significant level.

Table 4 – Autocorrelation Test Results

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	2.239683	Prob. F(2,24)	0.1283
Obs*R-squared	4.718538	Prob. Chi-Square(2)	0.0945

Source: Secondary Data, 2021.

Autocorrelation test is used to determine whether a linear regression model has a residual correlation between observation periods. The autocorrelation test in this study uses the Lagrange Multiplier test with the test criteria if the prob value. Chi-square is greater than 0.05, so the model can be said to have no residual correlation between observation periods.

CONCLUSION

In this study, it was found that the Inflation Rate, GRDP, and BI Rate had a significant effect simultaneously on Public Savings at Commercial Banks in Badung Regency in 1990-2020. While partially the Inflation Rate has no influence on Public Savings on Commercial Banks in Badung Regency in 1990-2020. Partially the variables of GRDP and BI *Rate* have a positive and significant effect on Public Saving at Commercial Banks in Badung Regency in 1990-2020. The results also showed that GRDP is a variable has the most dominant influence that affect Public Saving in Commercial Banks in Badung Regency in 1990-2020.

Based on the results of the analysis and conclusions above, it can be submitted some suggestions as follows: Bank Indonesia is expected to control saving and loans by taking into account well the amount of the benchmark interest rate set in accordance with the desired economic target to maintain the stability of banking conditions. The government is expected to determine the right policy to increase GRDP in hopes of raising deposits that can be re-channeled by banks for investment purposes. Commercial Bank is expected in doing its business, namely collecting and distributing funds and setting interest always following the policy of the government in this case, namely Bank Indonesia as a monetary authority so that the desired stability in the banking side and does not have an impact on the country's economy. People in this case as customers or third parties in banking. It is expected to

carefully look at the banking situation and economic conditions to determine the funds held will be stored or used for consumption and the public is expected to seek and learn information about banking, especially from the government and Bank Indonesia for the purpose of banking stability and has no impact on the country's economy.

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