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Exchange Rate Adjustment and the Philippine Economy

Executive Summary

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1. INTRODUCTION

The exchange rate largely determines the allocation of goods and services across national borders. As such it is considered as one of the most important price variables in any market-oriented economy. The Philippines, which today is one of the most heavily indebted less developed countries, has come to realize that inappropriate exchange-rate policy contributes significantly to the persistence of balance-of-payments difficulties. Planners in government, particularly, are now in search of an exchange-rate policy that they hope will be part not only of a short-run stabilization program but also of a long-term plan for broad-based economic growth.

The questions that are asked in this regard are many. Should the exchange rate be fixed? What are the output and employment effects of a devaluation? Why does the Central Bank wait for its international reserves to fall to a critically low level before permitting a devaluation? Will a floating exchange rate improve resource allocation across industry sectors and income groups?

The few questions posed above attest to the important role played by the exchange rate and indicate the need for studies that may provide useful guides to policymakers. The study at hand is motivated by these. The study explores a number of exchange-rate related issues using two quantitative techniques - an econometric model and applied general equilibrium analysis. The two models differ in terms of theoretical base and purpose. The purpose of the former may be thought of as normative while the latter is mainly predictive.

The results of the quantitative analysis are briefly discussed in section 2 of this summary. The third section analyzes the political economy issues surrounding exchange rate adjustment while section 4 concludes.

2. RESULTS OF QUANTITATIVE ANALYSIS

The macroeconometric model assumes an endogenous nominal exchange rate, i.e, the exchange rate is allowed to adjust or move depending on the policy actions and conditions prevailing in the economy.[1]

Table 1 below shows the forecast results for 1991 and 1992. The demand driven model indicates that for different scenarios, growth in 1991 and 1992 (between 2 to slightly more than 3% if reserve money grows at 10%) if the international environment replicates that of 1990. In this slowdown, real investments will be the one to suffer most as its decline already started in 1990. The low growth result, therefore, affects adversely the future productive capacity of the country. Even if real investments increase, a higher growth in reserve money will mean lower growth rate and higher inflation. The exchange rate hovers around 27.5 pesos per dollar for 1991 and near 31 pesos per dollar for 1992. It is higher for higher monetary growth rates and lower net capital inflows, as expected. Note that by endogenizing the exchange rate, we see that, if past policies are to be followed, there will be very little changes in the exchange rate movements even if certain circumstances change. This means that the authorities to different circumstances in a rather rigid fashion with respect to the exchange rate. Because the Philippines is facing severe supply bottlenecks since 1989 a supply-driven model is also constructed. The supply-led model gives a bleaker picture than its demand counterpart.

The sectoral and economy-wide effects of a devaluation are examined through a general equilibrium model. Twelve sectors are represented in the model. The model is calibrated to the benchmark year of 1989. This model simulate the effects of correcting a trade deficit through a devaluation on factor prices and real trade flows. The price and output responses of tariff restrictions are also analyzed. The impact of a devaluation on the fiscal deficit is also discussed. One of the main results of the

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[1]The detailed description of the model including the simulation assumptions is described in the main report. Four scenarios were examined and are presented in Table 1 of this report. The scenarios assumed different settings for the variables reserve money, US Gross National Product (GNP) and net capital flows under an endogenous exchange rate.

simulation exercises is that the Philippine currency is overvalued by approximately 25 percent.[2]

3. POLITICAL ECONOMY ASPECTS OF DEVALUATION

The public-choice aspects of a devaluation may be treated in several ways, but the crucial aspect always has to do with the positive analysis of the effects of the policy measure on various economic sectors. In other words the most involved part of making a "political economy" analysis is that it is not invariant with respect to the specification of the positive model. For example even restricting attention to the positions likely to be adopted by labourers, capital-owners, and the government, (a treatment according to functional distribution) quite different predictions regarding relative strengths and weaknesses of forces are bound to result, depending on how "capital" or "labour", or "government" is specified.[3]

We utilise the theoretical discussion in the main report in seeking to analyse the previous and present configuration of forces aligned on the issue of devaluation. Our concern here is to show why the constituency behind a devaluation -- as well as other "structural reforms" included in official policy and rhetoric -- has in practice been rather weak. First we confine our attention to the relative-price effects of devaluation.

The potential pro- and anti-devaluation constituency

From the theoretical discussion, it was seen that those who stand to gain from a devaluation are the exportables and importables sectors. This is usually thought to include, at least potentially, agriculture, food-processing, the intermediate input sector, and most of manufacturing.

Some policy makers may find it paradoxical that agriculture should typically be expected to benefit from a devaluation, yet there is no evident vocal constituency for devaluation to be found in agriculture. This is true for several reasons. The numerical exercises with the CGE-model in the previous sectio in fact suggest that most of the production gains accrue to the non-agricultural sector. This

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[2]The reader is referred to the main report for a more detailed technical discussion of the model and the subsidiary results.

[3]The theretical base of an analysis of the political economy aspects of a devaluation are done in the main report.

result should be interpreted more as a medium term development, however, since it becomes relevant only when the labour-surplus has been absorbed and agriculture and non-agriculture compete for the variable factors.

Hence, is it the case that in the short run one can find a priori reasons for the agricultural sector to support a devaluation? Unfortunately not either. We may divide agriculture into tradables and nontradables. The analysis above tells us that a devaluation implies a lower price for nontradables, with a corresponding reduction in the income of fixed factors in that sector. Therefore to the extent agriculture is dominated by nontradables, it should be expected to resist a devaluation.

This is close to the prevailing situation in the country. Employment in the rice and corn sectors dominate agriculture, accounting for 73.5 percent of total workers employed in agriculture in 1987. (See Table 2 below.)

The present policy of output-price ceilings in favour of consumers effectively turns rice and corn into nontradables. On the other hand, rice and corn farmers make use of substantial imported inputs (fertilisers, herbicides, etc.). This makes the large -- and politically sophisticated -- rice and corn constituency averse to a current devaluation. A devaluation would raise input costs without a corresponding increase in output prices, since the latter are effectively controlled to benefit the urban population. One might question whether farm labour may not also benefit from the predicted rise in wages in the medium term. To the extent that labour in agriculture is peasant labour, it may be more appropriate to classify it as a fixed factor rather than a mobile one and, to that extent, its income declines rather than increases with a devaluation.

Another obvious example of nontradables is the transport sector, with the added feature that it makes use of an imported input not produced domestically (i.e. petroleum). The analysis is similar to that of peasant agriculture: the higher price of the imported input raises costs and reduces demand, while output-price is fixed (e.g. think of fare regulation). In a fixed-factor situation, the income of the fixed-factor contracts. Experience has shown the transport sector to be among the most consistent and important oppositors of price-shocks, including those induced by devaluation. (See Table 3.)

Two other potentially strong supporters for devaluation are the intermediate input sector (which competes with imported input suppliers) and the export sector. The uncompleted trade liberalization in the Philippines has kept effective tariff rates of some intermediate inputs high. Even the recently enacted Executive Order 470, which intends

to narrow and lower the tariff structure, suspend the reduction of rates on capital goods for two years, partly owing to the government's budget constraints. This provides a degree of protection for the intermediate input producers (although the problem of smuggling is more easily addressed through a devaluation rather than tariff protection). As a result, this sector has little incentive to call for devaluation.

The same factor accounts to some extent for the moderation of the export sector's call for currency depreciation. Throughout the Marcos regime, the development of the nontraditional export sector was accomplished mainly by exempting this sector from the operation of the generally protective tariff system through the system of duty-drawbacks, bonded warehouses, and export-processing zones. This had as a consequence that the nontraditional exports had weak linkages with the domestic economy, as shown by the small share of domestic value added relative to imported inputs (prime examples being garments and semiconductors). In these circumstances, while a devaluation raised the domestic price of output, it would also increase the cost of both imported inputs and, more important, put pressure on wages. Under certain conditions, the costs of renegotiating wage-contracts (e.g. work stoppages) may outweigh the favourable effects of devaluation on the price-cost relation in the exportables sector. This may be one reason the exportables sector is a less than enthusiastic supporter of aggressive exchange-rate policies.

A deeper reason for the absence of a vocal constituency for devaluation among exporters is the existence of interlocking directorates among important import-substituting and exportables industries. Domestic investors in the export sector typically have investments in other import-dependent industries as well, through interlocking directorates and conglomerate expansion. This makes their stand on devaluation ambivalent at best.[4]

In more recent years, however, the exportables subsector in manufacturing has gained more prominence, as it has come to attract larger and more established firms which have slowly diversified into some export lines. Groups such as the Philippine Exporters' Foundation are more conscious of the long-term interests of exporters.

On the other hand, the large firms in the import-substituting sector in manufacturing has generally tended to

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[4]In the same manner it has been pointed out that the import-substituting industrialisation of the 1950s-60s was also joined in by the many members of the agricultural landowning interests.

disfavour currency depreciation, although their principal nemeses are import-liberalization and tariff reduction[5]. The reason is that, quite opposite to a devaluation, the last two measures impose a reduction of domestic prices charged. In a situation where domestic firms possess monopoly power, a good part of the increase in costs associated with a devaluation may be passed on to consumers. Simple theory would predict that the importables sector ought to benefit from a devaluation. How is one to reconcile this with this sector's general opposition to devaluation? A principal factor would have to be the high share of imported inputs in importables production which would cut into profits. The oligopolistic structure of some domestic markets may be another explanation. Depending on the degree of domestic competition, higher costs across may or may not be difficult to pass on without losing market share to competitors.

In the government itself, the lobby for a strong currency is predominant. There are at least two ways to interpret this. One is to connect state policy with class interests. Then one would have to say (and show) that government policies are dominated by those sectors and classes discussed above which generally disfavour a weakening of the currency. At certain times and for some purposes, this way of looking at things does possess some explanatory power.

A middle-brow explanation, which need not however supplant but may supplement the former, is look at the bureaucratic interests of the state or its organs.

The main actors in the setting of and debate around the exchange rate have been the Central Bank and departments associated with particular constituencies, such as the Agriculture, Finance, Trade and Industry, and to a lesser degree the NEDA. Historically the Central Bank has been an important and direct intervenor for a strong currency, a function justified by its perceived mandate to preserve price stability.

In general, especially in the last few years, a strong-currency policy has been pursued, using tight monetary and fiscal policies. From the viewpoint of purely bureaucratic interest, a weak-currency policy has an adverse impact on the government because of the large debt overhang. The share of foreign to total debt for the national government has been declining slowly but remains large at 41 percent (Table

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[5]Influential lobbies have been formed specifically to oppose the proposed tariff reductions under EO 413 (now EO 470), e.g. the Confederation of Philippine Manufacturers, which itself is a subset of the Buy-Philippine-Made-Movement.

4). A devaluation automatically increases the expenditures necessary to service foreign debt. The same is true for the Central Bank, whose foreign liabilities amounted to $5.5 billion in 1990. In addition, the counterpart funding required for foreign-assisted projects -- especially infrastructure -- also varies directly with the exchange rate. Given the nominal ceilings imposed on the total public-sector deficit, a currency depreciation actually lowers the government's scope for maneouvre. It is therefore to be expected that a currency depreciation should find few adherents within the bureaucracy.

Macroeconomic Aspects

The macroeconomic aspects of the problem are no less important. As was seen above, they are an important explanation for intra-government resistance to a large depreciation. Quite apart from this, we observe that the short-run stagflationary effect of devaluation has also become quite severe, particularly in the late eighties -- a period of high oil prices, a high level of dependence on imported inputs, and a large foreign debt. For most, the memory of the consecutive devaluations of 1983 and 1984 has made devaluation synonymous with economic crisis and collapse. On a smaller scale the same is true for the "floating rate" de-facto devaluation in 1971, which caused an economic slowdown, double-digit inflation (even before the oil shocks of 1973-74), and political unrest. But the experience of the 1970s was followed by a boom in commodity prices and foreign capital inflows from the mid-70s which allowed the country to pursue a high-growth path. In contrast, the experience of the mid-eighties included an economic collapse which continued well into the first half of 1986. The devaluation in 1990 (due to the higher oil prices caused by the Gulf crisis) was once more perceived as a signal for the slowdown in 1990 and 1991.

All these contrast sharply with the devaluation in 1962, which did not cause severe economic dislocation. This was a period of relatively low import prices (pre-OPEC oil prices, especially) and a lower dependence on imported inputs. Devaluation actually increased agricultural exports and eased the balance of payments crisis; it did not lead to a significant slowdown in the pace of growth, nor to double-digit inflation.

From the foregoing, it is evident that the short-run pains of devaluation have become stronger than before, partially explaining the stronger resistance to it, compared with before. The espousal of devaluation among political leaders and opinion-makers -- except for those in academe has tended to become rarer, exposing one to the charge of deliberately espousing stagflation.

Most devaluations have historically been accompanied by fiscal and monetary austerity, owing to the standard fear of inflation. This aggravates the expected economic slowdown and conflicts with the need to provide "safety nets" to fixed-income earners and other groups adversely affected. On the other hand, the ability to provide such safety nets since the 1980s has been practically nil, owing to the severe constraints imposed on deficit spending. Public knowledge of this inability increases public resolve to resist substantial currency depreciation.

A large part of devaluation's association with crisis and collapse is itself the result of the government's conscious policy of defending a nominal level of the exchange rate until there is massive hemorrhaging in the balance of payments. Large devaluations have typically occurred during times of economic slowdown or recession abroad.

This implies there is no palpable "kick" in exports to be expected, since the positive effect on competitiveness is typically wiped out by the depression in demand.

4. CRITIQUE OF PAST POLICY

The exchange rate policy, aside from being an integral part of the industrial and trade program, is of course not independent from major macro policies, particularly monetary and fiscal policies.

As previously stated, significant exchange rate adjustments in the Philippines are done only during times of extreme balance of payment difficulties and depletion of international reserves. Thus exchange rate adjustments are not utilized to promote exports nor encourage efficiency and competitiveness but simply to stave off capital outflow and reserves depletion during times of crisis. The result we believe has been detrimental to the medium and long term growth of industries by constricting export potentials and reinforcing the final assembly and packaging aspects of Philippine industrialization to the detriment of backward integration and the development of a dynamic intermediate sector. Import dependence and trade deficits therefore continue unabated.

Furthermore, the hard struggle to keep the peso from depreciating during times of BOP deficits (when things have not yet reached crisis proportions) have aggravated the unfortunate moves towards recessionary policies to reduce aggregate demand in order to close the trade gap. High interest rate policies and credit contractions, which have been the prescriptions for inflation and trade imbalance, are exacerbated by attempts to prop up the peso making the

monetary restrictions even more severe. Growth rates have therefore been needlessly pulled down.

Competitiveness of Philippine exports have been weakened not only by an overvalued currency but by high interest costs that increase the value of exports.

Of course an isolated devaluation of the currency without corresponding fiscal, monetary and trade policy changes will reduce whatever benefits can be derived from the move, or even cause negative net effects. We have already pointed to the contractionary effects of a devaluation which increases the costs of imported inputs and imported capital goods. Furthermore, prices are sure to rise as a result of the devaluation. Depending on people's expectations and government policies, this may trigger an inflationary process. These short-run negative effects may, together with wrong policies, lead to an economic downturn brought about by a supply shock which may offset whatever benefits a devaluation can bring. (An extreme example of course is the series of devaluations in the second half of 1983 and early 1984 which were the harbingers of the 1984-1985 economic collapse). The timing of the exchange rate adjustment as well as proper accompanying policies become vital to any prescription.

The problem arises because the stagflation effects of a devaluation occur immediately and usually with full force. The benefits on exports, however, are lagged and the positive effects on industrial competitiveness and efficiency occurs only in the medium and long-term. It is therefore important that the short- run negative effects of devaluation be mitigated and cushioned so that they will not jeopardize the longer run positive effects. An important consideration here is the fact that most people's perception of a devaluation is negative and these negative expectations may indeed generate real results. Thus a substantial devaluation will have to be accompanied by counter policies to cushion the negative expectations.

Timing

As stated earlier, the ineffectiveness of the exchange rate adjustments in the eighties have been mainly due to the fact that devaluations have been made in extreme balance of payment difficulties and accompanied by severely restrictive and contractionary measures which lead to supply shocks and drastic cuts in output and incomes. The supply shock affects the export sector as well, and so the positive demand side benefits of devaluation are drowned out by the supply-side contraction.

In contrast to this, the devaluation experiences of the Philippines have been much better in the sixties (the 1962 devaluation) and the seventies (the 1970 floating rate adjustment) wherein output growth did not turn negative, exports grew satisfactorily and trade deficits were reduced as well.

The important differences are:

1. a more conducive international trade environment

2. less restrictive and contractionary accompanying policies

3. no debt overhang.

All of the above are of course related. The role of the net resource outflow due to the foreign debt payments is very important since it has left very little room for maneuverability in the external account and macro variables of the country. In the past extreme balance of payment difficulties may be more easily solved by a one-shot devaluation. The expenditure switching role of devaluation is relevant and important in the move towards trade balance. In the eighties, however, the debt hemorrhage, together with extreme monetarist prescriptions, have used exchange rate adjustments as part and parcel of a draconian policy to create a recession, reduce aggregate demand in order to achieve trade balance. This entails a fall in import demand via a fall in production and incomes.

To effect a beneficial effect from devaluation, past lessons have told us that devaluation must be done in a situation wherein the balance of payment deficit is not so large as to entail an economic collapse, "animal spirits" are still adequate and accompanying policies are not overly restrictive and contractionary. In other words, one must devalue before extreme crisis and difficulties have set in. Furthermore, a conducive trade environment will help in getting a significant and quick export response that will stave off the automatic contractionary tendencies of a devaluation. On hindsight, a devaluation during late 1988 or early 1989 might have been advantageous. First of all, this occurred before the economic recession in the United States and other Western countries so that the world market and terms of trade were more in our favor. Second, we were already experiencing balance of payments difficulties which would justify a devaluation, but the deficits and reserves reduction were not yet in gargantuan proportions as to have caused an economic collapse. Third, the inflation rate was still in single digits and quite manageable. The second and third points would have allowed a not too restrictive and contractionary macro policy to accompany the devaluation.

The fact that people's expectations associate devaluation with economic crisis necessitates that the devaluation be made in more optimistic and expansionary times. These are usually times when balance of payments are starting to be in deficits.

It would also be difficult to justify a devaluation during times of slow growth and increasing international reserves (as in 1991). First the lack of confidence in the system my heighten the negative short-run stagflation effects of a devaluation. Secondly, the political will for a devaluation will most likely be wanting simply because international reserves are high and there are no market pressures for a devaluation. In the future, we foresee that sometime in 1992, when the economy will have hopefully regained its steam and when trade deficits again start to rise, a devaluation must be implemented before a BOP crisis starts to set in. It is important however, that inflation be reduced substantially between now and then so that the one-shot inflationary effect of devaluation will not be too debilitating.

A one-time sharp devaluation would be recommended on condition that the accompanying measures mentioned below will be undertaken. The devaluation should be large enough to narrow down the trade deficits significantly. The one-shot dose would be better than several phased depreciations since the latter would cause more uncertainty and possible wavering on the Authorities as vested interest groups would lobby against the devaluation. After the devaluation, a managed float of the peso would be recommended wherein the peso will be allowed to float in the world market without Central Bank intervention as long as the exchange rate falls within reasonable bounds. If for example, the peso rate is adjusted to P/ 34 to one dollar (as is suggested in the CGE exercise), then the peso will be allowed to float freely within, say, 5% of its value - i.e. between P/ 32.3 to P/ 35.2 per dollar.

Accompanying Measures

Due to the one-shot short-run stagflation effect of a devaluation, accompanying measures will have to ensure that negative expectations will not be translated into an inflationary and/or recessionary spiral:

1. Given that inflation is not too high (in the single digit or low teens), then monetary policy should not be too restrictive (so that recessionary tendencies can be avoided) but it should also not be too expansionary (so that inflationary tendencies will not be heightened). A money growth that is not far from (perhaps slightly

lower than) the money growth right before the devaluation may be considered.

2. A significant foreign debt relief is necessary for exchange rate adjustments to be more effective:

   a) As devaluations improve the trade deficits, it should be the case that the foreign exchange earned should immediately be used to finance economic growth and development. If the foreign exchange savings are mainly channeled to debt payments, people will not feel the beneficial effects of devaluation and their negative perception of it will simply be reinforced.

   b) A significant relaxation of the fiscal constraint should be effected since safety nets should be provided for low income earners as discussed in the next number. The least painful way to relax the fiscal constraint is to obtain some debt relief.

   c) A devaluation will increase the peso costs of foreign debt payments and will increase the budget deficit[6]. It will also increase the Central Bank deficits in peso terms (since the CB has around $5 billion worth of foreign debt). These effects will have to be reduced. Thus a devaluation would really work better if it is accompanied by a significant debt relief.

3. To stave off negative impacts on low income groups, and to erase the negative impression of people on devaluations (this is an important point we will insist on), safety nets will have to be provided for in earnest, especially for fixed income earners. One way to partially offset the negative inflationary impact, is to make a counter move, say a decrease in oil tax[7], which will cushion the short-run stagflation effects. This should be done without unduly over expanding the budget deficit or reducing government expenditure and investment (the former will aggravate the inflationary tendency, the latter the recessionary tendency). Thus,

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[6]There would also be a corresponding increase in revenue from trade taxes but this will most likely be smaller than the increase in peso payments for the foreign debt.

[7]The reduction in the oil tax, unlike the fuel price reduction in August 1991, should be progressive and affect diesel and kerosene prices more than that of premium gasoline.

a significant debt relief and (if inadequate) an increase in direct taxes and luxury consumption tax will be needed. In the main, due to 2c) and the provision of safety nets, one should allow some increase in the budget deficit to accompany the devaluation at least in the initial year.

Overall, the accompanying measures, together with the devaluation move itself, will require a lot of political will and astuteness from the government. It is definitely not as easy as some people may think especially if devaluation is to be viewed as integral to a medium and long-term industrial and trade policy going beyond its usual role as bitter pill to stave off foreign exchange hemorrhages.

Table 1a*
Results of the Simulated Runs Using Demand-Led Model

	1989	1990
CPR	78929	83789
IR	18283	18201
CGR	9997	10367
GRGNPR	5.7	3.08
XD	7821	8186
MD	10419	12206
BOP	451	-185
IRESCB	2324.17	1993.11
EXR	21.74	24.31
INF	10.59	14.21

	Scenario 1		Scenario 2	
	1991	1992	1991	1992
CPR	88702.2	93379.12	88586.48	92907.85
IR	16167.57	14425.12	16724.35	14849.07
CGR	9682.03	9637.52	9580.05	9331.62
GRGNPR	2.64	3.08	2.15	1.62
XD	8287.03	8266.82	8287.03	8258.63
MD	12258.55	12152.68	12532.48	12720.59
BOP	485.72	615.05	211.79	116.83
IRESCB	2144.03	2305.22	2067.35	2102.25
EXR	27.5	30.71	27.59	31.35
INF	12.56	7.89	14.83	11.84

	Scenario 3		Scenario 4	
	1991	1992	1991	1992
CPR	88995.42	94087.73	88879.81	93616.61
IR	16337.73	15408.94	16895.67	15837.55
CGR	9765.22	9846.35	9662.88	9537.06
GRGNPR	3.89	4.75	3.4	3.31
XD	8688.5	9088.41	8688.5	9080.23
MD	12445.14	12619.74	12719.16	13187.77
BOP	950.3	1386.49	676.29	888.19
IRESCB	2274.08	2628.88	2197.38	2425.88
EXR	27.35	30.2	27.44	30.84
INF	12.25	7.18	14.52	11.15

*See end of Table 1b for description of scenarios

Table 1b
Results of the Simulated Runs Using Supply-Led Model

	1989	1990
GRGNPR	5.7	3.08
WR	50.43	52.59
PIMR	82.89	82.86
TLR	28207.18	29232.09
K	308272	316955
IRESCB	2324.17	1993.11
BOP	451	-185
EXR	21.74	24.31
XD	7821	8186
MD	10419	12206

	Scenario 1		Scenario 2	
	1991	1992	1991	1992
GRGNPR	-1.55	0.92	0.27	2.15
WR	49.01	46.49	48.2	45.03
PIMR	82.96	85.55	81.76	83.02
TLR	28143.61	28364.05	29677.31	31084.31
K	319308.3	319648.6	319308.3	320129.4
IRESCB	2261.27	2539.08	2119.92	2164.76
BOP	904.53	1103.63	399.59	184.59
EXR	27.36	30.31	27.53	31.23
XD	8287.03	8264.88	8287.03	8257.77
MD	11839.74	11543.08	12344.67	12598.58

	Scenario 3		Scenario 4	
	1991	1992	1991	1992
GRGNPR	-1.13	1.68	0.69	2.9
WR	49.2	46.94	48.38	45.45
PIMR	82.65	84.75	81.46	82.24
TLR	28229.38	28663.9	29765.77	31393.87
K	319308.3	319846.4	319308.3	320328.3
IRESCB	2414.71	2925.06	2273.28	2550.35
BOP	1452.73	2028.5	947.43	1108.27
EXR	27.18	29.74	27.35	30.63
XD	8688.5	9086.08	8688.5	9078.99
MD	11942.71	11832.53	12448.01	12889.35

Scenario 1: 10% increase in RM annually, USGNP is the same as in 1990, KA is the same as in 1990

Scenario 2: 20% increase in RM annually, USGNP is the same as in 1990, KA is the same as in 1990

Scenario 3: 10% increase in RM annually, 5% increase in USGNP annually, 10% increase in KA for 1991 and 1992 from 1990 level

Scenario 4: 20% increase in RM annually, 5% increase in USGNP annually, 10% increase in KA for 1991 and 1992 from 1990 level

List of Variables

CGR	- Real Government Consumption, in million pesos
CPR	- Real Private Consumption, in million pesos
IR	- Real Private Investment, in million pesos
BOP	- Balance of Payments, in million US dollars
EXR	- Nominal Exchange Rate (Pesos/US dollar)
GRGNPR	- GNPR Growth Rate
INF	- Inflation Rate (GNP deflator)
IRESCB	- Gross International Reserves of Central Bank, in million US dollars
K	- Capital Stock, in million pesos
MD	- Merchandise Imports, in million US dollars
PIMR	- Index of Peso Price of Imports, real
TLR	- Real Total Liquidity, in million pesos
WR	- Real Wage Rate of Unskilled Workers
XD	- Merchandise Exports, in million US dollars

TABLE 2

PERCENTAGE DISTRIBUTION OF FARM WORKERS BY USUAL OCCUPATION[1]
BY REGION, PHILIPPINES, 1987

Particulars	Palay	Corn	Coconut	Sugarcane	Other Crops	Livestock	Poultry	Fishing	Off-Farm
Philippines	57.17	16.34	11.10	0.83	4.61	0.53	0.36	3.38	5.58
Ilocos	81.42	3.84	0.22	0.06	4.23	0.07	0.06	1.02	9.08
Cagayan Valley	74.25	19.67	0.78	0.06	1.37	0.21	0.[illegible]	0.27	3.15
Central Luzon	83.42	1.34	1.04	1.01	3.20	0.47	0.50	1.24	7.78
Southern Tagalog	49.35	8.50	14.53	4.50	6.93	3.18	0.98	7.19	4.24
Bicol	58.03	12.73	19.42	0.10	3.51	0.17	-	1.90	4.34
Western Visayas	80.59	4.72	2.17	0.63	2.50	0.02	0.02	3.19	6.16
Central Visayas	24.63	47.75	9.28	0.40	3.90	0.51	0.26	10.90	2.37
Eastern Visayas	47.47	5.37	29.40	0.46	10.37	0.62	0.34	3.13	2.95
Western Mindanao	29.76	26.69	30.30	-	4.57	1.61	0.46	2.00	3.41
Northern Mindanao	36.48	28.14	15.81	0.91	5.35	0.96	1.85	5.19	6.01
Southern Mindanao	33.60	24.06	22.63	0.65	6.96	0.02	0.34	1.13	8.31
Central Mindanao	48.00	35.44	8.24	0.26	0.37	0.43	-	0.40	6.26

[1]The term "usual occupation" refers to the enterprise or activity with which the working farm household members identify or associate themselves.

Source: Agricultural Accounts and Statistical Indicators Division, Bureau of Agricultural Statistics.

TABLE 3

NUMBER AND PERCENT DISTRIBUTION OF ACTUAL STRIKES/LOCKOUTS DECLARED BY MAJOR INDUSTRY GROUP PHILIPPINES: 1975-83

Major Industry Group	1975				1976				1977				1978			
	Actual Strikes/Lockouts Declared		Workers Involved		Actual Strikes/Lockouts Declared		Workers Involved		Actual Strikes/Lockouts Declared		Workers Involved		Actual Strikes/Lockouts Declared		Workers Involved	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
ALL INDUSTRIES	5	100.0	1,760	100.0	66	100.0	70,929	100.0	30	100.0	30,163	100.0	47	100.0	33,731	100.0
Agriculture, fishery and forestry	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mining and quarrying	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Manufacturing	5	100.0	1,760	100.0	70	81.4	59,099	83.3	26	86.7	28,572	94.7	40	85.1	31,824	94.3
Electricity, gas and water	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Construction	0	0.0	0	0.0	1	1.2	8,000	11.3	4	13.3	1,611	5.3	0	0.0	0	0.0
Wholesale and retail trade	0	0.0	0	0.0	9	10.5	1,700	2.4	0	0.0	0	0.0	4	8.5	1,907	2.0
Transportation, storage and communication	0	0.0	0	0.0	5	5.8	2,060	2.9	0	0.0	0	0.0	1	2.1	100	0.3
Financing insurance, real estate and business services	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Community, social and personal services	0	0.0	0	0.0	1	1.2	50	0.1	0	0.0	0	0.0	2	4.3	600	2.4

Major Industry Group	1979				1980				1981				1982			
	Actual Strikes/Lockouts Declared		Workers Involved		Actual Strikes/Lockouts Declared		Workers Involved		Actual Strikes/Lockouts Declared		Workers Involved		Actual Strikes/Lockouts Declared		Workers Involved	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
ALL INDUSTRIES	39	100.0	16,726	100.0	62	100.0	20,902	100.0	260	100.0	95,565	100.0	155	100.0	53,624	100.0
Agriculture, fishery and forestry	0	0.0	0	0.0	13	21.0	2,952	14.1	23	8.9	5,450	5.6				
Mining and quarrying	0	0.0	0	0.0	0	0.0	0	0.0	6	2.3	8,130	8.2	17	10.8	2,300	4.3
Manufacturing	26	66.7	12,055	70.9	38	61.3	13,595	64.1	175	67.3	70,250	71.3	2	1.3	630	1.2
Electricity, gas and water	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	17	0.0	108	68.4	47,[illegible]	87.5
Construction	0	0.0	0	0.0	0	0.0	0	0.0	3	1.2	3,179	3.2	0	0.0	0	0.0
Wholesale and retail trade	7	17.9	1,470	8.8	0	0.0	0	0.0	12	4.6	3,950	4.0	3	1.9	553	1.0
Transportation, storage and communication	5	12.8	2,180	13.0	2	3.2	3,032	14.5	12	4.6	2,370	2.4	7	4.4	592	1.1
Financing insurance, real estate and business services	1	2.6	220	1.3	2	3.2	172	0.8	4	1.5	2,075	2.1	6	3.8	662	1.2
Community, social and personal services	0	0.0	0	0.0	7	11.3	1,351	6.5	24	9.2	3,112	3.2	4	2.5	953	1.8
													11	7.0	1,040	1.9

Note: Data for 1975-1979 excludes reports from MOLE Regional Offices.

Source: Yearbook of Labor Statistics, 1984, 1985

(Cont'd) NUMBER AND PERCENT DISTRIBUTION OF ACTUAL STRIKES/LOCKOUTS DECLARED BY MAJOR INDUSTRY GROUP, PHILIPPINES: 1975-86

Major Industry Group	1983				1984				1985			
	Actual Strikes/Lockouts Declared		Workers Involved		Actual Strikes/Lockouts Declared		Workers Involved		Actual Strikes/Lockouts Declared		Workers Involved	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
ALL INDUSTRIES	155	100.0	24,697	100.0	259	100.0	65,306	100.0	371	100.0	111,265	100.0
Agriculture, fishery and forestry	17	11.0	1,812	7.3	20	7.7	5,486	8.4	16	4.3	2,390	2.1
Mining and quarrying	2	1.3	140	0.6	2	0.8	1,235	1.9	2	0.5	2,600	2.3
Manufacturing	94	60.6	19,143	77.5	182	70.3	47,619	72.9	260	70.1	86,656	77.9
Electricity, gas and water	0	0.0	0	0.0	1	0.4	100	0.2	2	0.5	212	0.2
Construction	4	2.6	139	0.6	4	1.5	453	0.7	1	0.3	1,152	1.0
Wholesale and retail trade	2	1.3	63	0.3	15	5.8	1,110	1.7	13	3.5	2,956	2.7
Transportation, storage and communication	10	6.5	993	4.0	24	9.3	3,639	5.6	26	7.5	7,744	7.0
Financing insurance, real estate and business services	1	0.6	35	0.1	9	3.5	2,520	3.9	7	1.9	2,461	2.2
Community, social and personal services	25	16.1	2,364	9.6	2	0.8	3,164	4.8	42	11.3	5,092	4.6

Major Industry Group	1986				1987				1988			
	Actual Strikes/Lockouts Declared		Workers Involved		Actual Strikes/Lockouts Declared		Workers Involved		Actual Strikes/Lockouts Declared		Workers Involved	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
ALL INDUSTRIES	581	100.0	169,479	100.0	456	100.0	69,574	100.0	267	100.0	75,848	100.0
Agriculture, fishery and forestry	20	3.4	5,241	3.1	23	5.3	7,066	7.9	14	5.2	3,536	4.7
Mining and quarrying	9	1.5	7,030	4.1	5	1.1	636	0.7	2	0.7	1,470	1.9
Manufacturing	366	63.0	87,669	51.8	232	53.2	52,890	59.0	131	49.1	42,351	55.8
Electricity, gas and water	5	0.9	160	0.1	12	2.6	1,773	2.0	15	5.6	2,259	3.0
Construction	6	1.0	419	0.2	2	0.5	1,200	1.3	3	1.1	172	0.2
Wholesale and retail trade	53	9.1	7,230	4.3	43	9.9	4,077	4.6	24	9.0	4,351	5.7
Transportation, storage and communication	52	9.0	32,091	18.9	31	7.1	11,467	12.6	22	8.2	9,620	12.7
Financing insurance, real estate and business services	11	1.9	1,163	0.7	12	2.8	1,541	1.7	12	4.5	3,507	4.6
Community, social and personal services	59	10.2	28,271	16.7	73	16.7	8,864	9.9	44	16.5	8,579	11.3

Note: Data for 1975-1979 excludes reports from MOLE Regional Offices.

Source: Yearbook of Labor Statistics, 1984, 1986

TABLE 4

TOTAL FOREIGN EXCHANGE LIABILITIES, BY TYPE OF BORROWER
(In Million US Dollars)

Particulars	1972	1984	1985	1986	1987	1988	1989	1990[a]
Public Sector	1,477	17,548	19,122	21,829	22,751	22,666	22,222	23,458
Government Banks	776	1,094	841	673	463	393	492	644
Central Bank	-	4,113	5,923	7,161	6,504	6,164	5,429	5,530
Public Institutions	701	12,151	12,358	13,633	15,784	16,111	16,301	17,284
Red Clause	-	190	-	162	-	-	-	-
Private Sector	1,255	7,870	7,130	6,427	5,898	5,247	5,394	5,484
Commercial Banks	-	3,026	2,112	1,871	1,906	1,857	1,942	1,694
Private Institutions	1,255	4,800	4,776	4,172	3,831	3,140	3,013	3,239
Red Clause	-	47	242	384	161	250	439	548
TOTAL	2,732	25,418	26,252	28,256[b]	28,649	27,915	27,616	28,942

[a] As of November 1990.
[b] Excludes standbys and guarantees.

Sources: Department of Budget and Management
Department of Finance
Central Bank