ANALISIS JILID 3, BIL. 1 DAN 2.

UNANTICIPATED MONEY, PRICE LEVEL, AND OUTPUT IN MALAYSIA

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I. INTRODUCTION

The question of public policy is always a sensitive issue since it involves the society at large while a number of policy actions may be in conflicting with the goals of the society. Nowadays, we have three major schools of thought in economics with regard to the most appropriate macroeconomics stabilization policy actions in order to balance the aggregat demand and the aggregate supply. They are the Keynesians, the monetarists, and the new classical economists. The Keynesians believe that fiscal policy is the most appropriate policy for stabilization while the monetarists argue that monetary policy is more effective. The new classical economists, on the other hand, arque that the anticipated government demand management policies are all ineffective stabilization policies.

Recent empirical evidence in Malaysia supports the view that money affects the price level and real output (Yusuff, 1978a). But the study did do not distinguish between anticipated money and unticipated money supply, we therefore do not know whether the anticipated portion or the unanticipated portion which affects the real output.

This paper is an attempt, although in a very simple manner, to assess empirically the contention of the new classists that only the unanticipated money growth affects the real variables, in this case, it is the real output. The organization of this paper is as follows. The first section deals with an introductory remark about the three major schools of thought in economics. The second section will highlight the controversies between the keynesians and the monetarists with regard to the demand management policies. Since the emphasis of this paper is on money and real output, therefore, the transmission mechanisms through which money affects aggregate demand and thus output is discussed at length in section three, while section four analyses the basic contention of the new classical economists, their assumptions, and the reasons why anticipated government management policies are not effective. In section five, a model is formulated to test the new classical economics hypothesis that

only the unanticipated money growth affects the real variable, in this case the real output and that anticipated money growth will affect only the nominal variable, that is the price level. The conclusions of the paper is given in the final section.

II. THE DEBATE BETWEEN MONETARISTS AND KEYNESIANS

Today, there are at least two schools of thought with regard to economic stabilization policy, namely: the monetarists and the Keynesians. The monetarists believe that monetary policy is a more appropriate policy for stabilization but the keynesians believe that fiscal policy is more effective. The discussion of the controversies in this section will focus on the effects of monetary policy, the effects of fiscal policy, the inflation - unemployment trade-off, the determination of interest rate, the stability of the economy, and the appropriate time for policy actions.

The Effect of Monetary Policy

The Keynesians believe that money creation will increase wealth which then affects the aggregate demand via money market, asset markets, and good market. The impact of money on the aggregate demand will be an indirect one through the changes in the interest rate in money market. To the Keynesians, an increase in money whether due to government printing new money or easy money policy will increase the money supply and therefore the interest rate falls which stimulates consumption and investment spending and thus the aggregate demand; therefore the Keynesians rejects monetary policy as a means to stabilize the economy.

The monetarists on the other hand assert that money could influence the aggregate demand, price level, and output. They express their views in terms of short-run and long-run perspective. Monetarists believe that the impact of the changes in the growth of money supply on economic activities may be temporary. The timing and the size of the impact will depend on the conditions at the time when the changes in the growth of money supply occur. These initial conditions include the level of resource utilization and the expected rate of inflation. Furthermore, the monetarists maintain that money could influence both the nominal and real variables. It is believed also that factors which change the demand for money, productivity, and factor endownment may also exert significant influence on nominal andreal economic variables. In the long-run the monetarists contend that variations in the money growth trend are the main factors which determine the trend of nomical GNP and the price level while the growth rate of money supply has insignificant influence on the long-run

movement in real output since the output growth depends on the growth of labor force, natural resources, capital stock, and technology.

Nowdays, many economists concede that the long-run influence of money is on the price level while the impact on output is somewhat temporary; but they have different views with regard to the time taken for the change in money to affect on output, price level, and nominal GNP. A monetarist may say that the impact of money growth on output is pretty quick while longer period is needed for the price level to respond fully. The Keynesians, on the other hand, contend that the impact of a change in money stock on output, price level, and nominal GNP will take a longer time.

The Effecs of Fiscal Policy

Generally speaking, economists tend to agree that changes in government expenditure and tax rates will exert strong and rapid influence on aggregate demand, but the monetarists believe that such an influence is only transitory. The Keynesians argue that an increase in government spending will affect aggregate demand directly; while any reduction in the tax rate will increase the disposable income which in turn spurs the aggregate demand. They argue further that government borrowing through the sale of bonds will increase wealth and therefore it will contribute a positive impact on spending. But the monetarists purport that the impact of an increase in government expenditure on aggregate demand, with constant money stock, will last only for a few quarters and in the long-run the impact is zero. They argue that, in the absence of monetary expansion, the increase in government spending must be financed by taxes or borrowing from the public at large. In this case we have only a transfer of resources from the private sector to government sector with no net addition to purchase. The monetarists advocate that an increse in government spending will only increase aggregate demand if it is continuously financed by creating new money. And if the government spending is financed by borrowing, the impact on aggregate demand is indirect since the deficit would tend to induce the central bank to increase money supply and therefore affects aggregate demand.

Inflation-Unemployment Trade-off

The monetarists reject the notion that a decrease in the rate of unemployment could only be done by increasing the rate of inflation. They profess that such a trade-off does not exist due to the existence of inflation expectation which makes the short-run Phillips curve unstable and in the long-run the Philips curve becomes vertical.

The Determinants of Interest Rate

The Keynesians content that the short-term interest rate is determined by the money demand and money supply in the money market. The movements of the long-run interest rate is influenced by the movement in the short-term interest rate through the terms structure of interest rates. The monetarists, on the other hand, believe that nominal interest rate is determined by factors which influence the real interest rate, that is productivity and saving. They also take into account inflation expectation as one of the determinants of real interest rate. That is

$$\pi_r = \pi_n - \pi^e$$

Where π_r, π_n, and π^e are the real interest rate, nominal interest rate, and the expected rate of inflation. Therefore, the determinants of market interest rate are the liquidity effect or money effect, output effect, and inflation expectation effect which tend to influence each other. This can be seen by examining the impact of an increase in money supply. An increase in money supply lowers interest rate, which is similar to Keynesian analysis; but the monetarists argue further that the decrease in the interest rate will spur aggregate demand and therefore productivity increases in response to the increase in the money supply. As productivity increases, the demand for loans and advances also increases which tends to raise the interest rate. As the interest rate rises, the cost of borrowing increases which is inflationary since the producers will do their best to pass the impact of the burden of the increase in the cost of borrowing to the consumers by charging higher prices for their products. As inflation rate increases further, the lenders then review the nominal interest rate upward to, at least, maintain their interest incomes.

Economic Stability

The monetarists believe that the economy is stable and therefore changes in money growth will be rapidly absorbed into the economy and the output will revert to its long-run growth path, but the Keynesians believe otherwise.

The Timing of Stabilization Policy Action

Since the Keynesians profess that the economy is unstable, they therefore have advocated active short-run stabilization actions. They rebute that even if the disturbance could be absorbed by the economy, it will take too long and this will jeopardize the welfare of the society if the short-run stabilizations are not observed. To this end, fiscal actions is prefered since it has a quick impact on the economy. But the monetarists prefer no short-run stabilization

policy since it could only lead to instability and thus a loss in general welfare. They argue that since the economy is inherently stable and changes in money supply will have a strong impact on output in the short-run and that in the long-run the impact is insignificant; therefore a stable monetary growth is advocated.

III. THE MONETARY TRANSMISSION MECHANISMA

Nowadays, monetary theorists are interested in two aspects of the behavior of monetary forces. Firstly, we would want to establish a systematic relationship between the changes in the monetary variables and the changes in the economic activities, that is how monetary variables are related to real variables such as output, employment, and distribution or exchange. And secondly, we would like to describe the operational mechanism through which money affects the real variables or the aggregate expenditure.

Empirical evidences have shown that money could influence the real variables, but the channels through which these influences are affected are not at all very clear. Our task now is to explain the channels of monetary influences under the heading called monetary transmission mechanisms, which could be defined as a system of mutually adapted economic variables which work together to communicate monetary impulse to the real sector of the economy. It is postulated that a relationship exists among the quantity of money in circulation, the intermediate variables, and the aggregate demand. Therefore, changes in the quantity of money will affect the intermediate variable which in turn influence the aggregate demand. In certain cases, the influence of money on the real variable may be direct while in other cases it may be indirect through the intermediate variables.

Let us look at the Keynesian monetary transmission mechanism as an example. Supposing now that our economy is experiencing a recession and the government employs easy money policy by reducing the statutary reserve ratio. As a result, commercial banks will find that their excess reserves increase and their lending power has increased. As loans are extended by the banking sector money supply increases depressing the interest rate which tends to increase investment and consumption since it is now cheaper to borrow; and therefore the real output increases. The increase in the money supply may result in an increase in real balance which encourages more private consumption spending.

Now let us discuss the various channels through which money affects the aggregate expenditure. There are four major ways through which money affects

the aggregate expenditure, namely through changes in wealth, portfolio balance, credit availability and expectations and these four variables are called the intermediating variables.

Wealth Effect

In this analysis wealth comprises the physical wealth for example the stock of capital equipment buildings the raw materials including human resources and the net claims by the private sector on the government which consits of money and bonds.

There are two types of money the outside money and the inside money. An outside money is the money backed by assets which do not represent a claim on members inside the economy for example the fiat money backed by government securities, gold and foreign exchange. The inside money on the other hand is the money backed by assets which do represent an equal claims on the members inside the economy for example fiat currency backed by private bonds issued by private firms or the commercial banks deposits backed by investment and loans to the private sector.

An increase in inside money or outside money will increase in wealth because it represents an additional asset to the private sector. For example, if the government prints new money it results in an increase in the net wealth of the private sector. On the other hand, if the government buys bonds, then there is no net change in the net wealth in the economy; it is just a matter of a redistribution of wealth. An increase in the net wealth resulting from an increase in outside money or inside money will affect three markets, that is good market, assets market, and money market.

The impact of the increase in net wealth on good market due to an increase in money is a direct effect. Since money is considered as one form of weatlh, therefore, an increase in money will increase the real balance of the private sector; the real balance is directly related to consumption spending therefore the consumption increases. Also, it is assumed that the public have certain level of desired real money balance that they would like to hold. Thus, if there is an increase in real money holdings, in excess of the desired level, the private sector will get rid of them by buying goods and financial assets.

Money also affects assets market and for simplicity it is to be assumed that the asset market is made up of only bond market. The direct impact of the increase in money or wealth is that there will be an increase in the demand for financial assets, such as bond and other government securities, stocks and bonds of the private firms. If the suply of bonds are limited. The interest rate

has to fall. The indirect effect will be seen in the changes of yields of assets, quantities of assets, and the values of assets. As the interest rate falls the price of bonds will rise and therefore the value of assets tends to rise and this is termed the valuation effects. As the holders of bonds received capital gains they get welthier encouraging them to purchase more goods and services. Also as the interest rate decreases, this encourages investors to increases their capital expenditure since they could raise money by floating bonds in the financial market, and thus the quantities of bonds supplied tends to increase. As the holders of bonds experience capital gains, the yields on assets increase resulting in two types of effects, the income effect and the substitution effect. The decrease in the interest rate would tend to increase the price of bonds and therefore holders of bonds would receive more capital gains if they dispose the bonds and this is termed income effect. The impact of the decrease in the interest rate will change the yields of various financial assets, making some assets more attractive than others. As the rate of returns from investment in bond rises, the people may substitute bonds for other assets and this is called the substitution effect.

The increase in money stock in the economy affects the money market through the increase in money supply; this will depress the interest rate and therefore investment and consumption spendings increase as discussed previously in the Keynesian case. But if all of the increase in money stock is hoarded, then money has no effect on the aggregate expenditures.

Portfolio Balance Effect

Portfolio is a term used to describe an array of assets and debts of different yields, risks, and maturity. In the portfolio balance approach, the emphasis is on the composition of assets rather than the aggregate of assets and debts. According to this theory, changes in the composition of assets and debts or simply the portfolios, will affect the aggregate demand. There are a number of factor which could determine the composition of assets including the characteristics of the assets themselves such as yields, risks, maturity, and substitutability and also the preferences of the individual investors. Any change in the market conditions, which result in the change in the characteristics of the assets will motivate investors to readjust the composition of their assets portfolio consistent with their preference functions.

Let us see example to show how changes in money stock and portfolio balance are interlinked. Suppose that the central bank would like to change the composition of its assets. The central bank would like to increase the money stock through the purchases of bonds in the bond market thus disequilibrating both the money and the bond markets, in the sense that there is an excess

demand for bonds in the bonds market and an excess supply of money in the money market of the same magnitude. The price of bonds will rise until the bond holders have surrendered sufficient bonds to the central bank in exchange for cash. As a result of government action, individuals, banks, and investors will own extra cash. The private individuals will dispose the excess money by purchasing more goods and services and they may also increase their saving, which in the end, may be used for investment if the savings are mobilized to the deficit sector. The increase in the cash holding in the banking sector will increase the banks excess reserves which can be used for lending to the investors or consumers. The extra money held by the investors may be used for investment purposes and therefore the demand for capital goods increases.

Expectations

The effect of the increase in the money stock on aggregate expenditure will also depend on expectations of the people. There are two kinds of expectations, namely the price and business expectations. Based on certain assumptions, for example by using past experiences or past prices the people will make forecasts with regard to the movement of future prices. If they expect the prices to rise in the future, they will alter their spending preferences by buying more goods and services now and store them for future consumption rather than buying at higher prices later. This action will make the prices rise a reality.

Businessmen also make forecast with regard to the likely course of the business activities in the future. If they expect that the economy is on the upswing, they then raise their profit expectations and then they may want to expand their business operations to satisfy the expected increase in the demand for their products. Therefore, they purchase more capital goods to expand the plant size to increase the firm productive capacity consistent with the expected product demand.

Credit Availability

The credit availability thesis postulates that it is the overall liquidity in the economy, rather than money, which affects the aggregate expenditure. The loans rates are assumed to be sticky due to the imperfections in the financial market and therefore, as far as the borrowers are concerned, it is the availability of credit and not he loan rates, which affect our the demand for loans. Suppose now that the government increases the money supply through bonds purchases by the central bank. The banking system therefore will have more excess reserves enhancing their lending capacity. This will increase the supply of loanable funds. Although more funds are available, the loan rate remains intact because of its stickiness due to market imperfections. The increase in the

loanable funds could only serve to satisfy the same extra customers left out when loanable funds was low. Any way, the increase in the loanable funds could be loaned out to the borrowers and therefore the aggregate demand rises.

IV. THE NEW CLASSICAL ECONOMISTS

The new classical economists differ from the monetarists and keynesians with regard to the effectiveness of demand management policies. They argue that anticipated government demand management policies will have no effect to stabilizing the economy; for example, they believe that there is no trade-off between the rate of inflation and the rate of unemployment even in the short-run. Therefore, the effect of government demand management policies is only inflation. But such policies would be useful to solve the problem of inflation without undue loss of real output.

The rational expectations theorists or the new classical economists argue that business firms, the households, and the workers understand the working of the economy. Furthermore, they will use all the relevant available information whenever they make decisions about their expectations on the future events. In other words, they make their expectations about the future events based on all the relevant information, including the information about on how the economy works and how the government conducts economic policy actions. Therefore, whenever the government undertakes certain policy actions, they will anticipate the effects of the policy to the economy.

The new classical economists also assume that all markets, including the factor markets and product markets, are perfectly competitive. Thus, all the information about each market is instantaneously transmitted to all other markests. Furthermore, all the prices, including wages, are perfectly flexible. In other words, all the markets will clear instantaneously.

Based on the above assumptions, the new classical economists contend that under the rational expectations hypothesis, management policies, that is monetary and fiscal policies are ineffective in changing the aggregate demand. Suppose that the government has made a decision and announced that it will carry out an easy money policy in order to increase real output and employment. The businesses, the consumers, and the public at large know from their past experieces that easy money policy will result in inflation. In other words, whenever there is an easy money policy, they will anticipate that there will be inflation in the future. They will therefore start to react to the policy in order to protect themselves from losses due to inflation. Thus, we find that workers will start to bargain wage increases from the employers, the producers

will increase the price of their products, while the lenders will raise the nominal interest rate; they all do this in order to hedge against the anticipated inflation. This implies that easy money policy will be fully reflected by the increase in the general price level, leaving the real output and unemployment unchanged. Whether the contention of the classical economists is valid or not is subject to empirical evidence as will be done in the coming section.

V. THE MODEL

Barro (1977) divided the money growth into two components, namely the anticipated moneygrowth and unanticipated money growth in order to test the hypothesis of the new classical economists. His study on the United States data supports the view that only the unanticipated money growth affects the real output. We shall use the Malaysian annual data from 1960 to study the appropriateness of the new classical model in the context of Malaysian economy.

Money Growth Equation

Since the anticipated and unanticipated portions of money growth are unknown we have to devise a method to estimate them. Following Barro (1977), we shall estimate the unanticipated money growth by using the money growth equation. It is postulated that the money growth equation is of the form.

$$MG_t = \beta_o + \beta_1 \log DC_{t-1} + \beta_2 \log Y_{t-1} + \beta_3 \log G_{t-1} + \beta_4 t + \beta_5 \log MG_{t-1} + U_{1t} \quad (1)$$

where $MG_t = \log M_t - \log M_{t-1}$

M = broader definition of money supply, M_2

DC = domestic credit

Y = nominal GNP

G = nominal government spending

U_1 = error term

log = natural logarithm

t = year

$\beta_1 , \beta_2 , \beta_3 , > 0 , \quad 0 < \beta_5 < 1$

Equation (1) was estimated by OLS in order to find the predicted (anticipated) values of money growth, MGP_t. The unanticipated portion of the money gorwth, MGR_t , could then be obtained by finding the residuals of the actual money growth. MG_t , less MGP_t. That is

$$MGR_t = MG_t - MGP_t$$

The estimated series of MGR_t and MGP_t will then be used to find whether they have any significant effect on real output and the price levels. The results of the regression on money growth equation is given below:

$$MG_t = -618.1258 + 0.0597 \log MG_{t-1} + 0.1574 \log DC_{t-1}$$

$$(0.234) \qquad (1.358)$$

$$+0.0206 \log_{t-1} + 1.7200\ t + 0.293 \log Y_{t-1}$$

$$(0.177) \qquad (2.742) \qquad (2.194)$$

$$R^2 = 0.5355,\ h = 1.49$$

The goodness of fit of the estimated money growth equation as represented by R^2 is quite low but it certainly better than the equation obtained by Macesich (1987). Most of the regressors are not significant at 5 percent level, except the time trend and nominal GNP although the signs of the coefficients are correct. This estimated equation was obtained after a number of experimentations. We used this preferred equation to find the anticipated and unanticipated money growth to test their effects on real output and price level.

Output Equation with Unanticipated Money Growth

The output equation is specified in real term as

$$\log y_t^* = \alpha_o + \sum_{j=0}^{k} \alpha_j MGR_{t-j} + \beta_1\ t + U_{2t} \qquad (2)$$

where y^* = desired real GNP of Malaysia or capacity output

MGR = unanticipated money supply

U_2 = errow term

Equation (2) says that the desired level of (or optimal) real output is

determined by the present and past levels of unanticipated money growth and the trend variable t. As the unanticipated money supply increases, the desired level of real output increases; while the time trend is expected to capture the effect of the change in technology. An improvement in technology, will increases the desired real output. Since the variable capacity output is not observable, it is approximated by

$$\log y_t - \log y_{t-1} = \lambda_1 [\log y_t^* - \log y_{t-1}] \tag{3}$$

where $0 < \lambda < 1$, and λ_1 is the adjustment coefficient.

Solving equation (2) and (3) for y_t , we obtain

$$\log y_t = \alpha_o \lambda_1 + \lambda_1 \sum_{j=0}^{k} \alpha_j \, MGR_{t-j} + \beta_1 \lambda_1 t + (1 - \lambda_1) \log y_{t-1} + \lambda_1 U_{3t} \tag{4}$$

After some experimentations with equation (4) using ordinary least squares, it was decided that the unanticipated money growth be lagged for two years. The regression results are given below.

$$\log y_t = -203.7793 + 0.8075 \, MGR_t + 0.0387 \, MGR_{t-1}$$
$$(0.723) \qquad (0.141)$$
$$-0.2086 \, MGR_{t-2} + 2.7016 \, t + 0.7960 \log y_{t-1}$$
$$(0.700) \qquad (1.194) \qquad (4.803)$$
$$R^2 = 0.9865 , \qquad h = 1.10$$

The goodness of fit for the equations is quite high and the h – statistic suggests that there is no autocorrelation problem. It is very clear from the equation that only the current unanticipated money growth affects the real variable, y_t , since it is significant at 5 percent level. The lagged real output is also significant at one percent level with adjustment coefficient of 0.2040 suggesting the stock adjustment model is appropriate and the adjustment to the desired level is slow at 20 percent per year.

Output Equation with Anticipated Money Growth

In order to see the of anticipated money growth on real output, we replaced the variable MGR_{t-1} in (4) by the anticipated money growth

variables, MGP_{t-1}. The equation was then estimated by OLS and obtained as

$$\log y_t = -244.2905 + 0.7729\ MGP_t + 0.0389\ MGP_{t-1}$$

$$2.1382) \qquad (0.132)$$

$$-0.2051\ MGP_{t-2} + 3.2380\ t + 0.7616 \log y_{t-1}$$

$$(0.607) \qquad (1.376) \qquad (4.386)$$

$$R^2 = 0.9858, \quad h = 1.35$$

The goodness of fit is also quite good, but only two regressors are significant. The lagged dependent variable is significant at 1 percent level, suggesting that stock-adjustment model is satisfactory. The adjustment coefficient is 0.2384 indicating that adjustment to capacity output is relatively slow at about 24 percent per year. The current anticipated money growth is barely signifcant at five percent level suggesting that both anticipated and unanticipated money growth affect real output in Malaysia.

The Price Equation with Unanticipated Money Growth

We shall derive the price equation from the demand for money equation as

$$\log M_t - \log P_t = \gamma_o + \gamma_1 \log y_t - \gamma_2 \log r_t + U_{4t} \qquad (5)$$

But in Malaysia, the interest rate variable is not an important determinatn of the demand for money, Yusoff (1787b) and therefore equation (5) becomes

$$\log M_t - \log P_t = \gamma_o + \gamma_1 \log y_t + U_{5t}$$

Rearranging,

$$\log P_t = -\gamma_o + \log M_t - \gamma_1 \log y_t - U_{5t} \qquad (6)$$

Substituting equation (4) equation (5) for y_t ,

$$\log P_t = -\gamma_o + \log M_t - \gamma_1 [\alpha_o \lambda_1 + \lambda_1 \sum_{j=0}^{k} \alpha_j MGR_{t-j}$$

$$+ \lambda_1 \beta_1 \log t + (1 - \lambda_1) \log y_{t-1} + \lambda_1 U_{3t}] - U_{5t}$$

$$= -\gamma_o - \gamma \alpha_o \lambda_1 + \log M_t - \gamma_1 \lambda_1 \sum_{j=0}^{k} \alpha_j MGR_{t-j}$$

$$-\gamma_1 \lambda_1 \beta_1 t - \gamma_1 (1 - \lambda_1) \log y_{t-1} - \lambda_1 \gamma_1 U_{3t} - U_{5t} \qquad (6)$$

In this study, the number of lags for the variable MGR_{t-j} was 2 year. Thus, rewriting equation (6), we obtain,

$$\log P_t = \Theta_o + \log M_t - \Theta_2 MGR_2 MGR_t - \Theta_3 MGR_{t-1}\ \Theta_4 MGR_{t-2} \quad (7)$$

$$-\Theta_5 t - \Theta_6 \log y_{t-1} - V_t$$

where $\Theta_o = \gamma_o - \gamma_1 \alpha_o \lambda_1$

$\Theta_2 = \gamma_1 \lambda_1 \alpha_1$

$\Theta_3 = \gamma_1 \lambda_1 \alpha_2$

$\Theta_4 = \gamma_1 \lambda_1 \alpha_3$

$\Theta_5 = \lambda_1 \gamma_1 \beta_1$

$\Theta_6 = \gamma_1 (1 - \lambda_1)$

$V_t = \lambda \gamma_1 U_{3t} - U_{5t}$

Equation (7) is the estimating price equation. The regression results using OLS are given below

$$\log P_t = 892.6618 + 0.8190 \log M_t - 0.8256 MGR_t$$

$$(5.513) \qquad (2.857)$$

$$- 0.0338 MGR_{t-1} - 1.1780 t - 0.3665 \log y_t$$

$$(0.157) \qquad (3.727) \qquad (1.924)$$

$$R^2 = 0.9851, \qquad D.W = 1.189$$

The goodness of fit for the price equation is also quite high and the Durbin-Watson statistic does not seem to suggest the existence of autocorrelation. The coefficient on the money supply, log M_t, should theoretically be unity, implying that an increase in money supply will be fully reflected by a proportionate increase in the price level. The estimate of the coefficient of log M_t is 0.8190, which is less than one and sifnificant at one percent level. The test statistic to test the hypothesis that this coefficient is equal to one was found to be t = (0.8190 − 1)/(0.1485) = 1.2188. This implies that 0.8190 is not significantly different from one.

The signs of the coefficients on unanticipated money growth are all negative as expected; but only the current unanticipated money growth could significantly affect the prices level at 5 percent level.

The Price Equation with Anticipated Money Growth

The effect of anticipated money growth on the price level could be tested by substituting anticipated money growth for unanticipated money growth in equation (7). The results of the OLS Is given below.

$$\log P_t = 1.4793 + 0.8558 \log M_t - 1.5412\ MGP_t$$

$$(3.239) \qquad (4.184)$$

$$- 0.2945\ MGP_{t-1} - 0.9783\ MGP_{t-2} + 0.1135\ y_{t-1}$$

$$(0.492) \qquad (1.525) \qquad (0.700)$$

$$R^2 = 0.9876\ ,\ D.W = 1.74$$

The regression results of the effect of the anticipated money on the price level is very much similar to the effect of unanticipated money growth. This suggests that both anticipated and unanticipated money growth affect price level.

VI. CONCLUSION

Nowadays, we have three major schools of though in economics with regard to the most appropriate macroeconomics stabilization policy actions in order to balance the aggregat demand and the aggregate supply. They are the Keynesians, the monetarists, and the new classical economists. The Keynesians believe that fiscal policy is the most appropriate policy for stabilization while the monetarists arque that monetary policy is more effective. The new classical economists, on the other hand, have arqued that the anticipated government demand management policies are all inefective stabilization policies.

This study is an attempt to investigate whether the new classical model is applicable to Malaysian experience. The results of the regression analysis suggest that both unanticipated money growth and anticipated money growth affect the real output. But the effect of anticipated money on real output is just barely significant at 5 percent level. Both the anticipated and unanticipated

money affect the nominal variable, that is the price level, which is consistent with what is contended by the classical model. Based on these findings, it is perhaps inappropriate to use the new classical model to analyse the effect of government policies in Malaysia since both anticipated money and unanticipated money affect the real variable, output.

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