

Stabilization Policy in a Developing Economy:
Some theoretical underpinnings*

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INTRODUCTION

The modern theory of the neutrality of money can be thought of as an extension of the work of Phelps (1967, 1970) and Friedman (1968) who began to question the validity of the Phillips curve in the longrun. Because economic agents learn about the economy and adapt their expectations fully in the long-run, government cannot reduce the long run level of unemployment or rendering stabilisation policy ineffective.

The New Classical Macroeconomics School has taken Phelps and Friedman's ideas, further demonstrating the ineffectiveness of anticipated monetary policy of Keynesian type stabilisation policy in effecting real changes in the economy, even in the short-run.

We wish to argue that stabilization policy in a developing economy is effective in the shortrun. We wish to argue within the Rational Expectations methodology, showing the effectiveness of stabilization policy in a developing economy contrary to the propositions of the school.

The Neutrality of Stabilisation Policy Proposition

It is on the basis of the Phelps-Lucas island economy that typical Lucas supply function of goods is constructed. *The Lucas model is as follows:*

$$\bar{Y}_t = \alpha + \beta t \quad (1)$$

$$Y_{ct} = B(P_t - E_t P_t^*) + E_t \quad (2)$$

$$Y_t^d = X_t - P_t \quad (3)$$

$$X_t = \lambda X_{t-1} + U_t \quad (4)$$

where Y_t is the log of the secular component reflecting capital accumulation and population changes, t is time, Y_{ct} is the cyclical component, $E_{t-1} P_t^*$ is the expected price formed at time $t-1$, P_t is the price at time t , E_t is the supply shock, X_t is log of nominal GNP and U_t is a demand shock.

Eq. (3) is a demand function and Equation (4) is a policy rule. The supply function is therefore, by combining (1) and (2)

$$Y_t^s = \bar{Y}_t + B(P_t - E_t(P_t | I_{t-1})) + E_t \quad (5)$$

where $E_t(P_t | I_{t-1})$ is the mathematical expectation of the current price conditional (I_{t-1}) past information about the market.

Equating (3) and (5) and subsequent substitutions the equilibrium output (Y_t) is,

$$Y_t = \bar{Y}_t + \eta U_t + (1 - \eta) E_t \quad (6)$$

where $\eta = B / (1 + B)$.

On the basis of Equation (6) the New Classical School Concludes that stabilisation policy is ineffective because output is independent of government policy.

THE EFFECTIVENESS ON STABILISATION POLICY IN DEVELOPING ECONOMIES

The New Classical macroeconomics school, has only succeeded in showing the ineffectiveness of the stabilisation policy, on the basis of the stochastic character of the models used. A developing economy has an undeveloped domestic market structure which is affected by external economic conditions. The demand shocks in such an economy tend to be multiplicative and not additive as the school suggests.

Following Snower (1981) we can transform the policy rule to reveal the multiplicative character of demand disturbances.

Then,

$$X_t = \lambda X_{t-1} U_t \quad (7)$$

and

$$E(X_t / I_{t-1}) = \lambda X_{t-1} \quad (8)$$

where $E(U_t) = 1$ and $\text{Var}(U_t) = \sigma_u^2$ (Constant).

Substituting (7) in (3), and equating with (5), the resultant equilibrium output (Y^t) is,

$$Y_t = \bar{Y}_t + \lambda (U_t - 1) X_{t-1} + (1 - \eta) E_t \quad (9)$$

From (9) it is clear that output is now dependent on the systematic component of the policy rule, thus making stabilization policy effective.

The effectiveness of stabilization policy could be demonstrated when the policy rule has a feedback characteristic. This implies a non-zero long-run expected rate of monetary growth. Money supply is the sum of domestic credit and foreign reserves. The affinity for borrowing external funds or aid by developing economies results in the swelling

of foreign reserves, and hence a non-zero longrun growth of money supply. Domestic credit tends to be uncontrolled for most of the developing economies, further swelling money supply.

The feedback policy rule could be of the form,

$$X_t = \lambda X_{t-1} + \tau U_{t-1} \quad , \quad (10)$$

where τ is a policy parameter which increases the variance of the disturbance term U_{t-1} . Substituting (10) into (3) and equating with (5) we solve for equilibrium output,

$$Y_t = \bar{Y}_t + \eta \tau U_{t-1} + (1 - \eta) E_t \quad (11)$$

The policy parameter is consequential on the probability distribution of output.

In the rational expectations models the assumption that prices are fully flexible is imposed on each island in the economy. This is one of the key assumptions which leads to the ineffectiveness of stabilization policy on real output, employment and other real variables.

In most developing economies prices tend to be sticky because of price control by government.

Minimum wage policies make wages sticky downwards while price control on goods makes prices sticky upwards.

Sticky prices have the characteristic of making stabilization policy effective because we get standard Keynesian "multiplier" results in the short period while prices are fixed.

Consider a developing economy where government fixes prices at the end of period t to cover periods $t + 1$, $t + 2$. At the end of period $t + 2$ prices are fixed for the periods $t + 3$ and $t + 4$, and so on. This means prices cannot be altered during the period $t + 1$, $t + 2$, $t + 3$, and so on.

Since the firms' behaviour is limited then government stabilization policy could be effective because the government is free to act to remove the disequilibrium to which price stickiness can lead.

We could also argue that price partial flexibility follows a partial adjustment mechanism such that,

$$P_t - P_{t-1} = \alpha_1 (E(P_t/I_{t-1}) - P_{t-1}), \quad \alpha_1 > 0 \quad (12)$$

Taking expectations and solving for $E(P_t/I_{t-1})$

we obtain,

$$E(P_t/I_{t-1}) = P_t / (1 - \alpha_1) - \alpha_1 P_{t-1} / (1 - \alpha_1) \quad (13)$$

Substituting (13) into (5) and solving for equilibrium output (Y_t)

we obtain,

$$Y_t = (1 + \eta) \bar{Y}_t - \eta P_{t-1} + \eta X_t + (1 - \eta) E_t \quad (14)$$

Therefore equilibrium output is determined by the policy rule making stabilization policy effective.

The ineffectiveness of stabilization policy also relies on the government and private sector possessing the same information about the economy.

In a developing economy information is scarce and markets are undeveloped, making government policy not easily predictable by the private sector. In the face of this asymmetric information, where government has superior information, stabilization policy could be effective.

If government has superior information, then it possesses a set of information, I_t , which includes X_t , in equations, (3) and (4).

Then the policy rule becomes

$$X_t = \lambda X_t + U_t, \quad (15)$$

and then,

$$X_t = U_t / (1 - \lambda)$$

.....

With this policy rule equilibrium output is,

$$Y_t = \bar{Y}_t + \frac{\eta U_t}{(1 - \lambda) + (1 - \eta)} E_t \quad (17)$$

Equilibrium output is determined by exogenous supply and demand shocks and also government policy parameter, λ . This implies, that there is a definite trade off between output and inflation resulting in effective stabilization policy.

Conclusion

The implications of the New Classical School proposition transcend the mere neutrality of monetary policy and deny any Keynesian type of stabilisation policy credibility. However the ineffectiveness of stabilization policy is true to the extent that it is imposed upon the aggregate models by the propositions.

The nature of markets in developing economies renders Keynesian type stabilisation effective. In developing countries demand shocks are thought to be multiplicative rather than additive, prices are inflexible, information between government and the private sector is assymmetric, and uncontrolled credit expansion, ensure the effectiveness of stabilisation policy in the short run.

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