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THE IMPACT OF CONSUMPTION AND INFLATION ON SAVING

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Abstract--*The objective of this study is to scrutinize an association between inflation, consumption and saving in Malaysia. The Data was collected and retrieved from www.bursamalaysia.com, Bank Negara and Statistic Department cover from period of 1990 to 2018. Throughout, this study uses multiple linear regressions to run the dependent variable saving with its independent variables. The result shows a statistically significant relationship between the inflation, consumption and saving.*

Index Terms--*inflation, consumption, saving.*

I. INTRODUCTION

Saving have played the important role in the economic growth. When savings are becoming the most significant constituents in order to finance the investment of our country. It's because saving will help our nation to increase their degree of productivity. Therefore, it would be important to await at the determinants of people's saving to fully understand economic development. Saving can be derived as an amount of current income, which is not spent on current consumption, but reserved for use in the future. In its simplest form, saving is usually in cash or other bank deposits.

Christopher (2006) found that consumption and saving decisions are having relationship, both short-run and long-run macroeconomic analysis. Roy (1992) have been discovering that saving behaviour are having related with level of debt. The higher debt will reduce their saving.

A review study on "Savings by and for the Poor: A Research Review and Agenda" by Karlan, Ratan, & Zinman (2014) indicates that savings mobilization is critical for individual and societal welfare. At the individual level, savings help household's smooth consumption and finance productive investments in human and business capital. Saving is one of the important things that should be concerned by consumer and government.

In addition, saving can be used during peak situation such as during inflation time. Jilani (2013) has been found that inflation is no significant relationship with a saving. Hallaq (2003) analyzed and examined the determinants of saving in Jordan during the period (1976-2000) found that inflation rate have insignificant impact on the level of saving during the study period. Hence, objective of this study is to identify the relationships between consumption, inflation with saving by in Malaysia.

The reminder of paper is organized as follows. Next section reviews the past studies related to the monetary policy and inflation and then followed by hypothesis development. Next, presents the data and methodology used.

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In the following section, this study discusses the results. Finally, concludes the paper and highlights the policy implications.

II. LITERATURE REVIEW

Research done by Mohamed Sayed (2014) examines the relation between inflation and saving have a significant effect on each other. Inflation brings about uncertainty in future income streams and can therefore contribute to higher saving on precautionary grounds. This may be especially true for families in developing countries whose income prospects are a good deal more uncertain than their counterparts in the developed countries. A rising prices could influence savings through its impact on real wealth. If consumers attempt to hold a target level of wealth or liquid assets relative to income, savings will climb up with rising prices. Consistent to the finding, Christopher D. Carroll (2006) found that a relationship between the consumption and saving supporting that a decreasing the inflation can increase the saving.

Arce, Prades, and Urtasun (2013) indicated declines in income mostly by sharp falls in saving and, on the contrary, by increases in household nominal consumption. According to Deaton, A. (1977) found a consumption has a relation to fundamental saving. Contradicted with Gylfason (1981), has investigated the relationship between inflation, consumption and saving in the United States. The findings show a significant correlation between consumption and saving.

Then, Cottarelli, and Blejer, (1992). with their research the relationship between forced saving and repressed inflation in the Soviet Union. The study utilized ANOVA and Pearson correlation analyses for empirical investigation. The relationship between inflation and saving is when the price rise that ultimately leads to an impact on the saving rate.

Next, Heer, and Süssmuth (2009) examines the relation foreign inflation with saving in Unites States. Empirical results indicated a considerable negative effect of inflation on savings in Unites States during the study period.

Williams, and Defris (1981) with their studies on the role of inflation and consumer sentiment in explaining Australian consumption and savings patterns. The study indicates the relationship between consumption and inflation have found significant long run effect with saving. Davidson and MacKinnon, (1983) with their study inflation and the savings rate. The study indicated the positive relationship between inflation rates and savings rates in Canada and the United States. The findings shows rise of the inflation rate as this will turn lead a increase the saving rate.

Antonio, Paolo and Bhaskara (2012) with their studies on US inflation and consumption: A long-term perspective with a level shift shows that the examines the existence and stability of the consumption function in the United States of America. They also said that inflation have a long run relationship with consumption in US.

Ahmed Shaikh and Salman. (2012) examines the relation between the consumption and inflation with saving in Pakistan. The study found that a negative correlation between inflation and consumption and saving.

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Raut and Virmani (1989) with the studies of determinants of consumption and savings behavior in developing countries which is they found that inflation is more effective to consumption and has a significant negative impact towards saving.

Koskela, and Viren (1985) with their studies anticipated versus 'surprise' inflation in household consumption behavior. Empirical results indicated that a rise in inflation does decrease consumption and increase saving.

Lawrence (2009) had utilizing a sample of 359 teachers, entrepreneurs and farmers in Kenya, indicated the relationship between saving and consumption using Ordinary Least Squares (OLS) and by two way fixed effects models of regressions. The results show a relationship between consumption and saving.

In broadest sample, Rossi, N. (1989) dissect the impact of consumption with saving used the annual data for the developing countries. They found that that there is a negative relationship between consumption and saving. An increase in consumption makes the saving goes down. According to the results, the consumption affect the saving in the negative direction.

Therefore, from the issue raised by previous study, the hypotheses developed for the current study are as follows:

Hypothesis 1:-.

There is a relationship between inflation, consumption, and saving.

Hypothesis 2:-

There is a significant impact between inflation, consumption, and saving.

III. DATA AND METHODOLOGY

The purpose of this study, is to study and analyze the role and efficiency of monetary policy in controlling inflation in Malaysia. Specifically, the study will focus on two primary objectives: 1. To examine the significant impact of monetary policy and inflation in Malaysia. 2. To determine the relationship between monetary policy and inflation in Malaysia.. The sample size in this study consists of inflation, exchange rate, money supply and interest rate for period from 1995 to 2018 on a quarterly basis. The data was collected from Department Statistics, Bursa Malaysia and Bank Negara. There are two main variables as shown in table 1 below:

Table 1: Dependent and independent variables

Variables
Dependent
Inflation
Consumption
Independent
Saving

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This research study is to test the relationship between energy firms' performance and liquidity, thus, multiple regression model was applied.

The multiple regression equations can be represented as follows:

$$Sav_{it=} \alpha + \beta_1 CON_{1it} + \beta_2 INF_{2it} + \varepsilon_{it}$$

IV. RESULTS AND DISCUSSION

Descriptive Statistics Results

The minimum level of consumption and inflation can be seen quite tally with the saving whereby all the values shown in positive in range of 0.30 to 41.56 respectively. However, looking the maximum value, mean as well as standard deviations indicate that all figures have shown in positive values.

Table 2: The Descriptive Statistics Results

	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
SAVING	27	22.83	39.85	33.2093	.84853	4.56945
CONSUMPTION	27	41.56	55.36	48.0138	.72563	3.90762
INFLATION	27	.30	5.40	2.6448	.25015	1.34711
Valid N (list wise)	27					

Pearson Correlations Results

As reported in Table 2, the robustness check for Pearson correlations to the entire model in the multivariate for model equation signifying the estimators as represented by Pearson and significant values were not seriously affected by the presence of multicollinearity since all values reports below than 0.8. The Pearson Correlation analysis is to determine whether the dependent variable have relationship with independent variables. The correlation is significant at the 0.01 level (1-tailed). Based on the table 3, we can see the estimated Pearson correlation for independent variables and dependent variable. The relationship between dependent variable and independent variables is -0.798 implying a negatively correlated relationship with a magnitude -79.8% between the two variables consumption rate and level of saving. This implies that statistically result of the correlation coefficient. The alternate hypothesis can be accepted at the 5% level of significant.

The correlation coefficient is 0.204 implying a positively correlated relationship with a magnitude 20.4% between the two variables inflation rate and level of delivery. This implies that the statistically result of the correlation coefficient. The alternate hypothesis can be rejected at the 5% level of significant.

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Table 3: Pearson Correlations Results

		SAV	CON	INF
Pearson Correlation	SAVING	1.000	-.798	.204
	CONSUMPTION	-.798	1.000	-.294
	INFLATION	.204	-.294	1.000
Sig. (1-tailed)	SAVING	.	.000	.153
	CONSUMPTION	.000	.	.068
	INFLATION	.153	.068	.
N	SAVING	27	27	27
	CONSUMPTION	27	27	27
	INFLATION	27	27	27

Multivariate Regression Results

Table 4: Model summary result

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df 1	df 2	Sig. F Change
1	.805[a]	.648	.602	2.47998	.648	14.128	3	23	.000

a. Predictors: (Constant), INFLATION, CONSUMPTION

This is the model summary result that is important to know how strength the predictors. On this table we will more focus on R Square value. R Square value must be more than 0.5 until 09 but the best range value is between 0.6 until 0.7 Table 4.4.3 shows the regression analysis of the housing loan against determining variables. It indicates that these variables significantly explain at 60.2 percent of the variation in level of pulling through with a standard error 2.47998 percent. It's implying collectively that the determining variables have a significant effect of fluctuating of level of saving in Malaysia.

The estimated coefficients of correlation (R-square = 60.2 percent), depicts the relatively middle, linear correlation between subject and independent variables. It's indicating that 60.2%% of the variation of the dependent variable level of saving is explained by the variance of independent variables (inflation rate and consumption). The remaining of 39.8% of the changes in level of saving could not be explained by the regression model or perhaps can be explained by other variables.

Table 5: ANOVA Result

	Sum of Squares	df	Mean Square	F	Sig.
Regression	260.677	3	86.892	14.128	.000[b]
Residual	141.456	23	6.150		
Total	402.134	26			

a. Dependent Variable: SAVING

b. Predictors: (Constant), INFLATION, CONSUMPTION

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The ANOVA result is shows that the F is 14.128 with 0.000 significance level that is less than 0.05. These ANOVA result shows that a good sign that they have a relationship among the variables. The mean square of the regression is 86.892 and the F-value showing at 14.128 percent. This both value showing the relatively a strong significant among the variables.

In this study, multivariate regression was used to analyses between each independent variable (inflation, consumption) with dependent variable (saving) This study was tested with significant value α=0.05.

The Relationship between Consumption, Inflation Rate with Saving

In auxiliary, as refer to Table 6results evidence a negative relationship between consumption (-5.329) at 1% significant level with saving. This result shows the consumption do exert an impact on the saving. The negative relations for consumption indicates a decrease consumption is preferences in supporting the increase saving.

The table 6 shows the coefficient table, The consumption rate is significant at 0.000 percent, while the inflation is no significant at 0.582 percent.

The t-value as stated that the highest are inflation in -0.559 while the lowest t-value are -5.329 percent, which is consumption rate. The coefficient from the table, shows the consumption is the most significant value at 1 percent level and for inflation, the value are not significant with the level of saving.

The regression equation expresses that the uptake rate is significantly with the degree of saving at 0.000 but are negative coefficients. The regression on inflation rate shows no significant result at 0.582 percent, but with the negative coefficients.

Table 6: Regression Results Saving

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	77.755	7.709		10.086	.000		
CONSUMPTION	-.952	.179	-.900	-5.329	.000	.537	1.863
INFLATION	.221	.395	.078	.559	.582	.782	1.278

a. Dependent Variable: SAVING

$SAV_{it=}77.755 + 0.952CON_{1it} + -0.0221INF_{2it} + \varepsilon_{it}$

V. CONCLUSION

This study integrates the findings on the impact of inflation and consumption on saving. The correlation and regression results support hypotheses 1 and 2 as depicted in Table 3, 4 and 5 that the F statistics is substantiated at

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the 1% significant level for inflation (14.128). Therefore result implying the null hypotheses that the regression coefficients are zeros except inflation (0.153) can be rejected at 1% level of significant for the model thus are fits for prediction. Hence, the hypotheses can be accepted implying the ability of consumption in influencing the inflation from Malaysia perspective is concerns.

This study show that there is a significant relationship between consumption rate and levels of saving in Malaysia. When the consumption is decreasing, it will lead to the increasing of total saving in Malaysia. This result is supported by result of previous study by Christopher (2006), where the researcher are find that consumption and saving decisions having a relationship, both short-run and long-run macroeconomic analysis. In the short run, spending dynamics are of central importance for business cycle analysis and the management of monetary policy. In the long run, aggregate saving determines the size of the aggregate capital stock, with consequences for wages, interest rates, and the standard of living.

Apart from that, there is no significant relationship between the inflation rate and level of saving supported by Jilani (2013). As overall conclusion, the study found that inflation rate has no significant impact towards saving in Malaysia. Meanwhile, for consumption rate, there has significant negative impact with level of saving in Malaysia.

Thus, one of the limitations of current study is that the findings were based on only a limited number of years for consumption, inflation and saving sample. Researchers must therefore consider further extending this analysis by incorporating others additional indicators of economic indicators such as economic growth, unemployment and foreign direct investment. It will also be quite useful if additional studies are performed to confirm the relationships analyzed.

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