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MONETARY POLICY AND INFLATION CONTROL IN KINGDOM SAUDI ARABIA (KSA)

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ABSTRACT

The economy is fluctuating from time to time. Due to this, there have been a lot of times when the economy has been unstable and becomes weak when it has to fight with any financial turmoil. For this, the monetary policy helps to stabilize the financial market and keep the economy intact at least so that the country is prepared during the downturn by enhancing investment as well as employment opportunities. The aim of this research is to test the effect on monetary policy on inflation control in Saudi Arabia. This research uses quantitative methodology and test the impact by using ordinary least squares (OLS). Based on the coefficient, it is deduced that money supply is positively related and have significant impact on inflation and unemployment whereas gross domestic product (GDP) is negatively related and has no relationship with money supply. Nevertheless, in terms of correlation analysis, all the independent variables are moderately correlated to the dependent variable with correlation value of 0.560457, 0.605725 and 0.501308 for GDP, inflation and unemployment variable respectively.

INTRODUCTION

Inflation occurs when there is a sustained increase in the general price level. Inflation is a problem when the inflation rate rises above 2%. The higher the inflation, it creates more problems in the economy. In extreme cases, hyperinflation can cause great instability. It can damage the period of boom and bust economic cycles. It leads to poor economic growth[1]. It also leads to a fall in the value of money. Inflation can make an economy uncompetitive as it can be hazardous for a country in the long term. The effects of inflation can be positive or negative based on the economy of the country according to

Floyd [2]. If it is positive, it can reduce the cost of borrowing and the employment rate, strengthen the currency, and encourage spending and investing. If it is negative, it can lessen the purchasing power thus saving in the money but on a higher level, it can be bad for the economy with the increase of level of inflation. It can increase the cost of borrowing as well sometimes. Apart from that, it weakens the currency too. Kaur et al.[3] stated that the central banks do not have enough information on hand to make the best decisions to attain their goals directly due to imperfect information in monetary operations. Therefore, inflation should be monitored accordingly in order to control economic disasters.

Inflation has become a major problem in Saudi Arabia today as well thereby affecting the living conditions of people, shutting down of banks, companies filing for bankruptcy, etc. This has led to reduction in the standard of living of Saudis and has caused businesses to be brought down on a large scale. The Central Bank of KSA, however, has made efforts to fight it using different policy measures, of which monetary policy is one of them.

Monetary policy plays an important role in advanced countries in controlling inflation and stabilizing economic activity [4].Controlling inflation can bring about a lot of positive changes in the economy thereby adding value to the efforts that were put into bringing financial and economic stability. Furthermore, this policy will also reduce the amount of money in circulation because the money will be going from banks, companies and investors pockets and into the government's pocket where it can control what happens to it. Out of this, monetary policy has been considered by most of the banks so that the inflation can be curbed. Central banks influence the money supply due to the reasons that the world has seen a lot of crises due to oversupply of money and second digitalization of money has also impacted the money supply as per Ross [5].

In Saudi Arabia, the monetary policy is prepared and issued by Saudi Arabian Monetary Policy (SAMA). The main purpose of monetary policy is to manage the exchange rate mechanism of Saudi Riyals against all international currencies as Saudi Riyals are pegged with USD [6]. The other function of this agency is to control inflation rate foreign direct investment monitoring and structuring the Saudi economy, in order to make overall economic development in the country.

SAMA involves in monetary policy statements and solely works for banking operational independence and pursuing the policies to sustain the economic development of Saudi Arabia. The main source of income for Saudi Arabia is through the export of crude oil in international markets. SAMA is playing very important role to manage this revenue for development programs in Saudi Arabia.

In regards to the negative impact of inflation, the purpose of this study to analyse how inflation, unemployment and GDP affects money supply in the context of monetary policy in Kingdom of Saudi Arabia.

METHODOLOGY

The methodology used for this paper serves quantitative method of research by using numerical analysis and then carrying out descriptive analysis to understand the relationship between the monetary policy and the inflation control in the KSA. Figure depicted the theoretical framework of this study. With reference to the figure, the three independent variables studied were inflation, unemployment and gross domestic product (GDP) while the dependent variable was money supply.

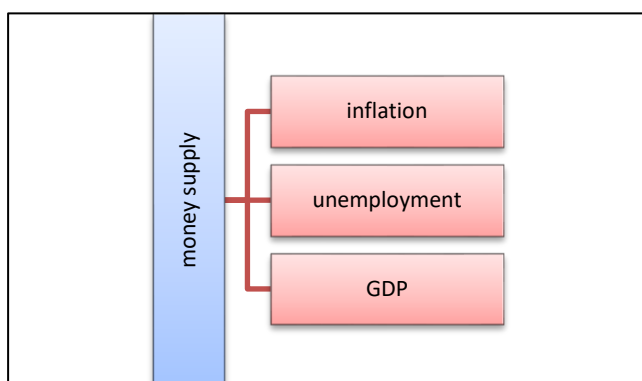


Figure 1.Theoretical framework of the study

The data was collected from various sources like websites, newspaper articles, and research journals mentioning about the inflation control and monetary policy in Saudi Arabia. Nonetheless, the main information for this study is data of inflation, GDP, and unemployment in Saudi Arabia from 1980 – 2016. These data were analysed using statistical technique of ordinary least squares (OLS), standard deviation and correlation.

In this research, the OLS is used through a formula. The formula is represented as:

$$Y = \beta_0 + \sum_{j=1..p} \beta_j X_j + \varepsilon$$

The OLS method is related to minimizing the sum of square differences between the observed and predicted values. This minimization leads to the following:

$\beta = (X'DX)^{-1} X'Dy$ $\sigma^2 = 1 / (W - p^*) \sum_{i=1..n} w_i (y_i - \hat{y}_i)^2$ where β is the vector of the estimators of the β_i parameters, X is the matrix of the explanatory variables preceded by a vector of 1s, y is the vector of the n observed values of the dependent variable, p^* is the number of explanatory variables to which we add 1 if the intercept is not fixed, w_i is the weight of the i^{th} observation, and W is the sum of the w_i weights, and D is a matrix with the w_i weights on its diagonal.

Results And Discussion

Through collection of sample from GDP, unemployment, and inflation from 1980 – 2016 in Saudi Arabia, the following result in Table 1 was deduced

from the use of linear regression. The R-square shows that 45.7% of the variations in money supply are explained by inflation, GDP and unemployment.

Table 1.Linear regression analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-18.56015	26.09627	-0.711219	0.4819
INFLATION	0.639518	0.310146	2.061990	0.0472
GDP	-0.004198	0.005503	-0.762794	0.4510
UEM	1.577775	0.673302	2.343338	0.0253
R-squared	0.457310	Mean dependent var		47.10047
Adjusted R-squared	0.407975	S.D. dependent var		12.36197
S.E. of regression	9.511693	Akaike info criterion		7.444727
Sum squared resid	2985.586	Schwarz criterion		7.618880
Log likelihood	-133.7274	Hannan-Quinn criter.		7.506124
F-statistic	9.269410	Durbin-Watson stat		0.401434
Prob(F-statistic)	0.000137			

Relationship between Inflation and Money Supply

The result in Table 1 showed that the coefficient of inflation was 0.639. This indicated that there is a positive relationship and t – statistic value is 2.061 which are more than two making this relationship between inflation and money supply to be significant. This result is in agreement with the empirical results obtained by Hassan [7] which confirmed that in the long run, money supply growth has significant and positive relationship with inflation while lagged value of money supply growth has negative and insignificant relationship with inflation in the short run. Furthermore, the higher the money in supply, the greater the purchasing power, hence increasing the potential for prices to go up [8]. In addition, there is bi-directional causal relationship between inflation and money supply [9].

Since there is a positive relationship, monetary policy can help control the inflation in Saudi Arabia. This can lead to reduction federal rate and eventually to higher demand of goods and services. Moreover, this is working in favour of stabilizing the economy. Therefore, money supply helps in reducing inflation rate and thereby helping in future development.

Relationship between GDP and Money Supply

Based on Table 1, the coefficient result for GDP was -0.0041. This showed that there is a negative relationship, and t – statistic is -0.762 which is revealing this relationship is insignificant. This means that GDP and money supply are unrelated and the monetary policy does not have any effect on GDP of Saudi Arabia.

Nonetheless, in a study conducted by Hossin [10] related to the economic growth in Bangladesh, he found that GDP and money supply has significant relationship in long run.

Oil has been one of the main sources of revenue for KSA. Relating oil prices with GDP, it is found that along with the increase in oil price, it has enlarged the gap between the real and nominal GDP as shown in Figure 1.

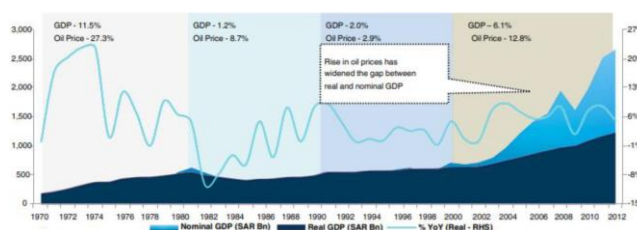


Figure 1. GDP data of Saudi Arabia

Relationship between Unemployment and Money Supply

Result from the linear regression analysis in Table 1 presented that unemployment has a coefficient of 1.5777. This showed that there is a positive relationship between unemployment and money supply. Furthermore, with t – statistic value of 2.343 which is more than two, proved this relationship to be significant. This means that unemployment and money supply are related and the monetary policy affects employment of KSA.

Dong and Xiao [11] discovered that when the central bank withdraws government bonds (short-term or long-term) through open market operations, it reduced returns on bonds which has a direct negative impact on consumption by households that hold bonds, and an indirect negative impact on consumption by households that hold money. Hence, firms earn less profit from production, which eventually leads to higher unemployment.

Besides, there appeared to be an influence between oil price oscillations with oil exporting countries. For oil exporting countries, oil price variation would lead to increase in money demands and if money officials fail to increase money supply, interest rate would be increased and eventually investment and production growth rate would be consequently reduced and lead to increasing unemployment rate [12].

Along with inflation, the unemployment rate in Saudi Arabia has been increasing since a long time. Government has taken certain measures to help eradicate unemployment out of which one of the programs is related to monetary policy whereby they are supplying money to the unemployed to help them until they get a good and secure job using expansionary monetary policy.

Variables Correlation

Table 2 presented the correlation values between the independent variables (inflation, GDP and unemployment) and the dependent variables (money supply). According to the table, all the terms are positively correlated to each other. All the variables have a value of $(x > 0)$, that lie in between the range of 0 to 1 indicating that they have positive correlation.

Inflation and GDP are the two variables that are highly correlated with $r = 0.931374$. GDP, inflation and unemployment has moderate positive correlation towards money supply with r value of 0.560457, 0.605725 and 0.501308 respectively. This means that money supply with proper monetary policy can help in stabilizing economy and bringing about the required growth in the Kingdom.

Similarly, Bhattarai [13] found positive correlations between these variables since 54% correlations were positive for inflation–unemployment, 68% between growth rate and unemployment rate, and about 66% correlations were positive between growth and inflation. Moreover, he also stated that although this may indicate lack of unambiguous relationship between these variables but these correlation values do not denote any causality.

Table 2.Correlation analysis results

	GDP	Inflation	Unemployment	Money supply
GDP	1			
Inflation	0.931374	1		
Unemployment	0.467501	0.396751	1	
Money supply	0.560457	0.605725	0.501308	1

CONCLUSION

In this research, the relationship between the money supply and GDP, inflation, and unemployment of Saudi Arabia for a period from 1980 - 2016 was studied using OLS. The findings were clear evidence that the money supply had impact on inflation and unemployment whereas GDP was not affected by it. Hence, monetary policy should be looked forward that can help drive GDP and be studied over different horizons. Monetary policy should help KSA become strong again by developing and bringing about growth to the economy. This can be done by supporting it through its proper implementation over the entire Kingdom.

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