

## **IMF STABILIZATION PROGRAM AND ECONOMIC GROWTH: THE CASE OF THE PHILIPPINES**

*Joven Zamoras Balbosa\**

### **INTRODUCTION**

#### **Relevance of the Study**

In 1970, the country was in a mess. The standard of living was declining rapidly and an insurgency problem in the countryside had gained strength and momentum. Moreover, the 1969 reelection campaign of Mr. Marcos, which was financed by massive money creation, precipitated a balance-of-payments crisis. In response to the crisis, the government sought an International Monetary Fund (IMF)-sponsored adjustment program which called for a 43 percent devaluation and a reduction in selected tariff rates. Despite the measures taken, the country remained in a state of political and economic chaos. This prompted the regime to declare Martial Law in 1972 to institute political discipline with the promise of economic prosperity for all. Unfortunately, the promised prosperity never happened.

In 1983, the country suffered another balance-of-payments crisis, this time more severe. Due to both political and economic uncertainties precipitated by the assassination of Senator Benigno Aquino (a political rival of Mr. Marcos), capital flight increased, foreign credit availability decreased, and foreign exchange reserves fell sharply. Again, an IMF-sponsored adjustment program was put in place. This time, the political and economic implications cost the regime its downfall in 1986.

And yet again in 1989, an impending balance-of-payments crisis began to unravel. The new government submitted in March 1989 a

\*The author is Assistant Director at the Congressional Planning and Budget Office, House of Representatives. The valuable assistance rendered by Ms. Juanda Dimayuga in the revision of this paper is acknowledged.

Memorandum of Economic Policy to the IMF stating its compliance with IMF conditionalities in exchange for financial assistance. Already, the government had contended with six attempted *coup d'etats* and with a growing clamor from the people to reform a worsening economy. Was it then to suffer the same fate as its predecessor? What, in the short-run period of a Fund-sponsored program, needed to be learned in order to avoid or at least minimize the social costs of adjustments?

A better knowledge of the immediate/short-run impact of adjustment programs is an important ingredient in coming up with policies to ensure the political survival of the government. The objectives of this paper, therefore, are the following:

- a) To analyze the short-run impact of adjustment programs in order to generate policies which are consistent with a more stable adjustment process.
- b) To test simple models showing the supply-side effects of IMF adjustment program policies.

### **Limitations of the Study**

Due to data constraints, the study focuses only on the 1983 balance-of-payments crisis and the subsequent IMF adjustment program carried out in response to the crisis. Consequently, annual data from 1960 to 1986 are utilized to highlight the impact of adjustment policies on key macroeconomic variables.

### **Organization of the Study**

Section II begins with an outline of typical macroeconomic policies that are commonly utilized in Fund-sponsored programs. A discussion of the policy implications on key macroeconomic variables is then presented with emphasis on the arguments of the monetarist approach to the balance of payments and of the structuralist models. A review of relevant literature ends the chapter. The theoretical framework and empirical results are presented in section III. The supply-side effects of the IMF adjustment program are highlighted in this chapter. In section IV, we evaluate the policy instruments used in the 1984 and 1989 adjustment programs for the Philippines. And finally, lessons are drawn to guide us in the implementation of the 1989 IMF-supported adjustment program.

## REVIEW OF LITERATURE

This section presents typical Fund adjustment policies and their impact on the economy. The monetarist and structuralist approaches are discussed to show the contending hypotheses on the effects of Fund policies on key macroeconomic variables. A review of relevant empirical studies is also presented.

### Fund-Type Stabilization Policies

According to Tanzi (1987), the objectives of a Fund-supported stabilization program include a balance of payments that is viable over the medium run, the promotion of growth under a stable economic environment, price stability, and the prevention of excessive growth in external debt. Now, let us suppose a country were facing balance-of-payments difficulties, accelerating inflation, and a blatant mismanagement of its key sectors. If we were to deduce, the standard set of remedies that the IMF may offer, we may come up with two macroeconomic policies which are almost always recommended among the array of policy choices. These policies are:

- a) monetary contraction, usually due to the imposition of separate ceilings on credit from the banking system to the private and government sectors; and
- b) devaluation.

How are these policies likely to work? We limit our discussion to two approaches (the monetarist approach to the balance of payments and the structuralist approach) in order to shed light on the workings of the above policies on the economy.

### The Structuralist Approach and the Monetarist Approach

*On Monetary Contraction.* The simple form of the monetarist approach emphasizes the direct influence of excess demand and supply of money on the demand for real resources and on the balance of payments. Under the assumption of a stable demand for money function, an expansion of money stock in excess of what residents are willing to hold creates a disequilibrium in the money market. The excess supply of money leads to greater demand for real resources. Under the assumption of full-employment output, the greater demand

for real resources can only lead to an upward pressure on prices; hence, continuous monetary expansion is inflationary. However, the opportunity to trade (i.e., to import) diffuses the inflationary pressures brought about by excess demand. Increased demand for imports brought about by excess demand in the economy results in the drawing down of foreign exchange. Under a fixed exchange rate system, this results in the depletion of international reserves and, consequently, balance-of-payments deficits. The depletion of reserves leads to a contraction of money stock, and finally to a restoration of money market equilibrium. Note that a continuous expansion of money stock through domestic credit expansion will result in a worsening of the external imbalance for as long as there are foreign exchange reserves to run down; otherwise, foreign borrowing will have to be resorted to. Thus, to counteract this constant pressure on the external account and the inflationary trend in the economy, restrictive monetary and fiscal policies must be implemented. These policies are meant to influence the rate of growth of domestic demand and absorption. The basic objective is to restore the balance between absorption and aggregate supply to achieve a viable balance-of-payments position within a reasonable period of time.

The structuralists (see Taylor 1983, van Wijnbergen 1982, Lim 1987, among others), on the other hand, point to the slow, inadequate or delayed decline of prices in countries that have followed the monetarist approach as proof that the approach, in its simplistic view of the economy, has ignored important supply-side effects that may have prevented the desired monetarist cure from taking effect. The structuralists emphasize the transmission channel between monetary instruments and the supply side of the economy via credit financing of working capital needs. Working capital is needed to finance the stocks of raw materials, semifinished goods, intermediate imported inputs, advance payments to workers, among others. Typically, working capital needs are financed by bank or curb-market credit. This in turn implies that the cost of credit (the real interest rate) is a component of input costs. Tight money drives up interest rates on loans to firms for working capital and investment and thus increases input cost. The normal business response would be to cut back on activity and attempt to pass increased costs through to higher prices. Even if aggregate demand fell under monetary constraint, aggregate supply may fall even more, so that a stagflationary phenomenon (i.e., recession with inflation) results.

The implication is that monetary restraint may be stagflationary in the short run, increasing prices and causing output contraction if interest rate cost-push is strong enough. Thus, the first monetarist argument that "less money means lower prices" is contrary to the structuralist view, at least in the short run. However, the second monetarist argument that "less money improves the foreign balance" may be compatible with the structuralist hypothesis in the sense that output contraction reduces the intermediate imported input demand of firms.

*On Devaluation — The Real Effects.* The monetary approach to the balance of payments sees devaluation as a useful instrument in improving the external payments position of the economy. Underlying this argument is the assumption that the country is a small open economy. Consequently, the domestic price level is significantly affected by the country's exchange rate as well as by world prices (Rivera-Batiz 1985). A devaluation therefore raises the domestic price level, and consequently lowers real money balances. The excess demand for money balances leads to a reduction in absorption. Thus, an improvement in the external payments position is expected. In the meantime, the expenditure-reducing effect may lead to a fall in real output via a fall in aggregate demand. The structuralists, on the other hand, view devaluation as primarily increasing the costs of intermediate imported inputs, thereby increasing costs. This leads to a fall in aggregate supply via a reduction in the intermediate imported input demand of firms. Thus, an improvement in trade balance is also expected, but it comes at a high social cost. That is, a devaluation may lead to contraction not only on the demand side but on the supply side as well. Thus, an increase in the price level and a deeper recession is predicted.

It is worth noting that it would be misleading to suggest that Fund programs rely exclusively on one or two policy instruments directed solely at restraining domestic demand. Khan and Knight (1985) emphasized that a Fund program is a much more complex policy package than a mechanical application of the simple monetarist approach to the balance of payments. Indeed, Fund programs have incorporated many alternative policies including those proposed by critics, particularly those relating to the supply side. For our purpose, however, it is convenient to simplify and categorize Fund-type policies into demand-side policies and supply-side policies. In line with this dichotomy, we argue in section IV of this paper that, in the

case of the Philippines, the demand-side policies are the main emphasis of Fund-supported adjustment programs. Thus, demand-side policies can be synonymous with Fund-supported adjustment policies, at least in the short run.

### **Empirical Survey**

Our concern in this paper is to highlight the impact of monetary and exchange rate policies on the level of output and prices. What follows, therefore, is a review of relevant empirical studies from which we can draw important lessons.

In van Wijnbergen (1982), a macroeconomic model of South Korea incorporating stylized facts about its financial structure is presented. The role of the commercial banking system as an intermediary between private wealth holders and firms, the role of foreign capital inflows, the importance of the informal money markets in the Korean financial system, and the use of credit obtained from those sources and abroad to finance fixed and working capital, are all highlighted. The following results were obtained from the study:

- a) Both export prices and domestic prices show a significant sensitivity to the cost of financing working capital. This credit-supply side link gives a stagflationary bias to restrictive credit policies.
- b) The role of the curb market is quite persuasive. Time deposits are shown to be a closer substitute to curb market loans than to M1 (defined as currency in circulation and demand deposits), indicating that a decrease in time deposit rates would moderate stagflationary impact effects by increasing the availability of funds to the business sector as people shift from time deposits to curb market loans. This would lower curb market rates and, via the credit-working capital link, have a favorable effect on inflation.
- c) It was also found that the phenomenal increase in time deposits after the interest rate reform in 1965 was caused by a switch from lending at the curb market to time deposits and not by additional savings as is usually claimed. This implies significant substitutability between curb market lending and time deposits.

Likewise, Lim (1987) argued that monetary and credit contraction, espoused by monetarists as a key policy for controlling inflation, will increase the cost of financing working capital needs, thus negatively affecting the productive sector of the economy. Regression analysis was utilized to find out the effects of contractionary policy on real output and prices. The study uses a one-sector macro model with annual data from the Philippines from 1958 to 1980. The key variables used to explain real output and prices were the real wage rate, expected price inflation, real exchange rate, domestic price of imported inputs, level of capital stock and investment, real bank loans available, and domestic and foreign interest rates. The results seem to indicate some initial increase in price inflation immediately following the monetarist prescription. This is then followed by deep recession. Then and only then does price inflation start to decline. Thus, these results give empirical support to the claim that the working capital cost-push, supply-side effect is strong enough, which means that austerity measures may require a heavy and costly recession before price inflation can be brought down.

A formal assessment of the Fund stabilization program was done by Gylfason (1987). The author reviewed the relationship between credit policy and growth performance of 32 countries under the stabilization program supported by the IMF from 1977 to 1979. The aim of the study was to determine whether economic growth was adversely affected in the short run by the credit policies adopted under the adjustment program reviewed, and if so, to what extent. An analytical framework was also developed to show the macroeconomic implication of the supply and cost effects of credit policy.

A simple before-and-after comparison approach was utilized, complemented with a nonparametric U-test proposed by Mann and Whitney to measure the statistical significance of the differences between the change in the performance of the countries under study from the year before the program, during the program year, and the year after the program. Tests were also done to compare the significance of differences between the behavior of the major macroeconomic aggregates in countries that entered into IMF stand-by arrangements and the behavior of the same aggregates in another group of countries that had persistent current account or balance-of-payments problems during 1975-1977 but did not enter into stand-by arrangements.

The results indicate that credit expansion was reduced markedly and that the overall balance of payments improved substantially. The inflation rate, although increasing on average, was generally kept below the rates prevailing in other non-oil-producing developing countries. These results, it appears, were achieved at the cost of a relatively modest reduction in the average growth rate of output during and immediately after the program period. It should be kept in mind, however, that most of the programs under review were accompanied by devaluation, microeconomic supply-side measures, or increased foreign borrowing, all of which tend to counteract the direct negative effect of contractionary credit policy. Nevertheless, it appears that the experience with these stand-by arrangements does not give occasion for grave concern about the short-term contractionary or even stagflationary consequences of adjustment programs supported by the Fund.

Gylfason (1987) also pointed out the weaknesses of the before-and-after approach in capturing the "true" effect of Fund policies. The issues underlying this approach are adequately discussed in the 1986 paper of Goldstein and Montiel.

Goldstein and Montiel (1986) discuss several methodological problems associated with estimating the effects of fund programs in Fund-supported countries. Two common approaches in evaluating Fund programs are discussed. The purpose of the paper is to point out problems that can cause "true" program effects to differ from "estimated" program effects when either the before-and-after approach or the control-group approach is used. Both approaches use multicountry data. The before-and-after approach calculates for the selected countries the average macroeconomic outcomes before and after a Fund-supported program is implemented. The approach then tests for statistical significance of the difference in the value of the macroeconomic variables before and after the program. On the other hand, the control-group approach, by utilizing nonprogram countries as the basis for comparison, accounts for changes in the international economic environment that could alter macroeconomic outcomes independently of the program. The author emphasized four factors that may influence key macroeconomic variables (e.g., the current account, rate of inflation, growth rate of real output, among others), namely:

- a) changes in macroeconomic policy instruments (e.g., the rate of domestic credit expansion, government tax revenues and expenditures, the exchange rate, etc.);

- b) changes in world economic conditions (such as changes in world oil prices or changes in real economic activity in industrial countries);
- c) the total effect of a Fund program if the country already had a program in place during the period; and
- d) a host of unobservable shocks that are specific to a country.

A major flaw of the before-and-after approach is its reliance on the assumption of "other things being equal" that is highly implausible. There exists an empirical problem in isolating the effects of Fund policies on macroeconomic variables. Independent policies of governments and external shocks encountered by the country are two major reasons why the before-and-after comparison of mean economic outcomes for program countries is unlikely to yield a good estimate of true program effects. As such, ascribing all of the observed changes in outcomes to the program alone will invariably overstate or understate the true independent effects of the program.

It is also worth noting that the authors pointed out the fundamental issue of Fund-type policies vis-a-vis Fund involvement. In investigating the effects of Fund-type policies, it is no longer necessary to differentiate between program and nonprogram countries. Instead, the relevant comparison would be between macroeconomic outcomes under Fund-type policies and those under some other set of policies. The purpose of this type of analysis, therefore, is to find out whether Fund-type policies are effective or ineffective in the country concerned.

In this study, an attempt to update the results of Lim (1987) is made utilizing annual data of the Philippines from 1960 to 1986. Finally, the before-and-after approach is utilized to capture the short-run effects of Fund policies on the sectoral output of the economy over the period 1981 to 1986. Although this study is also subject to the pitfalls of the approach, as pointed out by Morris and Goldstein (1986), we nevertheless argue that it is adequate enough to capture the impact of the 1984 Fund-sponsored program on sectoral output. The empirical specifications and results are the subject of the next chapter.

## **EMPIRICAL ANALYSIS**

In this chapter we present a simple empirical model of price and income determination wherein both the monetarist approach and the structuralist hypotheses can be tested. The before-and-after

approach is also presented to test the effects of the 1984 Fund-program on sectoral output. For conciseness of presentation we will also give the corresponding empirical results rather than collect them in a separate section.

### The Output Function

Following the model of Lim (1987), we assume a one-sector economy. The production function is neoclassical and output is assumed to have three inputs: a) labor, b) capital stock, and c) imported raw materials and imported intermediate inputs. To capture the determinants of the real output of the economy, the following semireduced form equation is formulated:

$$Y = F(w, RER, MS, ITB, INFe, K)$$

where,

Y = real output

w = real wage rate

RER = real exchange rate

MS = money supply

ITB = interest rate on 90-day Treasury bills

INFe = expected inflation rate

K = level of capital stock.

On the supply side, we postulate that real output (Y) is determined by the level of capital stock (K), as well as by the real costs of inputs. The real wage rate (w) accounts for the costs of labor, while the real exchange rate (RER) accounts for the costs of intermediate imported inputs. The money supply (MS), interest on Treasury bills (ITB), and expected inflation (INFe) capture the cost of working capital. Following simple rules of adaptive expectations, INFe can be represented by lag values of the inflation rate.

The interest on Treasury bills served as a proxy variable for lending rates due to data constraints. We assume that lenders see perfect substitutability between Treasury bills and loanable funds for working capital needs. Thus, the higher the ITB, the higher the cost of financing working capital. The money supply (MS) is also expected to have a significant effect on output via the working capital hypothesis. Contraction in the money supply decreases the supply of loanable funds, thus increasing the cost of financing working capital. Another factor affecting the lending rate is expected inflation. A higher

expected inflation rate reduces the real lending rates. Thus, the investor must redirect loanable funds to other assets whose values do not fall with price inflation. The resulting scarcity of loanable funds exerts an upward push on the cost of working capital via a rise in the lending rates.

On the aggregate demand side, a reduction in MS results in a fall in aggregate demand; thus, a fall in output may follow. An increase in lending rates (given by ITB) results in a decrease in desired investment and therefore leads to a fall in aggregate demand. For INFe, we expect that a higher expected inflation rate induces present consumption over future consumption, thereby increasing aggregate demand for goods and services.

Following the monetary approach, we note that the mechanism by which the exchange rate can affect output is through the demand and supply of real money balances and absorption. We note that absorption is influenced, among other factors, by real money balances, which are consequently influenced by the domestic price level. In its simple form, the approach yields the proposition that the domestic price level is determined by the nominal exchange rate as well as world prices. Thus, a devaluation, holding all other things constant, will reduce absorption via reduction in real money balances. Moreover, as the traded goods prices rise relative to nontraded goods prices, expenditure switching may occur, causing an expansionary effect on the nontraded good sector.

Table 1 summarizes the result of the real output model. Table 1, as well as Table 2, uses both OLS and Instrumental Variable (i.e., TSLS procedure) estimates to account for the fact that ITB is an endogenous variable which is used as an independent variable in the equation. The functional relationship is in log form. Thus, coefficients represent elasticity measures.

The results point to RER, ITB, and K as important determinants of changes in real output, with RER being significant with OLS but not with TSLS. We find RER and ITB significantly and negatively related to real output at the 5 percent level of significance. It is interesting to note that money supply (MS) has not shown much influence in determining real output (even considering lagged variables). However, tight monetary policy is best reflected by the high negative correlation between ITB and Y, such that a 1 percent increase in ITB may lead to about 0.14 percent (in OLS) or 0.22 percent (in TSLS) reduction in output. A 1 percent real depreciation, on the other hand, may lead to an output contraction of 0.15 percent (in OLS) or 0.08

**Table 1**  
**REGRESSION RESULTS FOR REAL OUTPUT**

Explanatory Variables	Dependent Variable: 1n Y			
	OLS		TSLS <sup>a</sup>	
	Coef.	t-stat.	Coef.	t-stat.
C	1.50	1.56	0.82	0.68
1n w	-0.01	-0.07	0.01	0.07
1n RER	-0.15	-2.25**	-0.08	-0.86
1n MS	-0.10	-1.00	-0.14	-1.20
1n ITB	-0.14	-2.74**	-0.22	2.86**
INFe	-0.13	-1.48	-0.06	-0.52
1n K	0.83	4.13*	0.93	3.98*
R-squared	0.9896		0.9870	
Adj. R-squared	0.9834		0.9792	
F-value	159.08*		126.28*	
DW	1.40		1.46	
n	17		17	
Sample Range	1970-86		1970-86	

Notes: a The RHS endogenous variable is 1n ITB.  
Instrument list: C 1n w 1n RER 1n MS INFe 1n K 1n G 1n Y\*  
• Denotes significance at the 1 percent level.  
•• Denotes significance at the 5 percent level.  
••• Denotes significance at the 10 percent level.

percent (in TSLS). We found multicollinearity problems in the model. This may cause a downward bias on our t-scores but it will not bias our estimators.

Comparing with Lim's findings, his OLS and TSLS functions show that monetary-related variables do affect the supply function significantly. Real bank loans have positive effects on output particularly in the post-1971 period. Interest rates were found to have significant negative influences on the supply function. In this regard, Lim's results are consistent with this study.

### The Price Inflation Function

The semireduced form equation derived from Lim (1987) yields the following function for price inflation:

**Table 2**  
**REGRESSION RESULTS FOR PRICE INFLATION**

Explanatory Variables	Dependent Variable: $\Delta P$			
	OLS		TSLS <sup>a</sup>	
	Coef.	t-stat.	Coef.	t-stat.
C	0.22	4.50*	0.22	4.38*
$\Delta w$	-0.07	-0.36	-0.08	-0.43
$\Delta RER$	-0.41	-3.01**	-0.43	-2.98**
$\Delta MS$	0.27	1.42	0.32	1.47
dITB	0.02	6.14*	0.03	4.13*
dINFe	-0.04	-0.40	-0.07	-0.56
$\Delta K$	-1.49	-2.64**	-1.60	-2.60**
R-squared	0.8529		0.8452	
Adj. R-squared	0.7548		0.7420	
F-value	8.70*		8.19*	
DW	2.14		2.12	
n	16		16	
Sample Range	1971-86		1971-86	

Notes: a The RHS endogenous variable is dITB.  
Instrument list: C  $\Delta w$   $\Delta RER$   $\Delta MS$  dINFe  $\Delta K$   $\ln G$   $\ln Y$   
 \* Denotes significance at the 1 percent level.  
 \*\* Denotes significance at the 5 percent level.  
 \*\*\* Denotes significance at the 10 percent level.

$$\Delta P = F(\Delta w, \Delta RER, \Delta MS, dITB, dINFe, \Delta K)$$

where,  
 $\Delta P$  = the inflation rate  
 $\Delta$  = the growth rate of variables  
 d = the first difference.

A rise in  $\Delta RER$  (a depreciation) is expected to have a positive effect on the inflation rate whether from the monetarists' or structuralists' point of view. On the other hand, monetary contraction will have an ambiguous effect on the price level. Monetary contraction is expected to have a positive effect on the inflation rate via the demand side and a negative effect via the supply side. The workings of the money supply on the inflation rate via the lending rates are best captured by

the instrumental variable method using dITB as the right-hand side endogenous variable.

Table 2 summarizes the result of the Price Inflation model. Overall, the RER, ITB, and K show a significant influence on price inflation. The result for ITB strongly confirms the belief of the structuralists. We also note that MS has an insignificant effect on prices although its coefficient is much bigger (i.e., it has a more important effect) than ITB. Moreover, the sign of the MS coefficient confirms the deflationary effect of money supply on the price level. The result on RER is curiously contrary to what we expected.

Concerning the capital stock level, the result in this model as well as in the real output model affirms the crucial role of capital formation in economic growth. No autocorrelation problem was detected in both models. Lim's findings on price inflation reveals that, in the short run, the working capital cost-push effect seems to dominate. Lending rates were found to have a significantly positive effect, while the sign for the growth rate of real bank loans was negative. His findings seem to point to a "stronger supply-side, working capital cost-push inflationary push than to the demand-side, monetarist deflationary pull." Lim's result on the lending rates seems to corroborate our finding on the effect of ITB on the inflation rate. On the other hand, the sign of our MS coefficient (which is positive) reveals the dominance of the monetarist's deflationary pull. However, its t-score fails to establish its significance.

### **The Before-and-After Approach**

We used the before-and-after approach to investigate whether sectoral output was adversely affected in the short run by the credit policies adopted under an adjustment program. Due to data limitations, we utilized the real output of the manufacturing sector over the years 1981 to 1986. Following Montes (1987), we assumed the implementation of the Fund program to have begun in earnest in 1984. The task was to compare real sectoral output before the program to real sectoral output after 1984. Moreover, we hypothesized that the greater the need for working capital of a sector, the more it is affected by contractionary monetary policies. We assumed that working capital is needed to finance the labor costs and intermediate imported input costs of a firm. Thus, the more import-dependent and labor-using a firm is, the more it is affected by the costs of obtaining working capital.

By using the Wilcoxon-Mann-Whitney test (or the W-test), we can determine whether sectoral output significantly decreased after 1984. We utilized the null hypothesis ( $H_0$ ) that real output remained constant from 1981 to 1986 against the alternative hypothesis ( $H_a$ ) that it significantly declined after 1984. Table 3 summarizes the result of the W-test on sectoral output.

**Table 3**  
**SUMMARY OF W-TEST RESULTS ON TREND**  
**OF REAL SECTORAL OUTPUT, 1981-1986**

Sector	Decision
Food Manufactures	Reject $H_0$
Beverage	Accept $H_0$
Tobacco	Accept $H_0$
Textiles	Reject $H_0$
Footwear	Reject $H_0$
Wood and Wood Products	Reject $H_0$
Furniture and Fixtures	Reject $H_0$
Paper Products	Accept $H_0$
Printing	Reject $H_0$
Leather Products	Reject $H_0$
Rubber	Reject $H_0$
Chemical Products	Reject $H_0$
Petroleum Products	Reject $H_0$
Non-metallic Mineral Products (cement and glass products)	Reject $H_0$
Basic Metal (including iron and steel products)	Accept $H_0$
Metal Products (fabricated metals)	Reject $H_0$
Machinery (non-electrical machinery, equipments and parts)	Reject $H_0$
Electrical Machinery	Accept $H_0$
Transport Equipment	Reject $H_0$
<b>TOTAL OUTPUT</b>	Reject $H_0$

Source of raw data: 1988 Philippine Statistical Yearbook.

Note:  $H_0$ : Real output remained constant from 1981 to 1986.

$H_a$ : Real output significantly declined after 1984.

Overall, 13 (or 72 percent) out of 18 industries listed in Table 3 show a significant decline in real output after 1984. However, caution must be exercised in interpreting the results because there are other factors which may determine the trends of sectoral output over time. The W-test simply described the industry behavior during the IMF Stabilization Program.

## **LESSONS AND POLICY IMPLICATIONS**

### **The 1984 and 1989 IMF Program**

Under the December 1984 agreement (the 18th Stand-by Agreement with the IMF), the Philippine government had taken the following measures before financing was extended:

- a) a reduction in high-powered money through ceilings on domestic borrowing;
- b) the floating of the exchange rate, which resulted in the depreciation of the currency;
- c) a reform of the foreign exchange system by adopting a more liberal trade policy;
- d) an increase in interest rates on Central Bank bills and Treasury bills to approximately 40 percent at the time of the float, together with increases in several other lending and deposit rates;
- e) the implementation of significant tax revenue generating measures; and
- f) increases in administered prices to reflect market conditions.

On the Memorandum on Economic Policy submitted by the government in March 1989, the following policy measures and adjustments were outlined:

- a) a reduction in the growth rate of money and credit by about 12 percent over the period 1989 to 1992 from its actual 1987 level of 15 percent annually;
- b) the removal of impediments to private sector activity through a dismantling of monopolies and special privileges in some sectors;
- c) trade policy reform emphasizing a competitive and outward-looking strategy;

- d) public sector reform through the privatization of government parastatals, a reduction in the government deficit through tax reforms, and decreases in investment spending; and
- e) a reform package to generate domestic saving largely through the government sector.

Indeed, a cursory review of the 1984 and 1989 adjustment programs indicates that there was not much difference between the two. Monetary policy through the control of domestic credit and exchange rate programs were the main policies put in place. It should also be noted that the 1989 program called for a strict reduction in the government's role in the economy (i.e., government activities that overlap with the private sector activities were eliminated or at least minimized). Not surprisingly, these policy measures were the ones we referred to as typical Fund-type stabilization policies.

### **Summary, Lessons, and Policy Implications**

We learned that a primary determinant of output and the domestic price level is the lending rate. The results suggest that tight monetary policy may indeed induce prices to fall, corroborating the monetarists' belief. However, the effect of this policy on the lending rates should not be ignored. One has to consider the profound effects of the volatility of lending rates on the economy via the supply-side effects of financing working capital. Our nonparametric test (the W-test) indicates a significant decline in the real output of selected manufacturing industries which can be traced to tight monetary policy. Moreover, policies that raise the real effective exchange rate have a contractionary effect on output, but their inflationary effect could not be firmly established by the results. And finally, we confirmed the importance of investment and the level of capital stock on the growth of real output. Such expansion in output mitigates the inflationary pressures in the economy.

The task for the 1990s, therefore, is to come up with policies that take into consideration the stagflationary effect of contractionary policies, the role of the real exchange rate on output and prices, and the importance of investment and capital stock in the economy. With these in mind, caution should be exercised in implementing future adjustment programs. Targets to lower monetary aggregates based on the monetary approach framework alone may underestimate or not capture the "true" effects on output and prices. Moreover, credit

which is shown to have an important role in the real sector, must be adequately provided to prevent stagflationary pressures. However, this should be done within the context of developing a more dynamic economy that can fully explore its comparative advantage. Finally, a reduction in the government deficit is called for in order to minimize the crowding-out effect experienced by the private sector during the 1970s and 1980s. This can be done within the context of:

- a) a general reduction in government expenditures through a determined and programmed reduction in the size of the government bureaucracy and the establishment of a system of prioritizing government projects (especially in infrastructure) which strongly adheres to economic efficiency criteria; and
- b) an improvement in the tax collection machinery through structural and administrative reforms in the tax system.

## BIBLIOGRAPHY

- Alburo, F.A. "Philippine Trade in Manufactures, Structural Change and Adjustment." UPSE Discussion Paper 8509. Quezon City: University of the Philippines School of Economics, 1985.
- Bautista, R.M. "The 1981-85 Tariff Changes and Effective Protection of Manufacturing Industries." UPSE Discussion Paper 8213. Quezon City: University of the Philippines School of Economics, 1982.
- Goldstein, M. and Montiel, P. "Evaluating Fund Stabilization Programs with Multicountry Data: Some Methodological Pitfalls." IMF Staff Paper No. 33, pp. 304-344, June 1986.
- Guzman, V.S. "The 1983 Balance-of-Payments Crisis of the Philippines: A Painful Lesson." Masteral thesis, Center for Development Economics, Williams College, 1985.
- Gylfason, T. "Credit Policy and Economic Activity in Developing Countries with IMF Stabilization Program." *Princeton Studies in International Finance*, No. 60, August 1987.
- Khan, M.S. and Knight, M.D. "Fund-Supported Adjustment Programs and Economic Growth." IMF Occasional Paper No. 41. Washington, D.C.: International Monetary Fund, November 1985.
- Lim, J. "The New Structuralist Critique of the Monetarist Theory of Inflation: The Case of the Philippines." *Journal of Development Economics* 25 (1987): 45-61.
- Montes, M. F. "Macroeconomic Adjustment in the Philippines, 1983-85." PIDS Working Paper Series No. 87-01. Makati: Philippine Institute for Development Studies, 1987.
- Rivera-Batiz, F.L. *International Finance and Open Economy Macroeconomics*. New York: McMillan Publishing Co., 1985.
- Tanzi, V. "Fiscal Policy, Growth and Design of Stabilization Programs." In *External Debt, Savings and Growth in Latin America*, edited by A. Martirena-Mantel. Washington, D.C.: International Monetary Fund, 1987.
- Taylor, L. *Structuralist Macroeconomics*. New York: Basic Books, Inc., 1983.
- van Wijnbergen, S. "Stagflationary Effects of Monetary Stabilization Policies: A Quantitative Analysis of South Korea." *Journal of Development Economics* 10 (1982): 133-169.
- Wonnacott, T.H. *Introductory Statistics for Business and Economics*. 2nd ed. New York: John Wiley and Sons, 1977.

Central Bank of the Philippines. "Memorandum on Economic Policy of the Government of the Philippines," October 11, 1984.

\_\_\_\_\_. "Memorandum on Economic Policy During the Period 1989-92," March 7, 1989.

International Monetary Fund (IMF). *International Financial Statistics Yearbook*. Washington, D.C.: IMF, 1989.

National Statistical Coordination Board (NSCB). *Philippine Statistical Yearbook*. Makati: NSCB, 1988.