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**THE ECONOMICS OF DEBT-EQUITY SWAPS:
AN EMPIRICAL INVESTIGATION ON THE MACROECONOMIC
IMPACT AND CRITICAL ANALYSIS OF THE EFFECTIVENESS
OF THE PHILIPPINE DEBT-EQUITY CONVERSION PROGRAM
IN EXTERNAL DEBT MANAGEMENT**

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T A B L E O F C O N T E N T S

	Page
CHAPTER I: INTRODUCTION.....	1
A. Background of the Study.....	1
B. Statement of the Problem.....	2
C. Objectives of the Study.....	2
D. Significance of the Study.....	3
E. Scope and Delimitation of the Study.....	4
F. Research Design and Methodology.....	5
G. Resume' of Related Research and Professional Literature.....	7
CHAPTER II: THE ECONOMICS BEHIND DEBT-EQUITY SWAPS.....	13
A. The Origins/Evolution of Debt-Equity Swaps.....	13
B. The Nature of Debt-Equity Conversion Transactions.....	15
C. The Microeconomics of Debt-Equity Swaps: The Workings of the Market.....	17
1. The Supply for Debt-Equity Swaps.....	17
2. The Demand for Debt-Equity Swaps.....	18
3. The Secondary Market Price for Debt and the Discount.....	20
D. The Macroeconomics of Debt-Equity Swaps: Benefits and Costs to Host Countries.....	23
E. Conditions/Deterrents to Successful Implementation.....	26
CHAPTER III: THE PHILIPPINE DEBT-EQUITY CONVERSION PROGRAM....	32
A. Overview of the Philippine External Debt Crisis and Strategy Response.....	32
B. Purpose and Coverage of the Program.....	35
C. Mechanics and Operational Guidelines.....	36
D. Implementing Guidelines/Features.....	38
E. Status of the Program.....	40
F. Impact of the Program/M Measurement of Effects.....	42
1. Impact on the External Accounts.....	42
2. Impact on Monetary Aggregates.....	46
3. Impact on Real Sector and Fiscal Variables.....	48
4. Impact on Domestic Interest Rates and Foreign Exchange Rates.....	49
G. Present Thrust of the Program.....	51
I. Problems/Difficulties Encountered in Implementation.....	51
CHAPTER IV: COMPARATIVE SURVEY OF DEBT-EQUITY CONVERSION PROGRAMS OF SELECTED HEAVILY-INDEBTED DEVELOPING COUNTRIES.....	55
A. Individual Country Profiles.....	55
1. Argentina.....	55
2. Brazil.....	56
3. Chile.....	57
4. Mexico.....	59

5. Venezuela.....	60
B. Comparison with the Philippine Program.....	61

CHAPTER V: CONCLUSION, POLICY RECOMMENDATIONS AND IMPLICATIONS.....	64
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A. Evaluation of Findings.....	64
B. Policy Recommendations and Implications.....	65

TABLES

CHARTS

FIGURES

TECHNICAL APPENDIX

BIBLIOGRAPHY

LIST OF TABLES

Table II.1 : Market Prices for Developing Country Debt Paper
Table III.1 : Debt Outstanding of Seventeen Heavily-Indebted Countries
Table III.2 : Selected Economic Indicators and Principal Ratios of Philippine External Indebtedness
Table III.3 : Status Report on Philippine Debt-Equity Conversion Program
Table III.4 : Breakdown of Debt-Equity Conversion Transactions By Nationality of Investors
Table III.5 : Breakdown of Debt-Equity Conversion Transactions By Industry/Sector
Table III.6 : Breakdown of Debt-Equity Conversion Transactions By Type of Debt Paper/Nature of Liability
Table III.7 : Summary Table of Accounting Framework for the External Sector Impact of Debt-Equity Swaps
Table III.8 : Impact of Debt-Equity Conversion on Selected External Sector Accounts
Table III.9 : Net Direct Foreign Investments in the Philippines
Table III.10: Estimated Interest Savings on Foreign Loans Arising from Debt-Equity Conversion Scheme
Table III.11: Summary Table of Accounting Framework for the Monetary Sector Impact of Debt-Equity Swaps
Table III.12: Impact of Debt-Equity Conversion on Reserve or Base Money
Table III.13: Impact of Debt-Equity Conversion on Selected Real Sector Variables
Table III.14: Impact of Debt-Equity Conversion on Fiscal Aggregates
Table III.15: Impact of Debt-Equity Conversion on Domestic Interest Rates and Foreign Exchange Rates
Table III.16: Philippine External Debt Profile
Table III.17: Effective Discounts to the Investor of Philippine Debt- Equity Swaps
Table IV.1 : Cross-Country Comparison of Debt Conversion Schemes
Table IV.2 : Magnitudes of Debt Conversion and Total External Debt Outstanding of Heavily-Indebted Developing Countries

ANNEX TABLES

- Annex Table III-A: Schedule of Principal Amortizations to Commercial Banks Before and After Debt-Equity Conversion
- Annex Table III-B: Regression Run on Exchange Rate
- Annex Table III-C: Regression Run on Interest Rate (Treasury Bill Rate)
- Annex Table III-D: Computation of Effective Discounts on Schedule 2 Investments
- Annex Table III-E: Computation of Effective Discounts on Schedule 3 Investments

LIST OF CHARTS

- Chart 1 : Secondary Market Discount Rates of Heavily-Indebted Developing Countries (HICs)
- Chart 2 : Philippine External Debt Outstanding
- Chart 3 : Philippine External Debt Indicators
- Chart 4 : External Impact of Debt-Equity Swaps
- Chart 5 : Monetary Impact of Debt-Equity Swaps
- Chart 6 : Real Sector Impact of Debt-Equity Swaps
- Chart 7 : Fiscal Impact of Debt-Equity Swaps
- Chart 8 : Interest Rate Impact of Debt-Equity
- Chart 9 : Exchange Rate Impact of Debt-Equity
- Chart 10: Philippine External Debt Profile
- Chart 11: Debt Conversion Ratios of Heavily-Indebted Developing Countries (HICs)

LIST OF FIGURES

- Figure 1: Debt-Equity Conversion Mechanism Flow Chart
- Figure 2: The PIDS-NEDA Macroeconometric Model Flow Chart

TECHNICAL APPENDIX

THE PIDS-NEDA MACROECONOMETRIC MODEL FOR THE PHILIPPINES

- Appendix 1: List of Exogenous and Endogenous Variables
- Appendix 2: List of Behavioral/Regression Equations with Statistical Tests of Significance
- Appendix 3: List of Equational Identities
- Appendix 4: Static and Dynamic Simulations of the Model

CHAPTER I INTRODUCTION

A. BACKGROUND OF THE STUDY

Since the outbreak of the international debt crisis in August 1982 when Mexico became the first debtor country to suspend debt service payments, external debt management has played an increasing role in economic policy formulation among major debtor countries. In subsequent years, significant progress has been achieved towards resolving the debt dilemma as stringent adjustment measures were undertaken by these indebted countries and as their exports were boosted by economic recovery in industrial countries from the latest global recession.

Nevertheless, the external debt crisis of developing countries, while appearing to have been temporarily defused, still poses a continuing threat to the stability of the international economy due to the uncertain political sustainability of painful adjustment measures and the possible recurrence of external shocks that could exacerbate the debt crunch such as renewed global recession, intensified trade protectionism and the upswing of foreign interest rates. Despite improved rescheduling techniques which have formed the main feature of the conventional or traditional approach to the debt workout process, there has been a reversal of net international capital flows since 1982 which is attributable more to reduced inflows of new bank credits than to higher debt service payments by debtor countries¹.

Thus, focus has shifted in recent years towards the development of new initiatives, innovative approaches and alternative strategies by indebted developing countries aimed at restoring their debt-servicing capacities, sustaining their economies and returning their access to voluntary lending by the international financial community. This evolving array of new debt management techniques subsumed under the so-called "menu approach" provides more flexibility in the debt workout process which is otherwise constrained by long delays and complications under the traditional approach arising from disagreement among banks over regulatory procedures, divergence in business interests and degree of sovereign risk exposures, policy slippages in several debtor countries impeding the growth process and weakening their credibility; and the growing reluctance of banks to provide additional financing².

Among these menu options, much attention has been centered on debt-equity conversion schemes due to its rapid growth in recent years and its increasing application in one form or another in highly-indebted developing countries (HICs). Yet, the usage of debt-equity swaps to reduce the debt overhang of HICs has generated an active debate where contrasting views regarding its effectiveness stem from the fact that there are benefits or welfare effects and costs of debt-equity swaps to the host or sponsoring country.

Nowhere is such controversy more alive than in the Philippines where its debt-equity conversion program implemented for no less than three years since August 1986 has been both hailed and assailed by various quarters. In 1988, two separate yet conflicting legislative bills have been filed: one seeking for the dissolution of the program, the other accelerating its implementation. The dissension over the program also comes at the heels of a virtual slowdown in its implementation and uncertainty over its future direction.

B. STATEMENT OF THE PROBLEM

The study will attempt to assess the effectiveness of debt-equity swaps or conversion schemes as an external debt management technique based on a theoretical and empirical analyses of its macroeconomic effects, from which policy recommendations for future program implementation in particular, and implications on the polity of external debt policies in general will be proposed.

In this study, it is hypothesized that based on the analysis of its economic effects, the Philippine debt-equity conversion program should be continued and further improvements can be made on those aspects where unfavorable effects are generated.

C. OBJECTIVES OF THE STUDY

The study will generally seek to address the following concerns:

- 1) To provide a working knowledge and basic understanding of the micro- and macro-economics behind debt-equity swapping, of which the latter shall serve as a theoretical or conceptual framework in the analysis and evaluation of the program's impact;
- 2) To measure and quantify the effects of the program on the economy

and its implications on debt management, on which basis justification for the program's continued implementation or termination will rest;

3) To critically review the existing implementing guidelines of the program including its performance and compare it with experiences of other countries adopting similar schemes for the purpose of extracting insights and lessons for policy formulation; and

4) To derive policy implications on external debt management and propose policy measures regarding program implementation, particularly as to whether the practice should be encouraged or restrained.

D. SIGNIFICANCE OF THE STUDY

The attainment of these objectives will benefit Philippine government policymakers, particularly the Central Bank which manages the country's external position as well as oversees and implements the Philippine debt-equity conversion program. Specifically, the proposed policy measures suggested in this study may be considered for adoption by the Philippine government with the end in view of coming up with an improved and more effective debt management strategy. The study can also be useful to the country's legislators, particularly the authors of the two pending legislative bills, as the analytical evaluation of the program's impact can serve as valuable inputs in their ongoing deliberations. The ultimate beneficiaries, nevertheless, are the individual stakeholders or parties involved in a debt-equity swap transaction, namely: the investors, the local debtors, the foreign creditors, the intermediary banks and the host or sponsoring country and its citizenry, all of which stand to gain from an improved, properly-structured and supposedly more successful debt conversion scheme.

The study is made doubly significant by the fact that there is no known investigation presently being undertaken that measures or quantifies the macroeconomic effects of debt-equity swaps, thereby pioneering in lending empirical support or evidence to a lot of theorizing on the possible or potential consequences of such scheme on the macroeconomy; and that it is conducted at a time when it is most needed considering the currentness of the issues and controversies surrounding the program and the uncertainty over its future direction.

E. SCOPE AND DELIMITATION OF THE STUDY

The conduct of analysis is limited to available data on Philippine debt-equity conversion transactions as of end-December 1988, or a period spanning 30 months since the program was launched in August 1986. Much of the data contained in the study were generated from secondary sources, specifically the status reports from the Central Bank of the Philippines, from which the external and monetary effects were calculated. A more updated coverage to the most current month was not undertaken considering the lag in the availability of updated monthly status reports, the tediousness of analyzing each transaction, and the need to reconcile data for consistency and accuracy with reports generated by other entities involved in the debt-equity accounting process.

To confine the study within a manageable scope, only debt-equity swaps and not other types of debt conversion schemes (e.g., debt-for-debt, debt-for-bonds, debt-for-peso swaps) will be tackled and only the macroeconomic aspect will be developed in the paper. While the microeconomics of debt-equity swaps (supply, demand and price determination of debt papers in the secondary market) will be described in the theoretical framework, this will not be treated in the empirical part due to budgetary and data constraints and the limited space and time allotted for the study. For these same reasons, attempts to quantify the real sector and fiscal effects of the program were confined to the use of available or existing econometric models although separate regression equations were designed for the interest rate and exchange rate effects, while the measurement of investment additionality, which concept will be developed in a later chapter, will not be resorted to. After all, the formulation of a new econometric model to determine intersectoral linkages of the economic effects of debt-equity swaps would be too tedious and time-consuming an exercise, more so with the conduct of a survey/interview among investors to measure investment additionality, not to mention dubious results that would likely be produced as respondents may not answer truthfully. Meanwhile, conceptual difficulties and complications on data requirements (e.g., measure of country credit-worthiness) encumber the development of a micromodel to explain the demand and supply functions and price determination of

Philippine debt papers sold or swapped for equity in the secondary market. While all these issues make equally fascinating subjects for exploration, they would in themselves necessitate comprehensive treatments and qualify as topics for separate research. These tasks will be left as a challenge to extend the scope covered and improve the methodology used in this study.

F. RESEARCH DESIGN AND METHODOLOGY

The study is designed to provide a theoretical and empirical basis for the abolition or retention of the Philippine debt-equity conversion program. For the qualitative part, reference is made to available literature on the subject while to a sufficient extent, quantitative analysis of secondary data, mostly statistics based on actual status reports and other selected economic indicators, is conducted.

The second chapter provides a theoretical framework about debt-equity swapping where its origins, nature and market, benefits and costs to host countries and the conditions/requirements for its successful implementation will be explained. These basic concepts and underlying principles will be used in structuring the empirical investigation of the program's economic effects.

The third chapter describes the Philippine debt-equity conversion program against a backdrop of the country's external debt situation, reviewing in the process the guidelines governing its implementation and reporting as well the actual status or performance of the program. This is followed by the quantitative measurement and analysis of the actual impact of the program on the economy which hinges on the external and monetary sectors where the effects are directly and immediately quantifiable with relative precision as these mainly involve accounting entries.

The empirical design proceeds first, through a transaction-by-transaction accounting of the entries involved based on an accounting framework and tracing the resulting changes on the balances of selected external sector indicators (e.g., the balance of payments, international reserves, direct foreign investments and external debt) as well as of monetary aggregates (e.g., reserve money and domestic liquidity); and secondly, through the use of econometric techniques to link these

external and monetary sector effects on selected real sector (e.g., inflation, production and employment) and fiscal variables (e.g., budget deficit, revenues, expenditures) and the prices of financial (domestic interest rates) and foreign currency (exchange rate) markets.

The linkage of economic effects is principally conducted through the use of an econometric software package (ESP) based on the PIDS-NEDA macroeconometric model for the Philippines which is used in the preparation of the National Five-Year Development Plan and in the generation of official targets and forecasts for economic aggregates. Essentially, the procedure involved a process of simulation³ where the actual data series for variables used in the macromodel were "cleansed" of the external and monetary sector effects of debt-equity swaps determined earlier. Through several iterations, *ex-post*⁴ forecasts for the period 1986-1988 when the program was implemented were generated until the selected real sector and fiscal variables enumerated above that would have been consistent with the levels of external and monetary indicators purged of debt-equity effects were reached, based on the specifications of the model.

The macromodel consists of four major blocks, namely: 1) the real, 2) fiscal, 3) financial and 4) external sectors. There are 104 equations, 41 of which are identities and the rest are behavioral or estimated ordinary least squares regression⁵ equations which determine recursively⁶ and simultaneously⁷ the values of 86 endogenous variables given assumptions on the values of 54 exogenous, including policy, variables.

Inasmuch as two of the major variables affected by debt-equity swaps, namely domestic interest and exchange rates were treated exogenously in the model, separate single equation models were designed to determine the transmission effects of external and monetary aggregates with and without debt-equity effects on these variables, incorporating at the same time a consistent set of assumptions used in the macromodel. Realizing that there may be lagged effects between two or more variables used in the equations, a distributed-lag model was specified⁸. Based on the empirical results, some conclusions about the effects of the Philippine debt-equity conversion scheme were derived, on which policy formulation was based upon.

The fourth chapter features individual profiles of the various debt-equity conversion programs being implemented by other highly-indebted developing countries, mostly in Latin America, with particular reference to mechanics and operational procedures and degree of program success. A cross-country comparison of the program including the Philippine version will be undertaken to detect common characteristics and unique features that will serve to provide useful insights and inputs for the improvement and strengthening of the Philippine program if it is to be modified.

The fifth chapter evaluates the effectiveness of the debt conversion program as a debt management tool based on the results of the empirical analysis; explores various policy recommendations regarding the program by proposing revisions or modifications directed towards its improvement; and discusses their implications on the issue of external debt management while at the same time suggesting areas for improvement and further research.

G. RESUME' OF RELATED RESEARCH AND PROFESSIONAL LITERATURE

An exhaustive survey of related research and professional literature that critically review the Philippine debt-equity conversion program in terms of its economic impact and operational structure indicates that this study is unprecedented in terms of scope and methodological approach.

Although there has been a proliferation of readings on the subject of debt-equity swaps which happen to be fairly recent (circa 1986 to 1989), these merely describe or discuss the mechanics of the program, the market forces or microeconomics behind its operation, its potential or possible macroeconomic effects, and features or characteristics of debt conversion schemes adopted by debtor countries.

A lot of empirical work on the microeconomic field, specifically the workings of the secondary market for sovereign debt, has also been done, notably by Cohen⁹, Claessens¹⁰, Dooley¹¹, Dooley et al¹², Errunza and Moreau¹³, Helpman¹⁴, Huizinga¹⁵, Morande and Schmidt-Hebbel¹⁶, and Vatnick¹⁷, which does not apply on the macroeconomic side where discussion has been kept at the theoretical or conceptual level, a

dearth in the literature which this paper can hopefully make a contribution to.

Still on the economics of debt-equity swaps, the theoretical treatment of the macroeconomic aspect range from pure descriptions of the mechanics behind the scheme and enumeration of its potential macroeconomic consequences as provided by Citicorp Investment Bank¹⁸, Bergsten et al¹⁹, Blackwell and Nocera²⁰, Buchheit²¹, Ffrench-Davis²², Findakly²³, Franke²⁴, Ghosh²⁵, Gill²⁶, Gonzales²⁷, Layman and Kearney²⁸, Marton²⁹, Morgan Guaranty Trust Company³⁰, Nair and Frazier³¹, Ollard³², Regling³³, Roberts and Remolona³⁴, Segal³⁵, Schubert³⁶ and Weinert³⁷ to the more mathematical and technical approaches on the welfare effects and efficiency gains and losses of the program as expounded by Bird³⁸, Bulow and Rogoff³⁹, Diwan⁴⁰, Diwan and Claessens⁴¹, Krugman⁴², Rodriguez⁴³, Sachs⁴⁴, Velasco⁴⁵, Versluysen⁴⁶ and Williamson⁴⁷. Of the latter group, Bird⁴⁸ likewise provides a theoretical market model specifying demand, supply and price functions of debt-equity swaps. Meanwhile, a complete chronology of its market evolution can be found in the World Bank⁴⁹, the UNCTAD⁵⁰ and Blackwell and Nocera⁵¹, the latter providing as well a general accounting framework for the external and monetary sector effects of the program which was useful in the empirical design used in this study.

As far as the chapter on the Philippine debt-equity conversion scheme is concerned, the major reference used in describing the program is Central Bank Circular No. 1111, both in its original and revised versions⁵². Analyses of the gains and losses brought upon the country by the program are limited, notable among which are the works of Fernandez⁵³, U and Maquito⁵⁴, and de Guzman and Aldana⁵⁵. Their findings, however, lack empirical support. Meanwhile, analyses of the Philippine external debt situation are adequately provided by Alesina⁵⁶, Dohner and Intal⁵⁷, Dooley et al⁵⁸, Erbe⁵⁹, and Tanzi⁶⁰ while Donovan⁶¹, Dornbusch⁶², Emminger⁶³, Krueger⁶⁴, Sachs⁶⁵, Westphalen⁶⁶, the UNCTAD⁶⁷ and the World Bank⁶⁸ offer ample descriptions of the origins of the international debt crisis in general. The empirical section of the study, on the other hand, borrows heavily on the PIDS-NEDA Macroeconometric Model for the Philippines developed by Mariano and Constantino⁶⁹, a synopsis of which is provided in the Technical

Appendix.

For the individual country profiles of debt conversion schemes, the best sources for the description of programs are those of the Bank of Boston⁷⁰, Blackwell and Nocera⁷¹, Fonceerrada⁷², Fontaine⁷³, Lahera⁷⁴, Layman and Kearney⁷⁵, Monteiro⁷⁶, the World Bank⁷⁷ and Euromoney and supplements^{78,79,80} while indications of the magnitude of transactions per country are provided in Diwan and Claessens⁸¹.

NOTES

¹ See Peter Munnenkamp, *Voluntary and Involuntary Lending: A Test of Major Hypotheses* (Washington, D.C.: World Bank Working Paper, June 1989), p. 35.

² See Debt Management and Financial Advisory Services Department, *Market-Based Menu Approach* (Washington, D.C.: The World Bank, monograph, September 1988), pp. 1-5.

³ Simulation is a form of forecasting that generates a range of alternative projections based on differing assumptions (alterations on the values of exogenous variables and parameters of economic models) to assess the likely impacts of various economic policies and specifically to ask the question "what would happen if?" rather than "what will happen?"

⁴ *Ex-post* refers to the realized or actual level of some activity as opposed to *ex-ante* which pertains to the planned, desired or intended level.

⁵ A simple regression equation is a statistical method of fitting a mathematical equation to a set of data points or variables for purposes of establishing quantitative economic relationships or testing economic hypotheses. Among different regression techniques, the ordinary least squares method (OLSQ) specifies that the line which is fitted to the tested variables be such that the sum of squares of the vertical deviations of the scatter of points from the regression or estimated line, otherwise known as residuals, be minimum.

⁶ Recursive models determine the current values of one set of variables based on the current values of another set, whereas previous or lagged values of the latter set determine the current values of the former.

⁷ Simultaneous equations have variables in common which values must satisfy all of the equations simultaneously or all together.

⁸ Distributed-lag models are specifications which include lagged or past values of the independent and/or dependent variables among the set of explanatory variables.

⁹ Daniel Cohen, *Is the Discount on the Secondary Market A Case for LDC Debt Relief?* (Washington, D.C.: World Bank Working Paper, November 1988).

¹⁰ Stijn Claessens, *The Debt Laffer-Curve: Some Estimates* (Washington, D.C.: The World Bank, mimeo, August 23, 1988).

¹¹ Michael P. Dooley, *Buy-backs and the Market Valuation of External Debt* (Washington, D.C.: IMF Working Paper, September 10, 1987).

¹² Michael P. Dooley, Steven Symansky, and Ralph W. Tryon, *A Dynamic Model of Buy-backs* (Washington, D.C.: IMF Working Paper, July 12, 1989).

¹³ Vihang R. Errunza and Arthur F. Moreau, *Debt-for-Equity Swaps Under A Rational Expectations Equilibrium*, McGill University Working Paper 87-26.

¹⁴ Elhanan Helpman, *The Simple Analytics of Debt-Equity Swaps and Debt Forgiveness* (Washington, D.C.: IMF Working Paper, March 1988).

¹⁵ Harry Huizinga, *How Has the Debt Crisis Affected Commercial Banks?* (Washington, D.C.: World Bank Working Paper, May 1989).

¹⁶ Felipe Morande and Klaus Schmidt-Hempel, *A Simple Portfolio Framework for Debt Conversion* (ILADES/Georgetown Graduate Program in Economics, mimeo, December 1988).

¹⁷ Silvina Vatnick, *The Secondary Market for Debt: A Possible Explanation of How LDC Debt Prices Are Determined* (Washington, D.C.: The World Bank, mimeo, April 1988).

- ¹⁸ Citicorp Investment Bank, "Financing Alternatives in Developing Countries", *Euromoney*, Sponsored supplement (London: Euromoney Publications PLC, September 1987).
- ¹⁹ Fred C. Bergsten, William R. Cline and John Williamson, *Bank Lending to Developing Countries: The Policy Alternatives* (Washington, D.C.: Institute for International Economics, April 1985).
- ²⁰ Michael Blackwell and Simon Mucera, *Debt/Equity Swaps* (Washington, D.C.: IMF Working Paper, February 12, 1988), and "The Impact of Debt to Equity Conversion", *Finance and Development* (Washington, D.C.: International Monetary Fund and The World Bank, June 1988).
- ²¹ Lee Buchheit, *Debt/Equity Conversion Programmes from the Debtor Country's Perspective*, Speech delivered during the Philippine Investment Conference on Privatization and Debt-Equity Conversion (Manila, Philippines: November 12-13, 1987).
- ²² Ricardo Ffrench-Davis, "Debt-Equity Conversion: A View from the Developing Countries", *The CTC Reporter* (New York: United Nations Centre on Transnational Corporations, No. 23, Spring 1987).
- ²³ Hani K. Findakly, *LDC Debt Securitization and Secondary Markets*, Speech delivered during the Roundtable Conference on Trends in International Capital Markets: Implications for Developing Countries (Oxford, England: February 20-26, 1988).
- ²⁴ Gunter Franke, *Economic Analysis of Debt-Equity Swaps* (Konstanz University, Fakultät für Wirtschaftswissenschaften und Statistik, Series II, No. 23, May 1987).
- ²⁵ Surojit Ghosh, *Debt and Debt-Equity Swaps*, Speech delivered during the Roundtable Conference on Trends in International Capital Markets: Implications for Developing Countries (Oxford, England: February 20-26, 1988).
- ²⁶ David Gill, *Opening Remarks on Privatization and Debt-Equity Conversion*, Speech delivered during the Philippine Investment Conference on Privatization and Debt-Equity Conversion (Manila, Philippines: November 12-13, 1987).
- ²⁷ Carlos Gonzales, *The Secondary Market for Debt*, Speech delivered during the Philippine Investment Conference on Privatization and Debt-Equity Conversion (Manila, Philippines: November 12-13, 1987).
- ²⁸ Thomas A. Layman and Timothy F. Kearney, "Debt for Equity: A Solution to the LDC Debt Crisis?", Parts 1 and 2, *The Journal of Commercial Bank Lending*, Vol.70, Nos. 5 and 6 (Philadelphia: Robert Morris and Associates, January and February 1988).
- ²⁹ Andrew Marton, "The Debate Over Debt-for-Equity Swaps", *Institutional Investor*, Vol. XXI, No.2 (New York: February 1987).
- ³⁰ Morgan Guaranty Trust Company, "Debt-Equity Swaps", *World Financial Markets* (New York: June-July 1987).
- ³¹ Govindan Nair and Mark Frazier, "Debt-Equity Conversion and Privatization", *Economic Impact*, No.60 (Washington, D.C.: Fourth Quarter 1987).
- ³² William Ollard, "The Debt Swappers", *Euromoney* (London: August 1986).
- ³³ Klaus P. Regling, "New Financing Approaches in the Debt Strategy", *Finance and Development* (Washington, D.C.: International Monetary Fund and the World Bank, March 1988).
- ³⁴ David L. Roberts and Eli M. Remolona, "Debt Swaps: A Technique in Developing Country Finance", *Finance for Developing Countries*, ed. Richard Debs (New York: Group of Thirty, 1987).
- ³⁵ Susan L. Segal, "Debt-Equity Swaps: A Banker's View", *The CTC Reporter* (New York: United Nations Centre on Transnational Corporations, No.23, Spring 1987).
- ³⁶ Martin Schubert, "Trading Debt for Equity", *The Banker*, February 1987.
- ³⁷ Richard S. Weinert, "Swapping Third World Debt", *Foreign Policy*, No. 65 (Washington, D.C.: Carnegie Endowment for International Peace, Winter 1986-1987).
- ³⁸ Graham Bird, "Debt-Swapping in Developing Countries: A Preliminary Investigation", *The Journal of Development Studies*, Vol.24, No.3 (London: Frank Cass and Co., Ltd., April 1988).
- ³⁹ Jeremy Bulow and Kenneth Rogoff, "The Buyback Boondoggle", *Brookings Paper on Economic Activity 2*, William E. Brainard and George L. Perry, eds. (Washington, D.C.: The Brookings Institution, 1988).
- ⁴⁰ Ishac Diwan, *An Analysis of Debt Conversion Schemes*, Paper prepared for the Conference on Recent Developments in the Capital Markets (New York University: The Japan Center, May 5-6, 1988).

- ⁴¹ Ishac Diwan and Stijn Claessens, *An Analysis of Debt-Reduction Schemes Initiated by Debtor Countries* (Washington, D.C.: World Bank Working Paper, March 1989).
- ⁴² Paul R. Krugman, *Market-Based Debt Reduction Schemes* (Cambridge, Massachusetts: National Bureau of Economic Research, mimeo).
- ⁴³ Carlos Alfredo Rodriguez, *The Strategy of Debt Buybacks: A Theoretical Analysis of the Competitive Case* (Washington, D.C.: IMF Working Paper, February 22, 1988).
- ⁴⁴ Jeffrey Sachs, *Efficient Debt Reduction* (Washington, D.C.: World Bank Working Paper, May 1989).
- ⁴⁵ Andres Velasco, *The Macroeconomics of Debt Swaps: A Simple Exposition* (New York: Columbia University and CIEPLAN, November 1988).
- ⁴⁶ Eugene L. Versluysen, *A Review of Alternative Debt Strategies* (Washington, D.C.: World Bank Working Paper, May 1989).
- ⁴⁷ John Williamson, *Voluntary Approaches to Debt Relief* (Washington, D.C.: Institute for International Economics, mimeo, April 5, 1988).
- ⁴⁸ Bird, *Op. cit.*
- ⁴⁹ Debt Management and Financial Advisory Services Department, *Op. cit.*
- ⁵⁰ United Nations Conference on Trade and Development (UNCTAD), *Trade and Development Report 1986* (New York: United Nations Conference on Trade and Development).
- ⁵¹ Debt/Equity Swaps, *Op. cit.*
- ⁵² *Central Bank Circular No. 1111*, Central Bank of the Philippines (Manila: August 4, 1986 and October 20, 1987).
- ⁵³ Jose B. Fernandez, *Debt-Equity Swaps: A Recipient's Viewpoint - The Philippine Experience*, Speech delivered during the Roundtable Conference on Trends in International Capital Markets: Implications for Developing Countries (Oxford, England: February 20-26, 1988).
- ⁵⁴ Peter Lee U and Ferdinand Maquito, "How Good A Deal is Debt-Equity Conversion?", *CRC Briefing Folio* (Pasig, Metro Manila: Center for Research and Communication, December 1987).
- ⁵⁵ Raquel O. de Guzman and Cornelia H. Aldana, "The Debt-to-Equity Alternative: A Swap Trap", *IBON Facts and Figures*, Vol. XI, No. 12 (Metro Manila, Philippines: June 30, 1988).
- ⁵⁶ Alberto Alesina, *Optimal Borrowing Policies for Developing Countries: The Cases of Korea, the Philippines and Thailand, 1965-83* (Washington, D.C.: IMF Working Paper, June 10, 1987).
- ⁵⁷ Robert S. Dohner and Ponciano Intal, Jr., "Debt Crisis and Adjustment in the Philippines" in *Developing Country Debt and the World Economy*, ed. Jeffrey D. Sachs (Chicago: University of Chicago Press, 1989).
- ⁵⁸ Michael P. Dooley, William Helkie, Ralph Tryon and John Underwood, "An Analysis of External Debt Positions of Eight Developing Countries Through 1990", *Journal of Development Economics* (North-Holland: Elsevier Science Publishers, B.V., 1986).
- ⁵⁹ Rainer Erbe, "Foreign Indebtedness and Economic Growth: The Philippines", *Intereconomics* (Hamburg: Verlag Weltarchiv, GmbH, HWWA-Institut für Wirtschaftsforschung, May/June 1982).
- ⁶⁰ Vito Tanzi, *The Role of the Public Sector in the Market Economies of Developing Asia: General Lessons for the Current Debt Strategy* (Washington, D.C.: IMF Working Paper, January 22, 1988).
- ⁶¹ Donal J. Donovan, "Nature and Origins of Debt-Servicing Difficulties", *Finance and Development* (Washington, D.C.: International Monetary Fund and the World Bank, December 1984).
- ⁶² Rudiger Dornbusch, "International Debt and Economic Instability", *Economic Review* (Kansas City: Federal Reserve Bank of Kansas City) and "Debt Problems and the World Macroeconomy" in *Developing Country Debt and the World Economy*, ed. Jeffrey D. Sachs (Chicago: University of Chicago Press, 1989).
- ⁶³ Otmar Emminger, "The International Debt Crisis and the Banks", *Intereconomics* (Hamburg: Verlag Weltarchiv, GmbH, HWWA-Institut für Wirtschaftsforschung, May/June 1985).
- ⁶⁴ Anne O. Krueger, "Origins of the Developing Countries' Debt Crisis: 1970-1982", *Journal of Development Economics* (North-Holland: Elsevier Science Publishers B.V., No. 27, 1987).
- ⁶⁵ Jeffrey D. Sachs, ed., *Developing Country Debt and the World Economy* (Chicago: University of Chicago Press, 1989).

- ⁶⁶ Jurgen Westphalen, "Origins and Consequences of the Debt Crisis and Ways of Solving It", *Intereconomics* (Hamburg: Verlag Weltarchiv, GmbH, WWA-Institut für Wirtschaftsforschung, March/April 1984).
- ⁶⁷ UNCTAD, *Trade and Development Reports* (New York: United Nations Conference on Trade and Development), 1986, 1987 and 1988 issues).
- ⁶⁸ The World Bank, *World Debt Tables: External Debt of Developing Countries* (Washington, D.C.: various issues from 1983-84 to 1988-89).
- ⁶⁹ Roberto S. Mariano and Winifrida M. Constantino, *The PIDS-NEDA Macroeconometric Model for the Philippines: Recent Modifications and Experience on Its Use for Policy Analysis* (Makati, Metro Manila: Philippine Institute for Development Studies, November 1987).
- ⁷⁰ Bank of Boston, *Debt Capitalization Programmes in Latin America*, Memorandum sent to the Debt Restructuring Office, Central Bank of the Philippines, February 26, 1987.
- ⁷¹ Blackwell and Mocerá, *Op. cit.*
- ⁷² Luis Foncerrada, *Debt-for-Equity in Mexico's Debt Restructuring Plans*, Speech delivered during the Philippine Investment Conference on Privatization and Debt-Equity Conversion" (Manila: November 12-13, 1987).
- ⁷³ J. A. Fontaine, *Debt Conversion Mechanisms in Chile*, Speech delivered during the Roundtable Conference on Trends in International Capital Markets: Implications for Developing Countries (Oxford, England: February 20-26, 1988).
- ⁷⁴ Eugenio Lahera, "The Conversion of Foreign Debt Viewed from Latin America", *CEPAL Review No. 32* (Santiago, Chile: United Nations Economic Commission for Latin America and the Caribbean, August 1987).
- ⁷⁵ Layman and Kearney, *Op. cit.*
- ⁷⁶ Antonio Carlos Monteiro, *Debt/Equity Conversion in Brazil*, Speech delivered during the Philippine Investment Conference on Privatization and Debt-Equity Conversion (Manila: November 12-13, 1987).
- ⁷⁷ Debt Management and Financial Advisory Services Department, *Op. cit.*
- ⁷⁸ Richard Evans, ed., "From the Flames A New Market", *Euromoney* (London: Euromoney Publications PLC, September 1987).
- ⁷⁹ Paul King, ed., *Global Debt: The Equity Solution*, Supplement to *Euromoney and Corporate Finance* (London: Euromoney Publications PLC, September 1987).
- ⁸⁰ Ron Cooper and Paul King, eds., *Debt Management: Latin America Sets the Pace*, Supplement to *Euromoney* (London: Euromoney Publications PLC, September 1988).
- ⁸¹ Diwan and Claessens, *Op. cit.*, pp.53-55.

CHAPTER II THE ECONOMICS BEHIND DEBT-EQUITY SWAPS

The international debt crisis of the 1980's has inspired search by developing debtor countries for innovative solutions to reduce the debt overhang. Among the menu of financial options to the debt workout process that has evolved, debt-equity swaps or conversion schemes have figured prominently. This chapter focuses on the economics behind debt-equity swaps, first tracing its evolution, then describing its mechanism, further explaining the market forces determining its behavior and finally, enumerating the advantages and disadvantages to host countries and the conditions or prerequisites for its successful implementation.

A. THE ORIGINS/EVOLUTION OF DEBT-EQUITY SWAPS

While traditional LDC debt restructuring has been the major recourse to solve the debt problem, the occurrence of a number of free-market driven developments led to the adoption of innovative and alternative schemes under the menu approach for managing and alleviating the serious problems of foreign indebtedness. The most important of these developments were: 1) the development and growth of a secondary market for LDC bank loans; 2) the institution of formal programs to convert sovereign debt into equity investments in indebted countries; and 3) the increasing provision by banks of a high level of loan loss reserves¹.

While the present debt-equity swap arrangements emerged only at the onset of the debt crisis in 1982, Blackwell and Nocera² documented isolated instances of such swaps taking place as early as 1965 when Brazil allowed certain non-residents to convert external debt into equity investments at face value and at the official exchange rate, and as recent as 1980 yet still predating the crisis when Turkish authorities enacted legislation providing options of paying creditors either in foreign exchange over a ten-year period or in local currency on demand provided the latter is used for increasing the working capital requirements of existing investments or paying the equity portion of new ones. During the onslaught of the crisis in 1982, Mexican authorities

allowed foreign banks to acquire up to 15 percent equity in a local firm in exchange for an equivalent amount of foreign debt repayment³.

In the early 1980s, banks and several multinational companies began trading foreign-denominated loans of debtor countries in a secondary market. This securitization⁴ of foreign loans of debt-ridden countries evolved partly because of the need by commercial banks to diversify or restructure their portfolios (e.g., shortening the maturity profile, raising the average yield or achieving a desired geographic concentration) according to individual corporate objectives and risk preferences made possible by purchasing sovereign assets outright or swapping these with other commercial banks. For banks wishing to completely eliminate or minimize exposures to some debtor countries, the secondary market provided an outlet for selling assets at a discount. Banks often seek to minimize their credit exposures in order to avoid or reduce the need to commit new loans to cover the debtor country's financing needs during an agreed adjustment period under that country's rescheduling arrangement. Even if a bank is prepared to raise the amount of loans to a particular country, the combined effects of rescheduling existing loans and committing new money may cause it to contravene limits on lending or on country exposure set by internal or regulatory capital requirement policies. Besides, it may be more profitable for the bank to sell debt paper at a discount and reinvest the proceeds than to hold onto the debt with uncertain prospects of repayment.

The growth of this secondary market received further boost in 1983 when the informal debt capitalization program introduced by Brazil in 1978 further encouraged its multinationals through cash rewards to buy blocked deposits of private sector borrowers with the central bank representing the local currency equivalent of their foreign debt payments⁵. Up to mid-1985, secondary market trading volume was estimated at US\$2 - US\$3 billion per year⁶.

However, it was in 1985 when market growth significantly accelerated following the formal institution of a debt-equity conversion program by the government of Chile and the international banking community. In 1986, similar programs were implemented in Mexico, Argentina and the Philippines and in 1987, more countries either have adopted or have announced intentions or have negotiated for the adoption of similar

schemes such as Ecuador, Venezuela, Colombia, Peru, Bolivia, Uruguay and several Caribbean, Central American and West African countries including Jamaica, the Dominican Republic, Costa Rica, Morocco and Nigeria⁷.

Beginning May 1987, Citicorp's announcement of massive provisions for loan loss reserves on LDC loans which other large banks eventually followed⁸, revolutionized bank attitude towards LDC debts as potential sources of profits rather than bad debts to be kept in its books⁹. The formalization of debt conversion arrangements together with announced intentions of major creditor banks to minimize their loan exposures to LDCs and provide for higher loan loss reserves, raised the supply of debt in the secondary market to around US\$5 - US\$6 billion in 1986 and an estimated US\$10 - US\$12 billion in 1987¹⁰.

B. THE NATURE OF DEBT-EQUITY CONVERSION TRANSACTIONS

There are generally three variations of debt conversions or swaps, namely: 1) *debt-to-debt swaps* - which involve a change of creditors through the outright sale of loans to one country for loans to another; 2) *debt-to-equity swaps* - which involve the exchange of foreign debt for equity in a domestic firm; and 3) *debt-for-peso or local currency swaps* - which involve the issuance by the central bank of a local currency or domestic debt instrument in exchange for a foreign debt claim purchased by domestic residents with expatriated capital or foreign currency acquired in the parallel market.

As participants have gained experience in the secondary market, they have transcended the straightforward types of debt swaps for more sophisticated deals¹¹ such as: 1) *debt-for-export swaps* - which involve the surrender by the debtor country of a fraction of its export receipts to the creditor bank to offset a part of its external obligations; 2) *debt-for-nature swaps* - which is a crossbreed between debt conversion and debt forgiveness where swaps are arranged by private natural conservation or environmental groups to use the conversion proceeds to finance the preservation of natural resources such as tropical forests or endangered animal species; and 3) *loans-for-bond exchange offers* - which entail the replacement by the borrower at its initiative of existing debt by long-term securities, thereby conferring a seniority status on the holders of the bond relative to syndicated bank lenders

and converting the loan into an instrument which possesses greater tradeability in the secondary market.

Behind all types of debt-swapping schemes, the mechanism essentially involves the purchase by a party (usually a multinational firm or a resident working abroad) interested in making an investment in the debtor country of the latter's foreign debt obligations being sold at a substantial discount over its face value in the secondary market. The investor then exchanges the obligation with the central bank or the local debtor at or near its full face value equivalent in domestic currency or in a local debt instrument which can be liquidated for cash in the domestic bond market. The proceeds from the conversion can be used to purchase an equity stake in a local company, to increase plant and equipment expenditures in an existing operation, or to retire local currency obligations. In some cases, an intermediary institution which may be a foreign bank or local financial entity, acts as a conversion agent or broker by receiving on behalf of the seller the assignment of the credit, passing this title to the ultimate investor and redenominating the foreign currency credit into local currency through the central bank or local debtor (Figure 1).

Through such debt conversion programs, all participants or parties have gained distinct benefits. The *creditor or foreign commercial bank* selling the debt is able to purge its books of country exposure that contaminates its portfolio in the eyes of shareholders and financiers, thereby enhancing its net financial position. By exchanging a financial asset for a real asset (equity) under a debt-equity swap, units of doubtful debt are converted to units of local assets which may be profitable and can be sold later at a windfall. The *investor or debt swapper*, in turn, is able to acquire or expand equity in a debtor country enterprise or to finance the local currency component of debtor country projects at costs lower than that available from borrowing locally or from the purchase and exchange of an equivalent amount of foreign currency. However, he may be constrained by the fact that debt-equity swaps based on rescheduled debt must operate within the boundaries of the restructuring agreement between the original creditors and the debtor country which may stipulate that the investment made with the conversion proceeds cannot be redeemed or repatriated more quickly

than the repayment terms of the rescheduled debt or that no favorable treatment status is conferred on any creditor insofar as credit prepayment is concerned. Finally, the *debtor country* is able to extinguish a portion of its external debt without necessarily depleting its reserves; and reduce the associated debt servicing burden by substituting an absolutely certain future foreign exchange outflow arising from principal amortizations and interest payments with a less certain outflow in the guise of profit or dividend remittances under an equity investment.

C. THE MICROECONOMICS OF DEBT-EQUITY SWAPS: THE WORKINGS OF THE MARKET

Just like any other market, the secondary market for debt-equity swaps is governed by the interplay of supply and demand forces clearing at a certain price, that is the secondary market price for debt.

1. THE SUPPLY FOR DEBT-EQUITY SWAPS

The willingness of banks or current holders to dispose of their holdings of sovereign debt at a substantial discount over its face value determines the supply of debt that can be converted to equity investments. Until recently, the regional banks with smaller exposures to developing debtor countries have been the primary suppliers of debt. The large money center banks holding the bulk of commercial bank credit to LDCs have limited their activities to brokering transactions, acting as intermediaries or agents to investors seeking to buy debt papers.

The reluctance of these banks to sell debt from their own portfolios could be attributed to the ambiguity of accounting rules regarding the valuation of their foreign assets. The sale of foreign loans for conversion to equity brings to light the discrepancy between book and market values and which basis to use in carrying the exchange of assets, specifically whether the new equity asset should be fair- or market-valued or automatically written off at the book value of the loan it has replaced.

Moreover, regulatory issues in creditor countries involving bank investments in non-bank activities as well as limits on the amounts of equity that banks may hold such as Regulation K¹² of the Federal Reserve Board in the U.S. impose operational obstacles¹³. The uncertainty about tax considerations (i.e., whether the sale of debt obligation at a

discount is tax-deductible) has also impeded debt sales by creditor banks. However, the growing flexibility in accounting practices and increasing receptiveness of regulatory authorities in recent years have loosened the constraints on the supply of debt available for conversion.

The supply function for debt swaps, as conceptualized by Bird¹⁴, may look as follows:

$$Q_s = f(D, S, C, P, W)$$

where D is the size of the discount, S - the size of debt held by the bank or creditor, C - the holder's assessment of country credit-worthiness, P - the holder's preferences between risks and returns and W - the extent to which debt has been written down or the provision for loan loss reserves. The supply of debt swaps is expected to rise with a fall in D and C and an increase in S, P and W.

Alternatively, Vatnick¹⁵ derives a Lagrangean equation¹⁶ for the supply of debt papers in the secondary market based on the assumptions that creditor banks will maximize the expected value of profits subject to the constraint that the perceived risk of bankruptcy (i.e., the value of bank assets falling below a specified floor) will not exceed the probability α . The expression reduces to a supply function that depends on the expected return on bank loans where return varies according to the probability of default by the debtor country and the perceived covariance of returns on the remaining assets in the portfolio.

2. THE DEMAND FOR DEBT-EQUITY SWAPS

The more significant factor affecting the market for debt swaps, nonetheless, appears to lie on the demand side. It is generally argued that without the secondary market discount for LDC debt instruments, there is no incentive for investors to participate in debt-swapping transactions. The discount, as will be explained later, tantamounts to a gross subsidy to the investor equal to the spread between the face value of the debt paper and its market value. Bird calls this the accrual of a consumer's surplus¹⁷ by the investor or purchaser of the debt arising from the difference between total utility derived from debt purchase (or the price the investor is prepared to pay) and the total expenditure on it (the actual discounted price). It is this consumer surplus or rent derived by the investor which the debtor government may be interested to recapture by imposing fees or auctioning the rights to swap. The debt

discount mechanism may not necessarily be profitable to investors due to the imposition of these transaction costs plus matching fresh money requirements by the debtor country that tend to reduce their effective discount.

Other considerations affecting the investor's valuation of the discount include the extent of lock-in of investment funds due to restrictions on capital and profit repatriation and sale of equity holdings which may be tighter than had the investment been channeled directly; the redemption value at which the debt is converted in local currency (at full or proportions of the face value); taxability of the capital gain made on the debt purchase; investment restrictions placed by the debtor country on the type of equity it is prepared to sell; and the usual investment-decision factors such as regulations on foreign ownership, product-market situation, competitive position of the domestic firm, quality of local management, type of labor skills, required infrastructure and ancillary services; and political risks in the debtor country.

The demand for debt conversion is also influenced by the gap in the parallel and the effective swap transaction exchange rates. This is shown in Bird's¹⁸ equation for the debt purchaser's gross return given as:

$$r = [(1/dp)(e/e^*)] - 1$$

where e is the official exchange rate and e^* the effective rate. Based on this equation, the exchange rate differential would have to be larger than the size of the discount (i.e., $e/e^* > dp$) for there to be a positive return to conversion and hence demand for debt swaps to be generated. By administering the exchange rate differential, the debtor government is able to manipulate the investor's return r , and therefore affect the demand for debt conversion.

Given these factors, the demand function for debt-equity swaps, as specified by Bird¹⁹, may look as follows:

$$Q_d = f (D, I, C, A, L, T)$$

where D is the discount on the debt, I - the availability of specific investment opportunities, C - the country's overall credit-worthiness; A - the availability of and return on alternative assets, L - the limitations on capital repatriation and profit remittances and T - the

charge or tax for conversion including the exchange rate differential. The demand for debt swaps is expected to vary positively with D, I and C and negatively with A, L and T.

Citing similar demand factors, Vatnick²⁰, however, distinguishes two types of demand functions - a transaction demand for debt-equity purposes from commercial banks and multinationals, and a speculative demand from investors representing pure portfolio decisions.

In general, it is difficult to measure the exact volume of supply and demand due to certain market peculiarities such as the velocity with which a single debt paper changes hands and the lengthy chain of intermediation involved, making it liable to double-counting²¹.

3. THE SECONDARY MARKET PRICE FOR DEBT AND THE DISCOUNT

The market price for sovereign debt tend to respond to the interaction between demand and supply factors affecting the different types of paper traded. Excess demand for debt swaps will jack the discounted price up, reduce demand and increase supply while excess supply will depress the price, reduce supply and increase demand²². Thus, it can be said that the purpose of the market for debt-equity swaps is to match the different preferences and valuations of debtor country credit-worthiness of creditor-suppliers and investor-buyers of sovereign debt at an equilibrium or market-clearing price.

This secondary market price is quoted in terms of bids and offers and not as a single-transaction price²³. The range of prices quoted nor its average at any given time should not immediately be taken as representative of the market since offers to sell do not carry the guarantee of delivery by the seller (e.g., banks may change their minds) nor does it reflect the overall transaction costs to the investor²⁴. Thus, the market price should be understood as only indicative of transactions being concluded at any given period.

The price at which debt conversions are transacted or the discount of the loan in the secondary market represents the loss the creditor is willing to assume on the debt in exchange for the risk of maintaining the asset in its portfolio. Thus, a secondary market price of LDC debt averaging 50 cents per dollar of face value indicates that lenders do not expect to be repaid the full value of their outstanding claims on debtor countries and that perhaps, no more than half the value of these

claims can be serviced. Such discrepancy in the face and market values of the debt, according to Cohen²⁵, is a case for debt service relief or partial forgiveness but not necessarily for a total write-off. While the discount, which is the complement of the secondary market price, signals the possibility of default by the borrower, it has been suggested that the face value of the debt may not be written down by the creditor until default indeed occurs, although regulatory measures should encourage the scaling down of debt servicing in line with its market value.

Bird²⁶ distinguishes between two types of prices - the price of the debt and the price of debt conversion, which is the discount. The discount is inversely related to the secondary market price of the debt such that the demand for debt conversion will be positively related to the size of the discount (negatively related to the price of the debt) and supply for debt swaps negatively related to the amount of the discount (positively related to the secondary market price). From the seller's viewpoint, the price of debt conversion is measured by the discount regardless of the transaction costs while from the buyer's perspective, the conversion price is measured by the discount adjusted for the differential between the official and effective swap transaction exchange rates.

For the investor or debt buyer, the discount in the secondary market is mirrored in the LDC domestic market as an exchange rate differential. By converting foreign debt obligation acquired at a discount, the investor or purchaser of debt has, in effect, obtained local assets at a preferential exchange rate. To illustrate, a US\$ 10 million debt purchased by an investor at a discount of 20 percent would cost him only US\$8 million in cash outlay. Upon conversion to equity, the US\$10 million obligation would be redeemed at its local currency equivalent of P205 million, assuming an exchange or conversion rate of P20.50 to a dollar. However, considering that his dollar outlay was only US\$8 million, then the local asset was obtained at a lesser cost, enabling the investor to enjoy a higher exchange rate of P25.625 (i.e., P205 million divided by US\$8 million) for each dollar invested or 25 percent over the market rate of P20.50. In effect, the investor got more pesos in exchange for his dollar expenditure which is the discounted value of the debt paper. Again, to recapture the discount, the debtor

government may redeem the swap transaction at less than the official rate to minimize the domestic currency cost of converting foreign currency-denominated debt or conversely, to maximize the amount of foreign currency-denominated debt converted for a specified domestic currency cost.

Fluctuations in the amount of the discount mainly reflect changes in the perceptions of the relative credit-worthiness of debtor countries. Thus, a country with a higher credit risk would have a lower-valued debt, meaning that this could be purchased at a steeper discount. Recently, changes in the valuation of debt papers have incorporated the status of debt negotiations and other recent developments in debtor countries. Based on Table II.1 showing selected bid-offer rates of LDC loans in the secondary market, the discount (i.e., complement of the bid-offer rates taken as their average) on Mexican paper rose between January and June 1986 as prospects for the resolution of its debt service difficulties became less certain²⁷. Between June and October 1987, the value of Philippine paper fell with the corresponding discount rising to about 45 percent from only 30 percent partly due to the political uncertainties resulting from successive coup attempts. Chilean paper, on the other hand, exhibited relative stability in price movements owing to the country's active debt-equity conversion program.

The discount will also tend to vary according to the different provisioning policies implemented by bank regulators. If these policies are adjusted to require a greater amount of capital reserves to be set aside against doubtful loans, the price on the secondary market may decline as banks will be less constrained by potential losses to sell their debt papers. Thus, a generalized downward trend in secondary market prices (upward trend in discounts) has been pronounced beginning May 1987 (Chart 1) when the large money center banks announced huge provisions for loan losses against LDC debts.

The government of the debtor country may also influence the price by affecting the country's current and expected economic performance such that any economic improvement will reduce the supply and generate demand for debt conversion, thereby raising the price of debt or what amounts to the same thing, lowering the discount.

Huizinga²⁸, for instance, regressed with significant statistical results secondary market prices on the following explanatory variables: growth rate of real GNP (GNPGR), debt relative to GNP (PD/GNP), a dummy variable on a country's interest payment record (ARR - set equal to 1 if a country has commercial bank arrears as of a cut-off date) and country-specific uncertainty reflected in the volatility of secondary market prices (SE - taken as the standard error of auxiliary regressions of the bid price on a linear time trend per country). The coefficients of all the variables yielded the expected signs (negative for ARR, PD/GNP and SE while positive for GNPGR) and acceptable t-statistics. Vatnick²⁹, by contrast, concluded that debtor governments have little power in affecting the prices of their debt and instead determined LDC debt prices to be a function of the expectations of market participants about the underlying 'fundamentals' in debtor countries and the existence of debt-equity programs, in addition to accounting and tax regulations in creditor countries and an implicit arbitrage on high-yield securities.

Based on these studies, it is difficult to conclude whether price determination in the secondary market is indeed subject to market forces or are ultimately set or manipulated by a party or parties (creditors or debtor governments) to a debt-equity swap transaction.

D. THE MACROECONOMICS OF DEBT-EQUITY SWAPS: BENEFITS AND COSTS TO HOST COUNTRIES

The principal attraction of debt-equity swapping to the host country is the reduction in the amount of its external debt and its conversion into something more manageable or repayable. Debt conversion schemes replace debt requiring immediate hard currency payments with a repayment stream that may be more favorably matched with the country's balance of payments needs. In other words, cash flow is improved through the reduction of interest payments due on a cancelled debt, temporarily limiting its drain on scarce foreign exchange resources. Foreign debt obligations become denominated in domestic currency making it easier to service since the government holds greater control over its own domestic money supply than over its net foreign exchange position³⁰. The conversion of debt into equity allows the reasonable settlement of external indebtedness with little pressure on the country's limited international reserves and without adverse effects on its balance of

payments position. When the external obligation is exchanged for equity, a stream of future foreign exchange outflows is generated but in a more flexible and restrictible form as dividends and profit remittances, which is affected in turn, by economic performance in the debtor country.

Debt conversion programs can also attract and accelerate foreign equity investments due to the financial incentive implicit in the discount, and if open to participation among residents, can mobilize for domestic investments assets held abroad or can create incentives for fugitive capital to be returned or repatriated, or at the least inhibit further capital flight. Aside from building investor confidence, the process has the added appeal of forcing the investor to share in both the risks and benefits of the business venture. There are also the multiplicative economic effects of the productive investment including the generation of domestic employment and access to foreign management skills, new technology and expanded export markets.

Such schemes can also offer an effective market-based mechanism for channeling resources to the private sector and for fostering the divestiture and privatization efforts of the government³¹ by turning these into priority investment areas eligible for debt conversion. The program is also geared towards narrowing the large gap between gross domestic savings and investments since equity infusion, especially in export-oriented or foreign-exchange earning activities lessen dependence on foreign borrowings needed to finance viable projects. Debt conversion likewise provides a general stimulus to capital market development in the host country particularly in the case where local debt instruments or securities are issued in exchange for the debt or are used as the mode of payment under a debt-equity swap where bonds are exchanged for cash with commercial banks.

The central bank or national treasury also obtains a new source of financing the government's operating budget by taxing the rent accruing to debt swappers through the imposition of conversion fees or commissions on debt swaps³² or through the manipulation of exchange rate differentials, and by auctioning the rights to convert debt which essentially allows the market to determine the tax level³³. These forms of taxation enable the government to share or recapture a portion of the

discount realized by the investor and redistribute the swapper's consumer surplus.

Finally, active debt conversion programs can gradually restore a country's credit rating by shifting the financial market's attention to the country in question and breaking the deadlock that characterize its debt restructuring negotiations with foreign commercial bank creditors³⁴. Debt swaps through the secondary market discount provide a measure of the status of a country's credit-worthiness.

These advantages of debt conversion, however, must compensate for its major drawbacks. First, there are monetary and fiscal consequences inimical to domestic stabilization³⁵. The money creation and interest rate effects of debt conversion transactions may be adverse, thereby causing inflationary pressures. This arises when the local currency required for the prepayment of external debt is provided by the monetary authorities of the government in the debtor country through either money creation or issuance of domestic public debt instruments. The interest rate effect, on the other hand, will depend on the pace or scale by which transactions are undertaken and on the degree of sophistication of domestic financial markets. This is particularly true when the foreign loan is exchanged for locally-denominated obligations tradeable in the domestic bond market. In case where such market is developed or large relative to the volume of debt conversions, bond prices and interest rates are likely to be unaffected. But if the market is shallow, domestic interest rates may rise due to the upward shift in supply of bonds that tends to depress bond prices, thereby increasing interest rates and the budgetary costs of domestic debt. This supports the criticism that debt swaps merely substitute low-cost foreign debt with high-cost domestic debt inasmuch as foreign interest rates are usually lower than domestic interest rates in developing countries³⁶.

Second, the preferential exchange rates implicit in debt conversion transactions amount to a subsidy to certain capital inflows, thus opening an opportunity for arbitrage or "roundtripping"³⁷ and sending wrong signals to investors. Residents of the debtor country may attempt to benefit from the scheme by purchasing foreign exchange on the parallel market in order to acquire external debt through the conversion scheme at a discount for subsequent conversion into local currency.

Similarly, foreign firms that would otherwise retain earnings in the country are motivated to take or remit funds out and bring these back through debt swaps to take advantage of the preferential rate. In both cases, the government expends reserves with capital flight or profit remittance but accumulates no reserves on the return trip since returning capital would be used specifically to retire external debt. The recycling of discounted debt purchases may thus also lead to capital flight and deplete foreign exchange reserves. Moreover, by increasing the supply of domestic currency and demand for foreign exchange in the black market, debt conversion exerts downward pressure on the price of the local currency or causes exchange rate depreciation³⁸.

There is also a possible misallocation of resources since the proceeds of conversion transactions are exclusively earmarked to retire external debt, which in most instances, have already been rescheduled, rather than provide foreign exchange for alternative uses such as developmental or complementary imports. The equity investments, after all, may also be allocated to protected sectors thus worsening production distortions.

The question of resource allocation also has political implications since concerns over national patrimony arise to the extent conversions are used extensively or exclusively by foreign investors. Debtor governments, thus, face political risks if they offer foreigners the opportunity to obtain local currency at substantial discounts that are not available to domestic entrepreneurs.

In the long run, the net effect on the balance of payments can also be negative as remittance and repatriation of capital and profits at a later stage may exceed the original payment on debt and as conversion proceeds may be used by the domestic firm for raw material and capital importations.

Finally, debt conversions may apply to foreign investments that would have taken place even without a formal debt-equity program. Debt swaps can therefore allow those foreign investors who are already inclined to invest to finance investment projects without bringing in cash or can subsidize the reflow of flight capital that would have occurred anyway³⁹. This concept, called additionality is discussed in more detail in the succeeding section.

E. CONDITIONS/DETERRENTS TO SUCCESSFUL IMPLEMENTATION

The key factor to the success of debt conversion programs depends on the degree of investment "additionality", as termed by Roberts and Remolona⁴⁰. Additionality is the ability of debt-equity swaps to attract foreign equity investments that would not otherwise come in, or the ability of debt-peso swaps to attract flight capital that would otherwise not come back.

This is illustrated in the case of a foreign firm which had no prior intention to invest in the debtor country but instead took advantage of the chance to invest through a debt conversion program. By contrast, no additionality is involved if the foreign multinational had already decided to invest in the debtor country and channeled the investment through debt swaps. Without additionality, the benefits of replacing external debt for foreign equity or domestic debt are mitigated inasmuch as the host country could have achieved the same objective by earmarking its foreign exchange reserves to pay off its creditors. Thus, the incentives under debt swaps without additionality imply unnecessary costs and subsidies to specific capital inflows.

Investment additionality, however, is difficult to quantify. Besides, investment decision itself is not the sole criterion as its size and timing are likewise determining factors⁴¹. The financial incentives provided by debt conversion schemes can accelerate the timing and increase the amount of investments than originally intended by the investor. Nevertheless, it is generally reasonable to presume that the incentives offered under a well-designed conversion program do deliver additionality since they help cover the higher risks assumed by investors in the uncertain investment and political climates of most highly-indebted developing countries.

Other than additionality, properly structured conversion programs to be successful should be accompanied by market-oriented growth policies that encourage private sector expansion. The mechanics of debt conversion schemes should complement expanding opportunities for private sector investment through deregulation, privatization, a relatively well-developed capital market, and liberal foreign investment regulations.

To arrest excessive monetary expansion incident to debt-equity swaps, the central bank of the host country should possess the latitude and adequate instruments to sterilize this monetary impact. Programs may set quotas per time period; require deposits to be frozen for a specific duration based on a schedule of the project's liquidity needs; or restrict conversions to certain activities or classes of eligible debt⁴². Financial markets should also be adequately broad and deep to better absorb liquidity creation arising from debt conversion so that the development of domestic private capital markets must be enhanced.

Having a consistent and non-discriminatory application of regulations regarding the treatment of foreign investment is also important. To avoid the risks of foreign domination in ownership interests in domestic firms, debt conversion programs should allow both resident and non-resident nationals to participate as investors. If political sensitivities remain regarding foreign ownership, the program may include repurchase or buy-back agreements allowing the host country or a resident party a call option on the equity for a fixed and profitable price to the investor at a future date. However, caution should be taken as such requirement could only add to the list of restrictions that drive potential investors away and make the program less attractive.

Meanwhile, the potential for arbitrage or roundtripping by resident swappers can be minimized by careful monitoring of black market exchange rate movements and by controlling the volume of allowable conversion by local nationals. It may be necessary to deny access to the official foreign exchange market for conversion transactions while limitations on volume of operations at any time period may be required to avoid pressure on the parallel market rate caused by resident investors willing to purchase foreign currency for debt-swapping purposes. These remedial measures, however, would conflict with the equal-opportunity principle espoused earlier.

Finally, the additionality concern may be addressed by debtor countries through the imposition of matching fresh or new money requirement for every debt or a fraction thereof converted. This would ensure that investors are not free-riding on the subsidy implicit in debt-equity swaps although such imposition may diminish the

attractiveness of the program to potential investors who may opt to invest instead in other countries adopting less restrictive debt conversion regulations.

From the foregoing, it is apparent that the optimal approach to debt conversion as implied by its limitations is one that encourages the exchange of real assets (equity) rather than local currency holdings, that mobilizes foreign investment for the export or dollar-earning sectors, and that establishes opportunities for local ownership in enterprises financed from debt conversion. These conditions should in turn be implemented in the context of comprehensive policy reforms intended to improve the investment climate of the host or debtor country, and to mitigate the adverse domestic implications of debt conversion.

NOTES

¹ Chase Investment Bank, "Corporate Financial Strategies in Latin America: International Equity Report No.1", *Global Debt: The Equity Solution*, Supplement to *Euromoney* and *Corporate Finance*, ed. Paul King (London: *Euromoney* supplement, January 1988), Special sponsored supplement p.3.

² Michael Blackwell and Simon Mocera, *Debt/Equity Swaps* (Washington: IMF Working Paper, February 12, 1988), p.3.

³ UNCTAD, *Trade and Development Report 1986* (New York: United Nations Conference on Trade and Development), p. 144.

⁴ Securitization refers to the substitution of more tradeable financial instruments for bank claims to enable creditors to reorganize their portfolios. It is a function of packaging financial claims on underlying assets to facilitate transfer of ownership among investors.

⁵ Blackwell and Mocera, *Op. cit.*

⁶ Chase Investment Bank, *Op. cit.*

⁷ See Blackwell and Mocera, *Op. cit.*, p.7 and Debt Management and Financial Advisory Services Department, *Market-Based Menu Approach* (Washington, D.C.: The World Bank, monograph, September 1988), p. 36.

⁸ See World Bank, 'Appendix II: Loan Loss Provisions and the Problem Debtors' in "Reversing the Decline", *World Debt Tables: External Debt of Developing Countries*, 1987/88 Edition (Washington, D.C.), pp. vviv-xxvii.

⁹ See Richard Evans, ed., "From the Flames a New Market", *Euromoney* (London: Euromoney Publications PLC, September 1987).

¹⁰ Chase Investment Bank, *Op. cit.*, pp. 3-4.

¹¹ See Debt Management and Financial Advisory Services Department, *Op. cit.*, pp. 28-31.

¹² Regulation K prohibited U.S. banks from owning more than 19.9 percent of any foreign non-financial company until August 1987 when it was liberalized, permitting U.S. banks to acquire as much as 100 percent equity in foreign non-financial companies provided these are in the process of being privatized and are located in heavily-indebted developing countries and that the shares are acquired through debt-equity swaps.

¹³ Blackwell and Mocera, *Op. cit.*, p.18.

¹⁴ Graham Bird, "Debt-Swapping in Developing Countries: A Preliminary Investigation", *The Journal of Development Studies*, Vol. 24, No.3 (London: Frank Cass & Co., Ltd., April 1988), pp.294-295.

¹⁵ See Silvina Vatnick, *The Secondary Market for Debt: A Possible Explanation of How LDC Debt Prices Are Determined* (Washington, D.C.: The World Bank and LACVP, April 1988), pp.19-22.

¹⁶ A Lagrangean equation is a method for solving constrained optimization problems, in which the constraints written as implicit functions are incorporated along with the objective function to form a new equation called the 'Lagrangean'. In this case, the Lagrangean equation is specified as:

$$L(L_j, \lambda) = \sum_{j=1}^2 L_j (r_j - i) + \lambda (\alpha [E(A) - M]^2 - \sigma_p^2)$$

where: L_1 - loans to debtor countries that commercial banks would like to dispose or sell in the secondary market; L_2 - all other loans given by the commercial bank representing other assets in its portfolio; $r_j - i$ plus the expected return on the loan to the j th group; $i - 1$ plus the risk free interest rate or opportunity cost of funds; σ_p^2 - variance of the expected return on commercial bank's portfolio of loans; M - the commercial bank's minimum acceptable value of assets; A - value of the commercial bank's portfolio of assets at end of period; and λ - shadow price of the risk constraint, assumed to be positive.

¹⁷ Bird mathematically derives the consumer's surplus by denoting the inverse demand and supply functions as $p = f(q)$ and $p = g(q)$, respectively, where p represents the price of the discounted debt and q its quantity. The net consumer surplus is given by:

$$CS = \int_0^{q^0} f(q) dq - p \cdot q$$

Assuming a face value of US\$700 million and a discounted price of 70 cents on the dollar, the inverse demand function will be $p = 1 - (0.3/700)q$ so that:

$$\begin{aligned} CS &= \int_0^{700} [1 - (0.3/700)q] dq - 0.7(700) \\ &= q - (3/14000)q^2 \Big|_0^{700} - 490 \\ &= 595 - 490 = 105 \end{aligned}$$

This indicates that purchasers of debt would have been prepared to pay a total of US\$595 million instead of the US\$495 million actually paid.

A net producer's surplus was also derived, given by: $PS = p \cdot q - \int_0^{q^0} g(q) dq$. Using the same numerical values in the example, the inverse supply function is $p = 0.5 + (0.2/700)q$, where it is assumed that banks will not supply debt for conversion if the discounted price falls below a certain floor (0.50 cents in this case). Substituting the values:

$$\begin{aligned} PS &= 0.7(700) - \int_0^{700} [0.5 + (0.2/700)q] dq \\ &= 490 - [0.5q + (2/14000)q^2] \Big|_0^{700} \\ &= 490 - 420 = 70 \end{aligned}$$

This implies that although banks would have sold the traded stock of debt for US\$420 million, they in fact received US\$490 million.

¹⁸ Bird, *Op. cit.*, pp.307-309.

¹⁹ *Ibid.*, p.294.

²⁰ Vatnick, *Op. cit.*, pp. 10-19.

²¹ Carlos Gonzales, *The Secondary Market for Debt*, Speech delivered during the Philippine Investment Conference on Privatization and Debt-Equity Conversion (Manila, Philippines: November 12-13, 1987), p.110.

²² Bird, *Op. cit.*, p.305.

²³ Vatnick, *Op. cit.*, p.6.

²⁴ Gonzales, *Op. cit.*, pp. 113-114.

²⁵ See Daniel Cohen, *Is the Discount on the Secondary Market a Case for LDC Debt Relief?* (Washington D.C.: World Bank Working Paper, November 1988), p.3.

²⁶ Bird, *Op. cit.*, p.295.

²⁷ Thomas A. Layman and Timothy F. Kearney, "Debt for Equity: A Solution to the LDC Debt Crisis? Part 1, *The Journal of Commercial Bank Lending*, Vol. 70, No.5 (Philadelphia: Robert Morris Associates, January 1988), p.44.

²⁸ Harry Huizinga, *How Has the Debt Crisis Affected Commercial Banks?* (Washington, D.C.: World Bank Working Paper, May 1989), p.6.

²⁹ See Vatnick, *Op. cit.*, p.33.

³⁰ Bird, *Op. cit.*, p.299.

³¹ See Morgan Guarantee and Trust Co., "Debt-Equity Swaps", *World Financial Markets*, p.14 and Govindan Nair and Mark Frazier, "Debt-Equity Conversion and Privatization", *Economic Impact*, No. 60 (Washington: Fourth Quarter 1987).

³² Debt Management and Financial Advisory Services Department, *Op. cit.*, p.40.

³³ Bird, *Op. cit.*, p. 297.

³⁴ Debt Management and Financial Advisory Services Department, *Op.cit.*

³⁵ See Morgan Guarantee and Trust Company of New York, *Op. cit.*, p. 13.

³⁶ See Andres Velasco, *The Macroeconomics of Debt Swaps: A Simple Exposition* (New York: Columbia University and CIEPLAN, mimeo, November 1988), p.1.

³⁷ See Morgan Guarantee and Trust Company of New York, *Op. cit.*, p.14 and Debt Management and Financial Advisory Services Department, *Op. cit.*

³⁸ Bird, *Op. cit.*, p. 303.

³⁹ See Morgan Guaranty Trust Company of New York, *Op. cit.*, p.14.

⁴⁰ See David L. Roberts and Eli M. Resolena, "Debt-Swaps: A Technique in Developing Country Finance", *Finance in Developing Countries*, ed. Richard Babs (New York and London: Group of Thirty, 1987).

⁴¹ Morgan Guaranty Trust Company of New York, *Op. cit.*

⁴² *Ibid.*, p. 13.

CHAPTER III THE PHILIPPINE DEBT-EQUITY CONVERSION PROGRAM

The Philippine debt-equity conversion program was launched in August 1986 to relieve the country of its heavy external debt burden and to lure back foreign investments into an economy which has been severely bruised by an external debt crisis in October 1983. The following chapter describes the salient features of the program, provides a performance status report and analyzes the impact of the program on the economy.

A. OVERVIEW OF THE PHILIPPINE EXTERNAL DEBT CRISIS AND STRATEGY RESPONSE

Symptoms of an impending external debt crisis in the Philippines were already prevalent two decades earlier when the country experienced a minor debt crunch in 1969-70¹. From a total external indebtedness of only US\$722 million in 1965, the amount tripled to about US\$2.2 billion by 1970 (Chart 2). However, it was only in the 1980's when the accumulation of foreign debts by the country finally burst its bubble, culminating in a declaration of a moratorium on debt payments in October 1983. By then, the economy had amassed a staggering US\$24 billion in foreign exchange liabilities, making it fifth in the list of the world's 17 heavily-indebted developing countries (HICs) in 1985, next only to Latin America's Brazil, Mexico, Argentina and Venezuela² (Table III.1).

The Philippine foreign debt crisis was the spin-off of both external and internal factors. In the 1970's, the major external factor contributing to debt accumulation was the immense expansion of lending by international banks not only to the Philippines but to most HICs on account of pressure to recycle the enormous petro-dollar surpluses of OPEC countries, so much so that the banks practically handed out the money instead of urging debtor countries to knock on the door of the IMF³. Equally to blame was the failure of the central banks and the IMF to promptly curb this lending euphoria⁴. While the over-zealous foreign banks were the propelling force behind the international debt problem at the onset, the series of external shocks in the early 1980's stretched it to its limits. The increase in the price of oil, the surge in international interest rates, the prolonged recession in industrial

economies resulted in deteriorating terms of trade and adversely affected export performance in developing debtor countries and consequently their ability to service debt.

The more crucial element behind the Philippine external debt crisis is nevertheless internal and structural in nature, specifically the adoption of inadequate domestic policies and delayed structural reforms. Firstly, the economy relied heavily on imports and foreign borrowings to finance investment expenditures. During the 1970's, the country underwent an investment boom as shown by the dramatic rise in the investment/GNP ratios from an average of 21 percent in 1970-74 to about 30 percent in 1975-79. Meanwhile, the savings ratio kept pace initially with the growth of investments at an average of 21 percent in the first half of the decade but remained stagnant at only 24 percent in the second half. With investments increasing faster than savings, the pressure of domestic demand led to higher fiscal and current account imbalances and the rapid accumulation of foreign debt. By 1982, the current account/GNP ratio exceeded 8 percent from a historical average of 5 percent in the preceding seven years (Table III.2).

Secondly, the uses to which foreign loans were put generated financial rates of return which in real terms were lower than the real cost of borrowing. Economic theory suggests that a country is justified in contracting foreign debt for as long as the marginal productivity of capital exceeds the marginal costs of borrowing⁵. A proxy measure of investment productivity is the incremental capital output ratio (ICOR) which in a simple linear production function is inversely related to the marginal productivity of capital⁶. In the case of the Philippines, the ICOR increased to an average of about 10 percent in the early 1980's from a historical average of 4 percent a decade earlier. This could be attributed to the long gestation and pay-out periods of investment projects and the inefficiency or unproductiveness of many notorious Imelda projects which turned out to be "white elephants"⁷. Manasan et al⁸ estimated the nominal rate of return on equity investments in 15 major public enterprises at 2.6 percent from 1980-84. By comparison, the average nominal cost of borrowing as measured by the ratio of interest payments to the stock of foreign debt continually increased for the Philippines from about 4 percent in the late 1970's to 7.5 percent

in the first half of the 1980's. Considering that inflation rates in the Philippines were relatively higher than in industrial countries, the rates of return on investments were further inflated by such factors as subsidized credit, cash grants from the government, special tax treatments and government guarantees for foreign borrowings, which led to lower real values compared to the real costs of borrowing which were already negative in the 1970's.

Thirdly, the tradeable goods sector in the economy which should supposedly generate debt service payments did not expand considerably. This is manifested by the export/GNP ratios of 22 percent in 1980-83 compared to 20 percent for the entire decade of the 1970's. With the continued reliance on foreign savings to finance the investment-savings gap, the debt/export ratios consequently increased sharply from about 172 percent in the 1970's to 277 percent in the early 1980's. The debt/GNP ratios also nearly doubled to an average of 64 percent in the early 1980's from only 35 percent in the previous decade, indicating that the stock of foreign debt has been growing much faster than the economy.

Fourthly, external debt accumulation and tax effort in the Philippines moved in opposite directions. From the standpoint of optimal borrowing, taxes should be low at early development stages but should later be raised when debt has to be repaid⁹. In other words, the ratio of tax revenue to GNP will need to rise to generate fiscal resources to service debt payments¹⁰. The tax ratio of the Philippines lingered at the uniform rate of about 12 percent of GNP for the entire decade of the 1970's up to the first half of the 1980's.

Finally, while the policy to attract foreign investments has been in place since the 1970's, the external debt situation was aggravated by a massive outflow of capital, especially during 1982-83 when unstable political developments (e.g., Aquino assassination) eroded confidence in the administration that eventually led to its downfall in 1986. The massive flight of capital during this period depleted the country's international reserves to US\$865 million in 1983 from US\$3.2 billion in 1980, thus accelerating the timing of the debt crisis which could have happened inevitably.

In response to the debt crisis, the country's approach¹¹ has mainly involved the traditional modality of negotiations with creditors¹². A standstill on debt repayments has been successively requested, suspending principal repayments on bank loans from October 17, 1983 to December 31, 1987. In 1985, the first round of rescheduling was negotiated with both commercial and official creditors postponing some US\$6.8 billion in payments of maturing obligations falling due from 1983-1986 and providing a US\$925 million New Money and US\$3 billion Trade Facilities.

In 1987, a second round of rescheduling was concluded with commercial bank creditors involving: 1) the multi-year restructuring of both original maturities due in 1987 through 1992 and previously restructured maturities under the first round for a period of 17 years with 7 1/2-years grace period; 2) the extension of the US\$3 billion Trade Facility to end-June 1991; and 3) the repricing of the 1985 New Money Facility at a reduced interest spread. In 1988, agreement for a second round of rescheduling with Paris Club creditors was also reached involving the deferment of payment for 10 years, inclusive of a 5-year grace period, of 100 percent of principal amortizations and 70 percent of interest payments on official credits maturing in 1987 and the first half of 1988. Meanwhile, to support recovery efforts, a new IMF Standby Arrangement was secured in 1986 amounting to SDR 198 million over a period of 18 months.

Despite the debt relief that should be provided by the traditional approach, selected debt indicators of the Philippines continued to show signs of unsustainability in the debt situation. Total debt/exports ratio continually increased from 305 percent in 1983 to 327 percent in 1986 and so did total debts/GNP ratio from 73 percent in 1983 to 93 percent in 1986. Measures of debt-servicing likewise deteriorated with total debt service-to-exports and -to-GNP ratios rising to respective levels of 23.5 percent and 5.6 percent in 1983 to 24 percent and 6.8 percent in 1986. Moreover, interest payments-to-exports and -to-GNP ratios likewise increased from 24.4 percent and 6.3 percent at the onset of the debt crisis in 1983 to a peak of 28.4 percent and 7.0 percent in 1986, respectively (Chart 3).

In August 1986, the Philippine government adopted a program for converting debt into equity under the market-based menu approach, the efficacy of which will be evaluated in this chapter.

B. PURPOSE AND COVERAGE OF THE PROGRAM

Established by Executive Order No. 32 in July 24, 1986 and implemented by the Central Bank under Circular No. 1111 on August 5, 1986, the Philippine debt-equity conversion program was basically designed to achieve the following principal objectives: 1) to stimulate long-term equity investments in Philippine enterprises by both foreign and local investors; 2) to encourage the repatriation or return to the country of foreign currency holdings of Philippine residents held abroad for the purpose of capitalizing equity investments in the country; 3) to provide additional incentives for investments in designated sectors of the Philippine economy that require prompt revitalization; and 4) to reduce the external debt burden of the country.

The categories of external debt convertible under the program are as follows: 1) all principal maturities covered by restructuring; 2) all credits including deposits maintained by the Central Bank covered by the Trade Facility; 3) all advances made under the New Money Facility; 4) all private sector debt, provided that the existing credit instrument relating to such debt permits the prepayment or repayment of such obligation in local currency equivalent, or that the creditor has consented to the debt conversion arrangement; and 5) other debt obligations as may be approved by the Monetary Board.

The program seeks to attract two general categories of investments, namely: the preferred areas or priority activities or Schedule 2 investments; and the less preferred or schedule 3 investments. Schedule 2 investments include activities such as export and agricultural production; dollar-earning services; banking and financial operations; the purchase of privatized assets; projects with social impact such as health care, educational and low- and middle-income housing services; and investments listed under the Investment Priorities Plan. All other activities not listed under Schedule 2 are classified as Schedule 3 investments.

C. MECHANICS AND OPERATIONAL PROCEDURES

Under the program, a Filipino or foreign investor first applies for Central Bank approval for the conversion to investment of Philippine debt paper purchased at a discount in the secondary market abroad. Approved applications would then allow these investors to present these discounted papers and exchange them with the Central Bank or local debtor for their full value in pesos to fund long-term investments in prescribed areas of economic activity in the country.

Upon application, the investor submits to the Debt Restructuring Office (DRO) of the Central Bank a duly accomplished application form and other supporting documents necessary in the assessment or evaluation of the application. At the same time, the investor pays the Central Bank a non-refundable application fee of 10,000 Philippine pesos. If all the required pre-evaluation documents are complete, the Monetary Board decides on the application normally within 45 days of the date on which the investor's complete application form was filed. In case of disapproval, an investor may resubmit the application or modify its terms at a subsequent time.

Upon approval, the investor proceeds with the closing of the conversion transaction and is given 60 days to accomplish this. During that interim, the investor looks for an eligible or convertible debt instrument and makes arrangements with the creditor or holder of the debt instrument permitting the presentation of such debt paper to the local obligor or debtor who would consent to the repayment of the debt in local currency equivalent. Before the closing date, the investor submits to the DRO other documents pertinent to the closing of the transaction. On the closing date, the obligor pays to the investor the peso equivalent of the debt using the prevailing CB buying rate by remitting the pesos directly to a commercial bank account maintained by the firm in which the investor will invest the peso proceeds. In cases where the obligor, which is a government-owned or -controlled corporation does not have sufficient pesos from its own resources with which to redeem its debt, the Central Bank may extend a peso credit to such obligor. The investor then pays to the Central Bank the applicable conversion transaction fees payable to the account of the National Government maintained with the CB. For peso proceeds not intended for

immediate utilization by the firm, these may temporarily be invested in or used to purchase non-negotiable CB Bills with maturities based on the utilization schedule of the firm subject to CB approval.

D. IMPLEMENTING GUIDELINES/FEATURES

The implementing guidelines of the Philippine debt-equity conversion program are contained in CB Circular No. 1111, dated August 4, 1986. On October 20, 1987, revised guidelines were promulgated under the same Circular to ensure that the Philippines does not end on the losing side of debt-equity deals. The salient features (while highlighting the basic differences between the original and revised versions) of the program are as follows:

Fresh Money Requirement. The original version did not require that fresh money be brought in for Schedule 2 investments but stipulated that Schedule 3 investments should at least be funded by a 10 percent fresh money infusion. Under the revised version, investors are given the flexibility to fund their investments through any of the following options: a) to fund the entire amount through the redemption of Philippine external debt obligations, without bringing in new money but where certain fees payable by the investor to the government will be applied; b) to fund at the most 50 percent as in the case of Schedule 2 investments and 60 percent as in Schedule 3 investments, of the aggregate amount converted with fresh money infusion under which option conversion transaction fees are waived; and c) to fund said investment partly with fresh money and the balance through conversion proceeds, in which case fees will vary depending on the amount of fresh money infused.

Conversion Transaction Fees. The conversion fees were adjusted based on a sliding scale that is dependent on the amount of new financing infused through the program as discussed above. Fees drop as an investor brings in more fresh money. No fees are charged if fresh money equals 50 percent of the conversion peso proceeds for Schedule 2 and 60 percent for Schedule 3 investments. Below these thresholds for new money funding, the fees currently range from 6.7 to 20 percent in the case of Schedule 2 and from 8 to 24 percent in the case of Schedule 3 investments. Under the original or former version, a flat conversion

fee of 5 percent and 10 percent on Schedules 2 and 3 investments were respectively imposed.

Permissible Investments. The revised version widened the scope of Schedule 2 or preferred investments to include: a) the acquisition and operation of non-performing assets being disposed of by the Asset Privatization Trust and other assets for liquidation or disposal under the government's privatization program; and b) banking and financial operations, including government-acquired commercial banks, in line with the Central Bank's efforts to streamline the financial system.

Criteria for Evaluating Applications. The revised version clearly prescribes the criteria used in evaluating applications for conversion not found in the original version. To be favored are applications: 1) which have direct and discernible contributions towards the revitalization of the Philippine economy such as: a) the purchase of new capital equipment or tangible goods necessary to expand production or increase the efficiency of existing operations, b) construction of new or expanded plant capacity, and c) other uses designed to increase the supply of goods or services in the country; and/or 2) which do not involve any extension of credit or release of funds from the Central Bank.

Repatriation and Remittance Restrictions. The revised guidelines are more explicit with regard to repatriation and remittance, particularly in cases where the ownership of the investment changes hands, and the manner by which such change in ownership is financed. In general, investments of non-resident investors are eligible for repatriation and remittance based on the following restrictions and subject to prior Central Bank approval: 1) on Schedule 2 investments, repatriation of capital is allowed 3 years after the investment is made, and is limited to only 20 percent of the capital from the 4th to the 8th year although dividends may be paid out immediately upon declaration of the Philippine enterprise where the investment is placed; and 2) on Schedule 3 investments, repatriation of capital is allowed only 5 years after the investment is made and is limited to 20 percent of the capital from the 6th to the 10th year while dividend remittance is allowed only 4 years after the conversion date.

In case a non-resident investor sells his investment to another non-resident or resident investor, he retains the right to repatriate the proceeds of the sale only to the extent of the amount of investment which was funded from fresh money infusion. On the other hand, the non-resident buyer retains the right of repatriation and remittance if he also funds the purchase of the investment with fresh money. Meanwhile, investments of resident investors are not eligible for repatriation or remittance.

Verification of Peso Proceeds. As a safeguard against the misallocation or misuse of conversion proceeds, the revised guidelines contain a provision not included in the former version, regarding the verification of the use of peso proceeds. To ensure that the proceeds of a conversion transaction are actually utilized for the purpose presented in the application, the Central Bank requires investors to submit invoices, receipts, plans, bills of materials, letters of credit, lease contracts and other relevant documents to support the conversion application, the release of the peso proceeds and the registration of the investment. The Central Bank also reserves the right to conduct project or plant visits and to engage the services of an external auditor, chargeable to the account of the domestic firm benefitting from the swap, to inspect its books or records for the purpose of confirming the company's compliance with the representations or commitments made in the conversion transaction application and the pertinent conditions imposed upon its approval.

Disposition of Idle Funds. The revised version contains a clause not explicit in the first version which gives the Central Bank a prerogative as to the disposition of excess or idle funds or that portion of the conversion proceeds which will not be immediately used by the company where investment will be made. To minimize the impact of pesos released by the Central Bank, peso proceeds from conversion transactions involving prepayment of CB debt paper which will not be immediately used by the firm, are required to be temporarily invested prior to actual utilization of such funds in special series CB Bills which are non-negotiable and non-assignable instruments with maturities corresponding to the company's timetable of funds utilization.

E. STATUS OF THE PROGRAM

Based on the status report on the Philippine debt-equity conversion program as of end-December 1988 (Table III.3), the total number of applications received by the Central Bank under the program reached 405 with an aggregate value of US\$1.827 billion. Of this, 353 applications worth US\$1.243 billion were approved for conversion and 209 approvals valued at US\$0.624 billion were already closed or finally redeemed.

By nationality of investors, Filipinos or resident investors ranked first in terms of amount requested and approved for conversion with total applications valued at US\$0.983 billion, of which US\$0.670 billion were approved. This represented on the average about 54 percent of the total value of applications and approvals under the program. Meanwhile, foreigners or non-residents accounted for about 46 percent of the total value of applications (US\$0.843 billion) and approvals (US\$0.573 billion) but garnered 54 percent (US\$0.337 billion) of total transactions closed. Among the foreign investor groups, the Americans, Chinese/Taiwanese and Japanese were among the most active participants with average respective shares of 38 percent, 29 percent and 10 percent of total transactions received, approved and closed by non-resident investors, or a combined share of about 77 percent (Table III.4).

By type of investment, Schedule 2 or preferred investments comprised about 78 percent of applications and approvals and around 93 percent (US\$0.578 billion) of transactions closed. This mainly involved investments in privatized assets (43 percent), export (38 percent) and agricultural production (5 percent), banking operations (7 percent) and projects with social impact such as health care educational and housing services as well as other projects listed under the Investment Priorities Plan (7 percent) (Table III.5).

By type of debt paper, about 47 percent of approvals or US\$0.058 billion involved the conversion and prepayment of CB obligations while nearly twice as much or about 83 percent were in terms of redemptions or transactions closed. The remaining 53 percent of approved applications involved non-CB (e.g., private sector and public sector) debt papers with fresh money infusion accounting for 1 percent. Meanwhile, only 14 percent of redemptions were private and public sector debts with the

remaining 3 percent involving fresh money (Table III.6). By type of liability, about US\$0.053 billion or about 7 percent were monetary liabilities while the bulk or 90 percent amounting to US\$0.069 billion comprised non-monetary obligations.

F. IMPACT OF THE PROGRAM/MEASUREMENT OF EFFECTS

Basically, the analysis of the external and monetary effects of the Philippine debt-equity conversion program proceeds with the way in which the financial transactions associated with the conversion of debt into equity are recorded in the balance of payments and reserve money accounts. The exact impact of the conversion scheme on specific external accounts and monetary aggregates, in general, would depend on the type and category of debt papers being redeemed and the residency of investors who purchase these debt papers.

1. IMPACT ON THE EXTERNAL ACCOUNTS

The major external accounts to be affected by the debt-equity conversion program are the balance of payments (BOP), the net international reserves (NIR) of the banking system and the external debt.

In determining the effects of the debt conversion program on the BOP and NIR of the banking system (i.e., Central Bank and the commercial banks), the key factors to reckon with are: a) the residency of the investor; b) the type of debt paper (i.e., whether CB, non-bank or bank); and c) the nature of the liability (i.e., whether monetary or non-monetary).

A) Investor is a Non-Resident

1) When a non-resident purchases a Philippine non-monetary debt paper in the secondary market for conversion to equity, the net effect on the BOP is nil as the inflow in the direct investment account is matched by a corresponding reduction in medium- and long-term loans (MLT) under the capital account at an amount equal to the face value of the debt paper. The effect on the NIR of the banking system is likewise nil since debt paper purchased is a non-monetary liability which is therefore an above-the-line entry. The discount obtained by the non-resident investor accrues as income to his country of origin and is therefore not recorded in the BOP of the debtor country.

2) In case where debt converted to equity is a monetary liability, direct investment is increased resulting in an improvement in the BOP. Similarly, NIR of the banking system improves as its foreign exchange liability is reduced without a decline in its reserves or foreign assets. Improvement in the net reserve position is recorded by the Central Bank or the commercial banks, depending upon whose monetary liability is extinguished.

In both cases, external debt is reduced by the amount equal to the debt converted to equity.

B) Investor is a Resident

1) Investor is a Resident Bank

a) When a commercial bank purchases a non-monetary debt paper, NIR of commercial banks (KBs) and consequently, the banking system's, deteriorates to the extent of the discounted value of the debt paper bought since the funding of the purchase is drawn from its reserves. Meanwhile, an outflow in the MLT capital account equal to the face value of the debt paper purchased, and an inflow in investment income under the non-merchandise trade account (representing the discount obtained by the resident bank investor) are reflected above-the-line or in the BOP accounts.

b) However, if debt converted is a monetary liability, the net effect on the NIR would be limited to the discount obtained since the reduction in asset equal to the discounted value of the debt paper purchased, is more than offset by the decline in liability which is recorded at face value. On the BOP, this transaction would result in an inflow under investment income of the non-merchandise trade account equivalent to the discount obtained by the resident bank investor.

Beginning November 23, 1987, however, resident banks were prohibited to engage in the purchase of debt paper without prior approval by the Central Bank pursuant to CB Circular No. 1164 in view of the pressure exerted on the exchange rate by the increased purchase of debt papers by commercial banks.

2) Investor is a Resident Non-Bank

In a transaction where a resident non-bank is the investor, source of funding the debt-equity swap could either be: a) from his foreign currency deposit (FCD) account in the country; b) from his FCD account

held abroad (i.e., flight or repatriated capital) or c) foreign currency purchased from the parallel or black market.

The source of financing determines the treatment in the BOP. Assuming that the debt paper involved is non-monetary and funding came from the FCD account deposited domestically, net effect on the BOP is nil as the increase in direct investments is offset by a corresponding payment in MLT loans in the capital account by the same amount. Simultaneously, a decline in both assets and liabilities of the banking system, specifically of the commercial banks, is reflected in the NIR of the banking system.

In the case where the source of funding is either from the FCD deposited abroad or the parallel market, an inflow in the BOP is recorded as a non-debt creating receipt under the short-term capital account to record the return of flight capital or previously unrecorded transactions in the black market. Due to the difficulty in determining the real source of funding by a resident non-bank, however, it is conservative to assume that conversions of this type are financed through local FCD accounts.

Meanwhile, in a transaction where conversion involves a monetary debt paper, both BOP and NIR would show improvements arising from the increase in direct investment inflows above-the-line and a decrease in monetary liability below-the-line. As in the case of non-resident investments, the conversion by a resident also results in a reduction in the level of external debt.

Based on this accounting framework which is summarized in Table III.7, the impact of the debt-equity conversion program on the external accounts as of end-December 1988, inclusive of those conversions entered under the Philippine Long-Term Equity Fund¹³ of about US\$137 million, was an improvement of US\$10 million in the overall BOP since the program began until end-1988. Similarly, the NIR of the banking system improved by an equivalent amount with foreign assets declining by US\$130 million and foreign liabilities improving by US\$140 million (Table III.8).

Specifically, the non-monetary capital account (MLT loans) was reduced by US\$11 million in 1986, US\$221 million in 1987 and US\$454 million in 1988, or a combined total of US\$685 million since the program started. This represented about 2.7 percent of the country's outstanding

stock of foreign debt as of end-1988. Foreign investments also increased by US\$14 million in 1986, US\$166 million in 1987 and US\$460 million in 1988 or a total of US\$640 million on account of the program (Chart 4). This partially contributed to the significant improvement in total net direct foreign investment inflows into the country from a meager US\$17 million in 1985 when the program was not yet in place to US\$140 million in 1986, US\$205 million in 1987 and US\$986 million in 1988.

Based on the historical trend of direct foreign investment net inflows shown in Table III.9, it may be inferred that investments entered under the program were additional considering the average annual flow of only US\$53 million. Besides, uncertainty caused by political developments such as the transition to a new leadership, beset by successive coup attempts and a rising insurgency movement during the period the program was introduced would most likely delay if not curtail investment decisions.

Meanwhile, the interest income representing the discount accruing to resident investors raised the non-merchandise trade balance (e.g., factor earnings) by US\$55 million (i.e., US\$45 million in 1987 and US\$10 million in 1988).

An attempt was made to measure the resulting foreign exchange savings arising from the conversion of debt into equity by comparing the debt service burden (i.e., interest payments) on rescheduled debt before and after the implementation of the debt-equity conversion program. This basically involved the computation of interest payments on two different outstanding levels of external debt, one as originally scheduled and the other based on a new amortization schedule that took into account the reduction in the level of external debt after having been swapped for equity.

Results of the exercise indicated total foreign exchange savings of as much as US\$792 million in interest payments that would have been paid out until the maturity of these loans in year 2003 (Table III.10). This further implies that while the BOP effect was meager based on actual net flows, the foreign exchange savings that would be incurred in terms of lower interest payments on account of a reduced outstanding stock of external debt, would entail a potential improvement in the BOP by an equivalent amount although realizable on a staggered basis upon

maturity of these loans. For instance, if deferred interest payments of US\$12 million and US\$47 million for 1987 and 1988 were considered, the total BOP effect would be an improvement by US\$2.3 million and US\$62.9 million for the respective years, or a total of US\$69.1 million since the debt conversion program took effect.

2. IMPACT ON MONETARY AGGREGATES

The impact of the conversion scheme on monetary aggregates (e.g., reserve money (RM) and domestic liquidity (M3)) would mainly depend on the type of debt paper being redeemed, e.g. whether the obligation is a CB or a non-CB debt paper. The distinction between a monetary and non-monetary liability would no longer matter since the Net Foreign Assets (NFA) account under reserve money is composed of both monetary (NIR) and non-monetary liabilities (short-term capital and medium- and long-term (MLT) foreign liabilities).

Under the debt-equity conversion scheme, only when a closed conversion transaction involves CB debt paper would RM increase at the time CB pays to the investor the peso equivalent of the converted debt. However, there are cases when RM accounts would be affected even if non-CB debt papers are used. Such is the case of private sector debt paper tied to a swap or forward cover arrangement of a commercial bank with CB where its redemption would require the release of peso differentials previously blocked or deposited with CB¹⁴ and the interest on these peso differentials, thereby also increasing RM. For a non-bank or public sector debt paper, the granting of peso credits or advances by the CB to a non-bank obligor such as a government corporation to cover the peso requirement of the conversion scheme would also expand RM.

In general, the impact on RM would be equal to the payment by the obligor which is the Central Bank to the investor of the peso equivalent of the convertible debt at the prevailing CB buying rate upon closing date of the conversion transaction, less the conversion transaction fee that the investor must pay to the CB for the account of the National Government and less the amount of special series CB Bills (net of maturities) where portions of the peso proceeds were temporarily invested prior to their actual utilization by the domestic firm which received the investment. On the asset side of RM, the conversion of debt to equity is recorded as an improvement in its NFA due to the reduction

in the MLT account. On the liability side, the CB credits the reserve balances of commercial banks for the peso equivalent of the debt to be withdrawn by the domestic firm which received the investment. It should also be noted that conversion proceeds involving the purchase of privatized assets are remitted directly by the Asset Privatization Trust¹⁵ (APT) to the National Government which, in turn, deposits these funds in a special account with the CB. The proceeds of the special deposit account are earmarked for the beneficiaries of the government's Comprehensive Agrarian Reform Program (CARP). Thus, the RM effect is further reduced by the amount of deposit build-up, or conversely, is increased by the amount of withdrawals the government makes on said account.

In equation form, the impact of debt-equity swaps on reserve money would be as follows:

$$\begin{aligned}
 \Delta \text{ RM} &= + \Delta \text{ NFA} + \Delta \text{ NDA} \\
 \Delta \text{ NFA} &= \text{BOP effect} * \text{ER} \\
 \Delta \text{ NDA} &= \Delta \text{ NCPS} + \Delta \text{ NCBF} + \Delta \text{ OTHNDA} \\
 \Delta \text{ NCPS} &= - \Delta \text{ NGDEP} + \Delta \text{ GCCA} \\
 \Delta \text{ NCBF} &= - \Delta \text{ CBB} \\
 \Delta \text{ NGDEP} &= + \Delta \text{ CTF} + \Delta \text{ PP} \\
 \Delta \text{ OTHNDA} &= + \Delta \text{ BPD}
 \end{aligned}$$

where: Δ - Change in levels due to debt-equity swaps
 BOP - Balance of Payments
 ER - Exchange Rate
 NFA - Net Foreign Assets
 NDA - Net Domestic Assets
 NCPS - Net Credits to the Public Sector
 NCBF - Net Credits to Banks and Financial Entities
 OTHNDA - Other Net Domestic Assets
 NGDEP - National Government Deposits
 GCCA - Advances to Government Corporations
 CBB - CB Bills
 CTF - Conversion Transaction Fees
 PP - Privatization Proceeds
 BPD - Blocked Peso Deposits

and where a positive sign denotes expansion and a negative sign, a contraction of money supply.

Based on this accounting framework summarized in Table III.11, the base or high-powered money effect of debt-equity swaps was substantial at an estimated P9.7 billion (Table III.12). On a net-of-maturity basis, about P3.4 billion worth of special series CB Bills have been issued for

debt-equity requirements, which implies that the reserve money impact would have been higher at P13.1 billion had there been no such imposition to invest the unutilized proceeds in CB securities. Meanwhile, the debt conversion program contributed some P0.524 billion in government coffers by way of transaction fees collected and about P0.314 billion to the CARP out of the proceeds of privatized assets bought through the program.

Inasmuch as the peso payment of a CB debt would be credited to the account maintained by the investors in a local commercial bank, and therefore would increase deposits of commercial banks, domestic liquidity or M3 will increase initially by the same amount and subsequently under the fractional reserve banking system by a multiple of the original increment as banks create successive rounds of money on these deposits. In the case of private and other non-CB debt papers, the impact on M3 is neutral since it merely involves a shift in deposits from the commercial bank of the obligor to the commercial bank of the investor or investee for that matter.

To quantify the impact of the debt-equity program on total domestic liquidity (M3), the actual money multiplier for the years 1986-1988 were multiplied by the corresponding annual increases in reserve money due to debt-equity swaps. On the average, a money multiplier of 2.8 was computed, indicating that given the P9.7 billion actual increase in RM due to debt-equity swaps, total liquidity or M3 would have expanded by a multiple of 2.8 times higher or an estimated P27 billion. By year, M3 or broad money would have increased by an estimated P0.72 billion in 1986, P10.83 billion in 1987 and P16.0 billion in 1988 given the actual money multipliers of 2.7 in 1986 and 1987 and 2.9 in 1988 (Chart 5).

3. IMPACT ON REAL SECTOR AND FISCAL VARIABLES

To quantify the effect of debt-equity swaps on the real sector, a simulation exercise was conducted using the PIDS-NEDA macroeconomic model for the Philippines¹⁶, which is used in the preparation of the National Five-Year Development Plan as well as in the generation of official economic targets and forecasts. The macromodel shows interlinkages between four major economic sectors, namely: the external, fiscal, financial or monetary and real sectors, where the latter which

determines output and its expenditure and production components, prices and employment forms the core of the system. Consisting of 63 behavioral equations and 41 identities, the values of 86 endogenous variables are determined through the model using data from 1967 to 1988. Basically, the simulation procedure involved "cleansing" the actual data for variables (e.g., reserve money and balance of payments and their components) used in the model of the direct external and monetary sector effects created by the program as quantified earlier. Through an iterative process, *ex-post* forecasts for the period 1986-1988 were generated until selected real sector variables, such as prices, production and employment, and fiscal aggregates (budget deficit, revenues and expenditures) consistent with the levels of external and monetary indicators supposedly without debt-equity effects were reached. The fitted or estimated values of these real and fiscal variables without debt-equity effects were then compared with the fitted values with debt-equity effects (baseline scenario) which were made to coincide with actual values by adjusting these for error or residual terms.

As shown on Table III.13, the actual inflation rate from 1986 to 1988 when the program was in effect should have been lower by as much as 4.4 percentage points. The inflationary effect was substantial in 1988 and 1987 at 2.0 to 2.2 percentage points (Chart 6). Meanwhile, domestic output as measured by real GNP would have been lower by 0.6 percentage points without the debt-equity program. The unemployment rate, on the other hand, would have been higher by a fractional 0.4 percentage point had there been no debt conversion program. The production and employment effects are minimal at the onset as it takes time for equity investments to translate into productive activity.

The impact of debt-equity swaps on the fiscal sector, in turn, arises from both the revenue and expenditure sides of the government's balance sheet as conversion transaction fees would have augmented non-tax revenues while interest obligations on the foreign loans of the public sector that have been swapped for equity would have contracted operating expenditures. The net effect on the fiscal deficit would depend on the extent to which incremental revenues with the program outweigh the foregone interest payments on public sector external debt. In the short-run, this net effect is likely to be positive (i.e., debt-

equity swaps reduce the budget deficit) but becomes negative in the long-term as interest payments on maturing bonds (at domestic interest rates that are likely to be higher than on foreign loans) issued for debt-equity purposes begin to exact its toll. From 1986 to 1988, total revenues would have been lower by P524 million while interest payments on foreign borrowings would have been higher by an estimated P15.6 million¹⁷ (Table III.14), resulting in a higher fiscal deficit for these years of about P540 million without the program (Chart 7).

4. IMPACT ON DOMESTIC INTEREST AND EXCHANGE RATES

Inasmuch as two major variables affected by debt-equity swaps, namely domestic interest rates and foreign exchange rates were treated exogenously in the macromodel, separate regression equations were formulated to determine the impact of the program on these variables.

The exchange rate equation was specified as a function of the lagged foreign exchange rate ER1 (a proxy variable for expectations), ratios of real domestic to real foreign interest rates PPP (purchasing power parity), a distributed-lag on changes in gross international reserves of the Central Bank (to measure CB intervention on trading floor), a distributed-lag on import buffer stocks or the ratio of reserves to total imports (measure of demand for foreign exchange) and dummies for crisis years (1983 onwards = 1) and foreign exchange regimes (fixed=0, managed float = 0.5, 1 = free float). The regression exercise yielded significant statistical results as shown in Annex Table III-B.

By subtracting the debt-equity effects on the level of international reserves used in the equation, the fitted values for the exchange rate adjusted for residual terms, reflected a variance of P0.0337 over the actual values incorporating debt-equity effects for the period 1986-1988 (Table III.15). While this proves that the program tends to depreciate the exchange rate, the magnitude has been minimal due to the CB's close monitoring which eventually resulted in the prohibition on the purchase of debt papers by resident commercial banks. Without such a ruling, the extent of depreciation due to the program would probably have been larger due to speculation by the local banks.

The domestic interest rate equation used the nominal Treasury Bill (TBill) rate as the basis, it being the lead interest rate (i.e., all other domestic interest rates follow its movement) in the Philippines.

The TBill rate was specified as a function of the previous TBill rate, a distributed-lag for changes in reserve money and dummies for policy variables such as the phasing-out of reserve-eligible government securities DV1 (1983 onwards=1); the crisis or fiscal austerity years DV2 (1983-1985=1); interest rate deregulation DV3 (1980 onwards=1); introduction of CB Bills for open market operations DV8 (1984-1986=1); and the new arrangement to float TBills for open market purposes DV7 (1987-1988=1). The resulting equation shown in Annex Table III-C which was statistically significant yielded fitted values for the TBill rate higher by as much as 4.2 percentage points from 1986-1988, if debt-equity effects on reserve money levels used in the equation were removed (Chart 8). The negative sign of the lagged value of the nominal TBill rate may signify policy measures to scale down nominal interest rates with the reduction in inflation resulting from monetary restraint in the previous periods to reduce the wide differential between deposit and lending rates as the latter are sensitive to TBill rate movements. Reflecting the deliberate policy of monetary authorities to maintain the real level of interest rates, this estimated increase in the nominal TBill rate approximates the extent of inflationary impact of the program.

While the magnitudes of these sectoral effects really depend on the strength of the model specification, the attempt done here simply proves that the program does exert pressure on domestic prices, interest rates and exchange rates and influence production, employment and the fiscal aggregates.

G. PRESENT THRUST OF THE PROGRAM

While the implementing guidelines of the Philippine debt-equity conversion program as embodied under the revised version continue to be in effect, only applications involving the use of private sector debt papers were being accepted beginning end-February 1988. This is due to the government's concern over the money supply and inflationary impact of the use of CB debt papers for conversion to equity, which necessitate a slowdown in approvals and redemptions of debt-equity swap applications to ensure that inflationary pressures do not disrupt recovery efforts.

Along this line, the Central Bank has established a point system for approvals in case CB debt paper is used based on such criteria as labor intensiveness, foreign exchange generating capacity and geographical dispersal of the investment project being financed from debt conversion. This prioritization scheme was used in evaluating pending applications using CB debt papers as of end-February 1988.

To encourage the use of private sector debt paper in debt-equity swaps, the conversion fee for such transactions has been waived while their applications have been processed faster than those involving CB debt papers which would normally undergo prioritization. Transactions involving the latter may again be accepted and their existing inventory of applications re-evaluated for possible approval provided these are incorporated in the allowable base money expansion under the country's financial or monetary program for a certain period.

I. PROBLEMS/DIFFICULTIES ENCOUNTERED IN IMPLEMENTATION

The present policy thrust to limit debt conversions to private sector debt papers slowed down the implementation of the Philippine debt-equity conversion scheme in view of the scarcity of private sector debt papers. This is shown in Table III.16 where the latest external debt profile of the country reveals that of the total US\$27.6 billion external debt outstanding as of end-April 1989, only 22 percent is accounted for by the private sector (including commercial banks) while the bulk or 78 percent (US\$21.7 billion) are owed by the public sector, of which a little less than a quarter are Central Bank obligations (Chart 9). Investors find it difficult to swap private sector debt papers since most private sector obligors are not willing to prepay their debts or granted that they are willing to prepay, find it difficult to raise the pesos required to redeem their obligations. Still, even if they have the pesos to do so, private sector obligors would like to recapture as much as they could of the secondary market discount being enjoyed by the investor. At present, this share or cut in the discount hovers at about 30 percent, meaning that the debt is redeemed in local currency at 70 percent of its face value. An investor, therefore, has to haggle with the private sector obligor over the latter's share in the secondary market discount.

In terms of public sector debt paper, the major constraint facing most government-owned or -controlled corporations is the availability of peso funds with which to prepay their debts. Besides, most public sector debts have already been rescheduled so that their prepayment may be imprudent from the economic standpoint or may simply have not been programmed in budgetary allocations.

Thus, investors prefer using CB debt papers since the CB would merely print or create money in the prepayment of its obligations under debt-equity swaps. Ironically, the conversion of CB obligations is inflationary as proven earlier and is the major reason why the program has been confined to private sector debts.

Another predicament of the program is the structure of conversion transaction fees. Given their present rates, an investor becomes indifferent with regard to the infusion of fresh money if the secondary market discount at which Philippine debt papers are sold reaches 40 percent since at this rate, his effective or net discount is the same regardless of whether new equity or fresh money was infused through the program. At secondary market discount rates below this hurdle, the investor benefits if he puts in more fresh money since his effective discount rises proportionally. However, above this reference rate, the effective discount to the investor declines as he puts in more fresh money so that he would always choose the option where zero or no new money or equity is involved (Table III.17). Presently, the discount rate ranges from 52-54 percent which makes the fresh money requirement unattractive or irrelevant to the investor.

There have also been allegations of inconsistency with the guidelines of the program insofar as the evaluation of applications are concerned such as the case of a Schedule 3 investment which is supposedly a less preferred area but using a private sector debt paper getting approved over a Schedule 2 investment which is a preferred area but using a CB debt paper. In this instance, a conflict exists in the criteria used for evaluating applications which should be reviewed and clarified to the investor.

NOTES

¹ See Rainer Erbe, "Foreign Indebtedness and Economic Growth: The Philippines", *Intereconomics*, (Hamburg: Verlag Weltarchiv GmbH, HWMA-Institut für Wirtschaftsforschung), May/June 1985.

² World Bank, *World Debt Tables: External Debt of Developing Countries*, 1985/86 edition (Washington D.C.: World Bank), p.xxv.

³ See Otmear Emminger, "The International Debt Crisis and the Banks", *Intereconomics* (Hamburg: Verlag Weltarchiv GmbH, WVA-Institut für Wirtschaftsforschung), May/June 1985, pp.107-113.

⁴ *Ibid.*, p.109.

⁵ See Victor Tanzi, *The Role of the Public Sector in the Market Economies of Developing Asia: General Lessons for the Current Debt Strategy* (Washington, D.C.: IMF Working Paper, January 22, 1988, p.21.

⁶ *Ibid.*

⁷ Robert S. Dohner and Ponciano Intal, Jr., "Debt Crisis and Adjustment in the Philippines" in *Developing Country Debt and the World Economy*, ed. Jeffrey D. Sachs (Chicago: University of Chicago Press, 1989), p.176.

⁸ See Rosario G. Manasan, Juanita D. Amatong and Gil Beltran, "Public Enterprise Sector in the Philippines: Economic Contribution and Performance, 1975-1984", *Public Enterprise*, Vol. 8, No. 4 (Ljubljana, December 1988), pp.339-351.

⁹ See Alberto Alesina, *Optimal Borrowing Policies for Developing Countries: The Cases of Korea, the Philippines and Thailand, 1965-83* (Washington, D.C.: IMF Working Paper, June 10, 1987).

¹⁰ Tanzi, *Op. cit.*, p.24.

¹¹ The Central Bank of the Philippines is mandated with the responsibility of managing the country's external debt, amongst other functions. In succeeding sections, any reference to the Central Bank should be taken from the perspective of the entire country or economy.

¹² See Amando M. Tetangco and A. Luwalhati H. Laqui, "Developments in External Debt Strategy and Selected Country Experiences", *CB Review* (Central Bank of the Philippines, April 1988), pp.30-31.

¹³ Investments which were temporarily placed in CB Bills pending the identification by the investor of a Philippine enterprise qualified for the investment under the program per Monetary Board Resolution No. 1245 dated December 11, 1987. The equity fund, which are included in the approvals under the program, involve the exchange by creditors of their debt directly for units in this particular fund.

There are benefits that investors can derive from a pooled approach to debt conversion rather than doing deals on their own. First, there are economies of scale since the financial resources that can be generated by the conversion of a managed equity pool can be used to create a sizeable source of local currency to participate in larger, economically viable projects, while allowing each participant to commit only a small portion of his exposure to the investment. Pooling resources also allows risk diversification since the fund can be invested in a number of projects in different industries, thereby avoiding any over-concentration in a single sector. The fund also enjoys the professional help of managers who know the country and the specific industries in which the fund will be invested. The conversion of debts into these funds are not included in the statistics of closed transactions since strictly speaking, debt has not yet been converted into equity but merely placed in bonds until these are eventually redeemed for equity-conversion. Nevertheless, the debt has already been extinguished as title has been transferred from the creditor bank to the investor.

¹⁴ Due to the paucity of foreign exchange at the onset of the Philippine debt crisis in October 1983, the Central Bank assumed all foreign exchange liabilities of the public and private sectors provided they block or deposit with CB the peso equivalent of their foreign debt repayments.

¹⁵ The Asset Privatization Trust is a government entity created to take charge of the government's privatization program.

¹⁶ See Roberto S. Mariano and Winifrida M. Constantino, *The PIDS-NEDA Macroeconometric Model for the Philippines: Recent Modifications and Experience on Its Use for Policy Analysis* (Makati, Metro Manila: Philippine Institute for Development Studies (PIDS), November 1987).

¹⁷ Calculated by multiplying straightforward total public sector debt converted of US\$8.8 billion (US\$ 3.9 billion in 1987 and US\$4.9 billion in 1988) with the corresponding foreign interest rates (LIBOR plus spread) for the respective years and converting the products to local currency using the average exchange rates for said years.

CHAPTER IV
COMPARATIVE SURVEY OF DEBT-EQUITY CONVERSION PROGRAMS OF
SELECTED HEAVILY-INDEBTED DEVELOPING COUNTRIES

The implementing guidelines of the Philippine debt-equity conversion program, despite its revisions, still leave much to be improved upon, especially insofar as mitigating its adverse economic effects. In this regard, the following chapter describes the features of the more popular debt swapping programs adopted by the five largest Latin American debtor countries, namely: Argentina, Brazil, Chile, Mexico and Venezuela and compares them along with the Philippine program for the purpose of extracting lessons and insights which may be useful in the latter's future modification.

A. INDIVIDUAL COUNTRY PROFILES

1. ARGENTINA

As early as 1984, Argentina has been engaging in debt-equity swaps. The Argentine scheme was related to a rescheduling package in that year similar to Brazil's but assumed a different form. The Argentine authorities issued promissory notes called BONODS for debt covered by the package and then allowed the conversion of these notes to equity on a case-by-case basis¹. This particular debt-equity swap arrangement was, however, discontinued before the end of 1985 due to concerns that investments under debt-equity swaps merely substituted for inflows that would have taken place in any event and due to its inflationary effects.

In June 1987, the Argentine authorities introduced a new scheme which is broadly similar to Chile's but with additional restrictions. A qualifying procedure is first conducted to screen projects based on certain criteria. In essence, eligible projects must be new projects or expansion of existing ones in export-related activities, plant construction and new machinery where debt can be exchanged at par. Proposals involving the transfer of blocks of stock which affect domestic security or which increase supply in economic sectors requiring rationalization are rejected². Once approved, investors of qualified projects are then free to compete in bi-monthly *cupo*-type tenders,

initially fixed at \$50 million. A total quota of US\$1.9 billion was set over a five-year period to warrant the system's ability to absorb the monetary expansion arising from the scheme³.

A major condition of the program, however, is that for every dollar of debt exchanged, an additional dollar of fresh money also has to be invested⁴. Preference under the public bidding system is given to projects with the highest ratio of new funds to total debt converted, or in other words, the largest input of dollars⁵. Under more flexible regulations announced in October 1987, the government permitted up to 70 percent of an eligible project to be financed by converted debt paper and the balance of 30 percent by fresh money infusion⁶. Repatriation restrictions are 10 years for capital and 4 years for dividends. Domestic and foreign investors are equally qualified to participate while all types of debt are eligible for conversion except exit bonds, short-term trade credits and debts owed to official agencies⁷. So far, the effects of the program have been small with \$343 million in debt converted out of three auctions since January 1988 when the new swap program was actually implemented⁸.

2. BRAZIL

The first debt-equity swaps after the emergence of the debt crisis in 1983 occurred in Brazil. As part of a major rescheduling package agreed with Brazil's creditors that year, private sector borrowers were required to deposit with the Central Bank of Brazil the *cruzeiro* or local currency equivalent of their foreign currency borrowings which were due for repayment⁹. Several creditors eventually decided to sell their loans to multinational corporations or similar institutions planning to invest in Brazil using the blocked deposits. In 1984, the Brazilian authorities became concerned that the scheme might discourage the inflow of new or fresh money from direct investors and decided to restrict authorization for debt-equity swaps only to original creditors, discontinuing as well the fiscal incentives in the form of tax cuts ranging from 5 to 10 percent previously given to investors under the program. The bulk of transactions was accounted for by transnational corporations which have transferred their foreign debt into share capital with subsidiaries¹⁰.

In November 1987, the government approved a new debt-equity swap scheme that was intended to increase the volume of transactions. All existing deposits with the central bank as well as loans falling due may qualify for the program even if ownership of credits had been transferred from the original creditor¹¹. Swap rights are auctioned monthly by the central bank to interested parties who are invited to bid on these rights, thereby enabling the government to share in the discounts on loans subject to conversion. The new rules give preference to investments in export projects, hotel development, high-technology industries and projects located in the depressed northeast region. Per new guidelines issued in February 1988, two separate auctions will be held for investments in different regions of the country - one for projects located in the northeast; the other located elsewhere. Debts of state-owned enterprises were also exempted from the auction system but must be converted into investments in entities of the same public sector¹². Repatriation restrictions are 12 years for capital and 4 years for profit remittances¹³. In the period 1983 to mid-1987, almost \$2 billion worth of Brazil's external debt was converted to equity¹⁴ and more conversions are envisioned to take place with an officially estimated \$3.1 billion for 1988¹⁵. So far, only US\$1 billion has been auctioned off in the first six months the program has been implemented in 1988¹⁶.

3. CHILE

The Chilean debt-equity swap scheme, which was initiated in May 1985, has earned the reputation as the largest, best-established and most flexible arrangement among programs in existence. This is because Chile has enacted one of the most liberal foreign investment laws in the country with no restrictions on the percentage of a firm that investors can own. All external public sector debt and private sector debt, including publicly-guaranteed debt with an original or rescheduled maturity in excess of 365 days, are eligible for conversion into equity holdings or for the retirement of local currency debts in Chile¹⁷.

Regulations governing the debt conversion program in Chile are outlined in the "Compendium of Rules on International Exchange" issued by the central bank. The program basically involves two principal

options, namely: Chapter 18, which is a debt conversion program for residents; and Chapter 19, which involves non-residents.

Chapter 18 is basically a debt-for-peso swap program that allows Chilean residents and non-residents to acquire Chilean debt sold at a discount in the secondary market with their own foreign exchange reserves (capital held abroad) or with foreign exchange bought at the unofficial or parallel exchange market, and convert the funds into local currency or pesos. No access to the official foreign exchange market is provided for this purpose and to regulate the spread between the parallel and official rates, the volume of operations is restricted by the central bank through bi-monthly quotas or *cupos* auctioned off to domestic commercial banks where all conversion operations are channeled. Thus, an investor has to authorize a local bank to obtain the agreement of the Chilean debtor to redenominate its foreign debt in national currency and to submit an offer, stating how much it will pay for the conversion transaction, to the Central Bank for the bi-monthly quota to be allocated to the highest bidder. The central bank charges a price for the *cupo* which enables it to share the benefits of the secondary market discount which currently amounts to 16 percent¹⁸.

Chapter 19, on the other hand, authorizes foreign agents to invest in Chile by purchasing Chilean debt paper in the secondary market, exchanging its debt for local currency equivalent for subsequent investment in a domestic firm. Operations under Chapter 19 are not subject to a quota as in Chapter 18, but need the approval of the central bank on a case-by-case basis. Despite the openness of Chapter 19, foreign investors must register their peso proceeds as capital under the Foreign Investment Law. During the first four years following an equity investment, dividend repatriation is not allowed, although accumulated unpaid dividends can be transferred abroad beginning the fifth year. No capital repatriation is allowed during the first 10 years. Although the original capital invested must remain in Chile for the full 10-year period, changes in ownership are allowed¹⁹.

Chile's program has also been designed in such way as to preclude any immediate monetary impact arising from conversion transactions. As a means of monetary control, the Central Bank of Chile pays the investor its long-term securities which can be redeemed or liquidated in the

domestic capital market for Chilean currency at a discount currently running at 10 to 15 percent²⁰. In only two years, Chile has converted approximately 5 percent²¹ of its debt to foreign banks into equity and local currency or about \$2.1 billion up to end-August 1987²².

4. MEXICO

Debt-equity operations were authorized in Mexico in April 1986. The Mexican program is significantly more restrictive since only public sector external debts are eligible for conversion into approved equity investments and since the program is not open to resident-investors. Approval for all swaps must also be obtained from the Treasury and the National Foreign Investment Council²³.

Once approved, the swap is carried out by the central bank at the free market exchange rate. However, the debt is redeemed in local currency at a discount of between 0 to 25 percent of the investment's face value, depending on the priority sector where the investment is made. The Bank of Mexico (central bank) can redeem Mexican debt paper at face value (100 percent) when the domestic currency is to be used to acquire state-owned firms; at 95 percent of face value when proceeds are to be used for investments that will create employment and introduce new technology in a firm that is export-oriented; and at other fractions of the face value down to 75 percent²⁴ for lesser priority activities such as investments in or expansions of businesses which reduce imports, create jobs or are located in designated industrial zones²⁵.

Instead of giving the proceeds of a swap to the investors, all redemptions are kept on deposit or special account with the Federal Treasury indexed to CETES (Treasury Bill) yields until these are directly disbursed to suppliers, creditors and contractors upon presentation of proper documentation²⁶. While this assures the Mexican authorities that funds are utilized for their intended purpose, it represents yet another layer of bureaucratic red tape. In a Mexican swap, capital may not be repatriated for 12 years nor can dividend remittances exceed 9 percent for the first 3 years²⁷. In 1987, the program was suspended owing to lack of progress in the renegotiation of the country's foreign debt and the inflationary impact of the program which was managed by limiting swaps to only US\$100 million a month²⁸. The government announced a re-opening of the program for the backlog of

applications submitted but not yet approved prior to the program's suspension²⁹. Since the launching of the program, about \$650 million of swaps have been completed³⁰.

5. VENEZUELA

Debt-equity conversion was introduced by Venezuelan authorities in April 1987 per Decree No. 1521. It is open only to foreign investors and is intended for converting public sector debt. Under the Venezuelan scheme, the central bank buys public sector dollar-denominated debt for local currency called *bolívars* at par or at a discount for as long as the proceeds are used for investment in Venezuelan companies which are engaged in export-oriented or import-substituting industries or in any of the 11 designated priority sectors³¹ including agriculture, construction projects and heavy industry. The central bank pays either in cash or with public sector *bolívar*-denominated bonds which are actively traded in the Caracas Stock Exchange. All applications for debt conversion have to be approved by a commission composed of officials from the Ministry of Finance and Ministry of Development, the president of the Central Bank and the superintendent of Foreign Investments. The conversion is pegged at a rate of B14.50³², which makes the program unattractive since the official rate is twice as much higher. In the first three years after a conversion, a company may remit a dividend of only 10 percent of the total amount of investment made from the conversion and to 20 percent plus LIBOR thereafter³³. For five years more, the company has to keep the investment or capital within the country. Afterwards, repatriation can be made in 8 equal yearly installments³⁴ of 12.5 percent until the 13th year when restrictions no longer apply³⁵.

The Venezuelan mechanism incorporated the option of Chile's *cupo* system by varying the rate at which the central bank buys debt paper as well as Argentina's new money prerequisite by requiring that the cost of imported components of a project be covered by external sources of financing or new money. Nonetheless, Venezuela's debt conversion program has been slow due to the exchange rate mechanism although there are plans to allow conversions at the free market rate for swaps made under the "Export Investment Decree 1988" which is a special export incentive

plan applying to projects that sell 80 percent of their production abroad³⁶.

B. COMPARISON WITH THE PHILIPPINE PROGRAM

In comparing the debt-equity swap arrangements of the Philippines with these Latin American countries, it is apparent that although there are differences in the details from country to country, the mechanisms share some fundamental characteristics although in different degrees. Almost all the programs: 1) provide some opportunity for the debtor country to share or recapture part of the secondary market discount on the debt, either through auction fees or through conversion charges; 2) give some direction with regard to the sectors of the economy from which equity can be purchased; and 3) place some restrictions on the volume and frequency of payments that can be remitted abroad in the form of dividends or repatriated capital (Table IV.1).

In most respects, the Philippine program is relatively attractive, except for its more restrictive foreign investment laws compared to Chile's. First, unlike in Chile (Chapter 18), Argentina and Brazil where prospective investors have to bid for the rights to convert debt into equity, the Philippine program allows investors to submit individual applications to the Central Bank and evaluates each application based on its merits. The bidding procedure in the Philippines is only limited to conversions involving the purchase of privatized assets. Secondly, the capital repatriation and dividend restrictions are more liberal in the Philippines with capital repatriation allowed within 3 years for Schedule 2 and 5 years for Schedule 3 investments compared to the 10-year to 12-year holding periods required in the Latin American countries, while dividend remittance is immediately allowed within the first year for Schedule 2 and within 4 years for Schedule 3 investments compared to the 3- to 5-year retention limits in the Latin American countries. Thirdly, the Philippine program is more flexible with regard to the fresh money requirement since it gives the investors various options with which to finance the equity purchased compared to the more stringent rules of Brazil, for example, where a one-to-one matching of debt conversion to new money is required. In a sense, the Philippine regulations are also more transparent insofar as the taxation of

conversion is concerned since the conversion transaction fees are fixed in nature compared to the auction or bidding procedure in the Latin American countries where the local discount or bidding price would tend to vary everytime an auction is held.

Despite its attractiveness, however, the Philippine debt-equity conversion program has not taken off full-blast as envisioned, at least not along the pace with which Latin American programs have proceeded. Indications of volumes of debt conversion transactions shown in Table IV.2 signify that more progress can be made along the magnitude of the Brazilian, Mexican and Chilean prototypes where 10 to 30 percent of total external debt outstanding have been converted.

One virtue found in these schemes that may be worthy of emulation for the Philippines is the mechanism or system by which the Latin American countries, notably Chile and Mexico, sterilize the monetary and inflationary impact of the program. Their strategies essentially involve the issuance of long-term debt instruments or bonds to the investor which may only be liquidated for pesos or local currency in the local capital markets. The principle behind this mechanism is essentially to match liquidity expansion upon maturity of the debt instrument with additional output that is supposedly generated by the domestic firm which benefitted from the equity investment, thereby negating the inflationary impact arising from monetary expansion. The application of such system in the Philippines would be particularly useful considering that 90 to 95 percent of its conversion transactions involve CB obligations which exert a substantial monetary and inflationary impact.

NOTES

¹ Michael Blackwell and Simon Mocer, *Debt/Equity Swaps* (Washington: IMF Working Paper, February 12, 1988), p.4.

² Eugenio Lahera, "The Conversion of Foreign Debt Viewed from Latin America", *CEPAL Review No. 32* (Santiago, Chile: United Nations Commission for Latin America and the Caribbean), p. 116.

³ Debt Management and Financial Advisory Services Department, *Market-Based Menu Approach* (Washington, D.C.: The World Bank, monograph, September 1988), p.38.

⁴ Thomas A. Laysan and Timothy F. Kearney, "Debt for Equity: A Solution to the LDC Debt Crisis? Part 2, *The Journal of Commercial Bank Lending*, Vol. 70, No.6 (Philadelphia: Robert Morris Associates, February 1988), p.41.

⁵ Eugenio Lahera, *Op. cit.*, p.115.

⁶ "Debt Conversion Regulations", *Global Debt: The Equity Solution*, Supplement to *EuroMoney* and *Corporate Finance*, ed. Paul King (London: EuroMoney Publications PLC, January 1988), Special supplement p.39.

⁷ See Debt Management and Financial Advisory Services Department, *Op. cit.*

- ⁸ Judith Evans, "Argentina: Lots of Twinkle-Few Stars", *Debt Management: Latin America Sets the Pace*, Supplement to *Euromoney*, Ron Cooper and Paul King, eds. (London: Euromoney Publications PLC, September 1988), pp.37-38.
- ⁹ Blackwell and Nocera, *Op. cit.*, p.3.
- ¹⁰ Eugenio Lahera, *Op. cit.*, p.109.
- ¹¹ Debt Management and Advisory Services Department, *Op. cit.*, p.37.
- ¹² *Ibid.*, p.38.
- ¹³ Paul King, *Op. cit.*
- ¹⁴ Blackwell and Nocera, *Op. cit.*, pp.3-4.
- ¹⁵ Bill Hieronymus, "Brazil: Debt Swaps - Yes, But Who Pays?", *Debt Management: Latin America Sets the Pace*, Supplement to *Euromoney*, Ron Cooper and Paul King, eds. (London: Euromoney Publications PLC, September 1988), p.24.
- ¹⁶ Debt Management and Financial Advisory Services Department, *Op. cit.*
- ¹⁷ Layman and Kearney, *Op. cit.*, p.37.
- ¹⁸ Eugenio Lahera, *Op. cit.*, p. 110.
- ¹⁹ Layman and Kearney, *Op. cit.*, p.38.
- ²⁰ Eugenio Lahera, *Op. cit.*
- ²¹ *Ibid.*
- ²² Blackwell and Nocera, *Op. cit.*, p.5.
- ²³ Layman and Kearney, *Op. cit.*, p.39.
- ²⁴ Blackwell and Nocera, *Op. cit.*, p.6.
- ²⁵ Layman and Kearney, *Op. cit.*, p.40.
- ²⁶ Debt Management and Financial Advisory Services Department, *Op. cit.*
- ²⁷ *Ibid.*
- ²⁸ Eugenio Lahera, *Op. cit.*, p. 113.
- ²⁹ Debt Management and Financial Advisory Services Department, *Op. cit.*
- ³⁰ Layman and Kearney, *Op. cit.*, p.39.
- ³¹ See Blackwell and Nocera, *Op. cit.*, p.7.
- ³² See Richard Evans, "Venezuela: Plan May Now be Made to Work", *Global Debt: The Equity Solution*, Supplement to *Euromoney* and *Corporate Finance*, Paul King, ed.(London: Euromoney Publications PLC, January 1988), p. 89.
- ³³ Blackwell and Nocera, *Op. cit.*
- ³⁴ *Ibid.*
- ³⁵ See Debt Management and Financial Advisory Services Department, *Op. cit.*, p.39.
- ³⁶ See Judith Evans, "Venezuela: Advancing with Decree 1988", *Debt Management: Latin America Sets the Pace*, Supplement to *Euromoney*, Ron Cooper and Paul King, eds. (London: Euromoney Publications PLC, September 1988), p.44.

CHAPTER V
CONCLUSION, POLICY RECOMMENDATIONS AND IMPLICATIONS

A. EVALUATION OF FINDINGS

The quantification of the macroeconomic effects of the Philippine debt-equity conversion mechanism helps determine whether the program should be encouraged or restrained. On the whole, the program has so far reaped for the country a number of benefits in the form of: a) a reduced stock of external debt by about US\$685 million with corresponding relief on debt-servicing up to the maturity of the loans in 2003, hence releasing incremental foreign exchange savings of about US\$792 million to finance growth; b) the expanded production (of about 0.6 percentage points in real growth) and increased employment (or a reduction in the unemployment rate of about 0.4 percentage points) generated by the US\$640 million rise in direct foreign equity investments to which debt has been converted; c) additional factor earnings of US\$55 million and an immediate improvement in the balance of payments position of about US\$10 million; and d) supplemental government revenues collected by way of conversion fees by as much as P524 million plus deferred interest payments on the expenditure side of P16 million, resulting in a lower fiscal deficit of about P540 million. At the same time, however, the program carries unwanted side effects, especially on major price variables in the form of inflation on prices of domestic goods (by about 4.4 percentage points), surge in domestic interest rates or cost of funds (by about 4.2 percentage points), and a minor depreciation of the exchange rate (by .03 Philippine centavos to US\$1.00 or .01 percent). The net balance between the costs and benefits, in turn, can be calculated depending on weights attached to different economic objectives (e.g., balance of payments improvement, containment of inflation, expansion of output, debt management, reduction of fiscal deficit, employment generation, etc.) which oftentimes entail conflicts and trade-offs in their pursuance. This implies that debt-equity conversion as a debt management technique requires, for proper implementation, clarity of goals and fine-tuning in implementation. Any further attempts to estimate the net benefits or costs of the program on the economy, unfortunately, are precluded by the inavailability of these weights used in Philippine economic policy formulation. Momentarily, the

best that can be done is to assess these economic effects in the light of their contribution to the main objective of the program - which is the resolution of the debt crisis.

The effectiveness of debt-equity swaps in dealing with the debt dilemma can be gleaned from the subsequent behavior of the major debt indicators and principal ratios encountered earlier such as Debt/GNP, Debt Service/GNP and Interest Payments/GNP. Success of the program in coping with the debt crisis must result in a declining or at the least constant movement of these ratios which would be a necessary but not sufficient condition since the decline in these ratios should be brought about not just by a fall in their numerators but by a rise in their denominators as well. Needless to say, a strategy such as the traditional modality of debt restructuring and provision of new money which may attempt to raise GNP but simultaneously increases the stock of debt or total debt service or total interest payments by an even larger percentage only exacerbates the problem. In this regard, debt-equity swaps fulfill the required movements of both the upper and lower terms of these ratios.

Furthermore, the effects on other such debt indicators as International Reserves/Total Debt which should be high, and Interest Payments/Total Debt (e.g., cost of borrowing) which should be low, are favorable as debt-equity swaps decrease Total Debt while maintaining at the least the level of International Reserves in the former ratio and reducing Interest Payments in the latter. Even the measure of tax effort or Total Revenues/GNP is enhanced in conformity with the fiscal condition for optimal borrowing.

Only effects of the program on ratios pertinent to the tradeable goods sector such as Exports/GNP, Debt/Exports, Debt Service/Exports and Interest Payments/Exports remain to be seen as it would take time for equity investments to produce the desired results in this sector. However, inferences about the likely improvement of these ratios in the future can be made considering that export or dollar-earning sectors constitute one of the preferred areas of activity eligible for debt conversion in the Philippines, with about 38 percent of total conversions in said activity realized up to end-1988.

On this basis, the tentative conclusion can be formed that the debt-equity swap mechanism is an effective instrument for debt reduction in the Philippines while simultaneously promoting growth, thereby deserving continued and vigorous implementation.

B. POLICY RECOMMENDATIONS AND IMPLICATIONS

Extending the enforcement of the debt conversion program, more so at a brisk or intensive pace and large-scale basis, conveys several policy implications not only for the Philippines but to all debtor countries adopting similar schemes as well.

Firstly, there is a general consensus that the secondary market for debt-equity swaps is a very thin market, owing to the still limited participation of money center banks which hold the bulk of LDC debt, thus limiting its liquidity; and the prevalence of distortions (intermediation fees of brokers, taxes or share of discount the debtor government recaptures, absence of a central exchange where prices are quoted publicly) and externalities (e.g., money supply, inflation and exchange rate effects) which render the market ineffective and repress the diffusion of information. While a more optimistic view upholds an active role for an expanded market in the future as more countries adopt formal debt-equity programs and as more reserves for losses are set aside by creditor banks, the market will ultimately be short-lived because as more debts are swapped or converted to equity, the debtor country in time improves its economic performance, restores its credit-worthiness, and therefore regains its access to voluntary lending by the financial community. Consequently, the secondary market price of its debt gravitates towards the full or book value, thereby eliminating the discount on the debt which gives force to the market.

On this account, it will be crucial to scrutinize further the microeconomic angle of debt-equity swaps through the development of a micromodel explaining the demand and supply functions and price determination of Philippine debt papers sold in the secondary market which could be pursued in a sequel to this study. Such a probe into the workings of the market for debt-equity swaps may bare underlying trends and peculiarities that could be used in forecasting the volume of supply and demand for Philippine debt papers which can help determine exactly

how robust or thin the market is and to what extent will it last or prevail.

Secondly, because of the momentary and transitory nature of the market, the use of debt-equity swaps must be exploited to the fullest while the market exists such that the country can maximize the benefits derived from the program and minimize the adverse or detrimental consequences attendant to its continued implementation. In terms of benefits, the empirical analysis suggests that the country can extract more value-added from the conversion of monetary, specifically commercial bank, debt papers, by both foreign and resident non-bank investors, as these type of papers are the least inflationary and most contributory to the balance of payments improvement. The government can therefore explore measures to transform the ownership profile of its liabilities (from public and CB-owed to private and commercial bank-owed) via debt-for-debt swaps or exchange offers before selling these papers for conversion to equity. In terms of the economic disadvantages, the operational guidelines and degree of success of the Chilean and Mexican debt conversion programs indicate that these costs can indeed be mitigated.

Towards this end, it is proposed that further modification of the Philippine program be made along the following areas. On the mode of payment from the present arrangement of CB paying pesos directly to investors, the proposal entails, in case CB debt paper is redeemed, the issuance of medium-term (3 to 5 year) CB Bonds or Treasury Notes to the investor who in turn can only liquidate the bonds for pesos through commercial banks. With peso releases for the conversion proceeds provided by commercial banks, reserve money or monetary base will not expand as the domestic money paid to the investor is already in circulation. While this proposal merely delays monetary expansion at some future date upon maturity of the bond, the resulting inflationary impact may have been neutralized by then as this is matched by additional output supposedly generated by the domestic firm which benefitted from the equity infusion.

The second recommendation involves the structure of conversion transaction fees relative to the fresh money requirement which was found to be irrelevant to the investor at prevailing discount rates since his

effective discount is progressively reduced with additional proportions of fresh money. From the theoretical discussion on the microeconomics of debt-equity swaps, the demand from investors was propounded to be affected by taxes and other transaction costs including fresh money imposition by the debtor country which reduce their valuation of the discount. The conversion transaction fees would therefore have to be adjusted in such way that the effective discount to the investor continually rises proportionally with fresh money infusion regardless of the level of secondary market prices. This implies stratification of the fee structure whereby fees are adjusted as the market discount changes.

Finally, it is suggested that the scope of Schedule 2 or preferred investments be expanded to include all conversions using private sector debt papers regardless of the economic sector where investment is made to induce more use of this type of paper which is non-inflationary and resolve the conflict arising in evaluating Schedule 2 investments using CB debt papers and Schedule 3 investments using private sector debt papers.

The third policy implication of encouraging the practice of debt-equity swaps is that while the economic effects of the program appear propitious in the initial round, the long-term impact cannot be dismissed. Specifically, the purposes to which the conversion proceeds are utilized such as importation of raw materials and capital equipment by the domestic firm which received the conversion proceeds and the outflows associated with direct foreign investments in the form of profit remittances and capital repatriation should be strictly monitored as these would impinge on the country's balance of payments in the future. Similarly, monitoring should extend to the fiscal consequences of issuing medium to long-term domestic instruments like Treasury Notes or bonds as the mode of payment under the scheme proposed above since domestic interest payments on these bonds at usually higher interest rates may exceed what could have been originally paid on the foreign loan had this not been converted to equity. A longer time frame for debt-equity swaps to operate in the country will be required to be able to evaluate these successive-round effects of the program so that a revalidation of the macroeconomic effects undertaken in this study in 3 to 5 year intervals may be called for.

From the foregoing considerations, it may be apparent that the debt-equity conversion program, after all, has little yet significant contribution to the debt crisis. It may not be a panacea to the debt crisis but it chips away at the debt mountain and breeds the potential for a more profound solution to the crisis. The secondary markets could eventually become the locus in which the proposed international debt facility deals with the debt. Or if the market deepens, the secondary market prices could serve as signalling mechanism for debt negotiations. Debtors can point to the market valuation of their loans to legitimize larger concessions while creditors will find it harder to insist on full repayment terms if the secondary market provides contrary signals. Admittedly, the use of debt-equity swaps as a sole instrument for debt management while effective is limited. This implies, as a fourth item, that the debt-equity conversion program would have to be supplemented by other existing innovative techniques and proposals, a whole gamut of which has yet to be tried and tested, while new ones would have to be continually developed to expand the existing menu of financial options to the debt work-out process.

This brings us back to the entire polity of debt and its management as an effective debt strategy is part of an overall development strategy. Certainly, more is involved than just a question of reversing the negative resource transfers from developing to industrialized countries or the diversion of a substantial share of a country's exports to debt-servicing, of augmenting external funds to finance growth and development, and reducing outflows through some form of debt relief. Better domestic economic policies lie at the heart of debt management. This implies a conscious allocation of external savings to productive undertakings, making internal capital markets work better to build up reliance on national savings and realigning consumption/spending and production/earning patterns. These lessons seem to have been learned in the last six years by debtor countries since the crisis but putting them to practice will require an enormous amount of discipline, commitment and political will.

Meanwhile, debtor countries will continue to struggle and respond flexibly and imaginatively to their debt problems but the strong commitment and financial support of the other parties to the debt

strategy - the creditors and their governments and multilateral institutions - are essential if debt-ridden countries are to find more definitive, workable and lasting solutions to the external debt crisis. Returning to the theme of debt-equity conversion, a publicity ad bears the slogan: "Debt-Equity Swaps: A Highway to Growth Instead of A Dead End Street." Extending this analogy to the broader field of debt management, its flow of traffic is not one way either.

Table 11.1
MARKET PRICES FOR DEVELOPING COUNTRY DEBT PAPER
(As a percentage of face value)

Period	ARGENTINA	BRAZIL	CHILE	COLOMBIA	ECUADOR	MEXICO	PERU	PHILIPPINES	VENEZUELA	YUGOSLAVIA
1985 Jul	60-65	75-81	65-69	81-83	65-70	80-82	45-50	-	81-83	74-77
1986 Jan	62-66	75-81	65-69	82-84	68-71	69-73	25-30	-	80-82	78-81
Feb	62-67	74-78	65-68	81-83	69-71	65-69	23-28	-	78-81	78-81
Mar	63-68	74-77	65-68	80-83	69-72	60-66	21-26	-	77-81	78-81
Apr	63-67	73-76	65-68	80-82	66-69	58-62	20-25	-	76-81	78-81
May	63-66	73-76	65-69	80-82	66-69	57-61	18-22	-	76-80	78-81
Jun	63-67	73-76	64-67	80-82	63-66	55-59	17-23	-	75-78	77-79
Jul	63-67	73-76	64-67	80-82	63-66	56-59	18-23	-	75-78	75-78
Aug	64-68	73-76	65-68	81-83	63-66	55-59	17-23	-	74-76	75-78
Sep	64-67	74-77	65-68	81-83	64-66	55-58	17-20	-	73-76	75-78
Oct	64-67.5	75-78	65-67.5	81-84	64-66	54-57	18-21	-	73-75	77-80
Nov	62-66.5	74-78	65-67.5	-	63.5-65.5	54-57	17-20	72-76	73-74.5	77-81
Dec	62-66	74-77	65-68	-	63-65	54-57	16-19	72-76	72-74	77-81
1987 Jan	62-65	74-76.5	65-68	-	63-65.5	54-57	16-19	72-76	72-74	77-81
Feb	62-65	73.5-75.5	66-69	86-89	62-64.5	56.5-58.5	16-19	72-76	72-74	77-81
Mar	62-64	68-70	66-69	86-89	62-64	57-59	16-19	72-76	72-74	77-81
Apr	58-60	63-66	67-70	86-89	52-56	56-59	15-18	70-73	72-74	77-81
May	58-60	62-65	67-70	85-88	52-55	57-60	14-18	70-72.5	72-74	77-80
Jun	57.5-58.5	61-63	68-70	85-88	51-54	57-59	14-17	69.5-72	71-73	75-77
Jul	46-49	58-61	67.5-69.5	81-83	45-47	55-57	10-12	68.5-71	70-72	73-75
Aug	45-47	52-54	64-66	80-82	41-43	51-53	7-10	65-67	65-67	72-74
Sep	38-41	41-44	56-59	80-82	32-35	46-49	0-7	65-66	55-58	65-67
Oct	34-38	35-40	50-53	75-80	31-34	46-49	2-7	57-60	50-54	57-62
Nov	33-37	37-41	50-53	72-76	31-34	48-52	2-7	55-60	49-53	55-60
Dec	35-38	45-47.5	60-63	67-72	34-38	51-54	2-7	57-60	49-52	53-55
1988 Jan	30-33	44-47	60-63	62-65	33-37	50-52	2-7	50-52	55-57	53-55
Feb	27-30	42-46	60-63	62-65	33-37	47-49	2-7	49-51	54-56	47-50
Mar	26-28	44-47	58-60	62-65	32-36	45-48	5-8	47-49	53-55	44-47
Apr	27-30	49-51	58-60	62-65	30-33	48-51	5-8	47-49	53-55	44-47
May	27-31	49-53	57-60	62-65	30-33	49-52	5-8	48-52	53-55	44-47
Jun	26-30	52-55	57-60	62-65	25-28	49-53	5-8	48-52	54-56	44-47
Jul	22-25	50-52	57-60	60-65	23-27	50-52	5-8	50-53	53-55	43-46
Aug	24-27	50-52	57-61	60-65	23-27	50-52	5-8	50-53	53-55	45-47
Sep	20-22	45-47	59-61	61-67	21-24	47-48	5-8	52-54	50-51	47-48
Oct	22-23	46-47	57-59	62-66	18-22	46-47	5-8	52-54	46-48	45-47
Nov	19-20	38-39	55-56	56-57	13-15	40-41	5-8	50-51	40-41	46-47
Dec	20-22	41-43	55-58	56-58	14-16	43-45	5-8	50-53	40-41	45-48
1989 Jan	20-22	40-42	56-58	55-58	11-13	42-43	5-8	49-52	39-41	45-46
Feb	18-19	34-35	60-61	55-58	10-12	38-39	5-8	48-50	36-37	44-46
Mar	16-18	27-28	57-59	55-58	10-12	33-34	4-6	40-42	27-28	43-44
Apr	16-18	34-35	59-60	55-58	10-12	40-41	4-6	40-42	34-35	45-46
May	15-16	36-37	58-60	55-58	10-12	41-42	4-6	46-48	37-38	45-46
Jun	13-14	33-34	59-61	55-58	12-13	40-41	4-6	46-48	36-37	47-48

- Not available

Sources: Shearson Lehman Hutton, Inc. (American Express Tower, World Financial Center, New York).

Table III.1
DEBT OUTSTANDING OF SEVENTEEN
HEAVILY-INDEBTED COUNTRIES
1985

Country	Debt Outstanding, 1985 a/		
	Total	Rank	Of which: Private Source
	(in US\$ Million)		(Percent)
Argentina	50.8	3	86.8
Bolivia	4.0	15	39.3
Brazil	107.3	1	84.2
Chile	21.0	6	87.2
Colombia	11.3	11	57.5
Costa Rica	4.2	14	59.7
Ecuador	8.5	12	73.8
Ivory Coast	8.0	13	64.1
Jamaica	3.4	17	24.0
Mexico	99.0	2	89.1
Morocco	14.0	9	39.1
Nigeria	19.3	8	88.2
Peru	13.4	10	60.7
Philippines	24.8	5	67.8
Uruguay	3.6	16	82.1
Venezuela	33.6	4	99.5
Yugoslavia	19.6	7	64.0
Total	445.8		80.8
	*****		*****

a/ Estimated total external liabilities, including use of IMF credit

Source: World Bank, World Debt Tables: External Debt of Developing Countries, 1985-86 Edition, p. xiv.

Table III.2
SELECTED ECONOMIC INDICATORS AND PRINCIPAL RATIOS
ON PHILIPPINE EXTERNAL INDEBTEDNESS
For the Period Indicated

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
A. Selected Economic Indicators																		
1. Total External Debt Outstanding (Amounts in US\$ Million)	2297	2393	2732	2886	3755	4939	6768	8069	10694	13352	17252	20893	24677	24816	25418	26252	28256	28649
2. Exports (In US\$ Million)	1320	1401	1453	2525	3559	3201	3445	4236	4909	6256	8010	8618	8004	8132	8017	7917	8633	9217
3. Interest Payments (In US\$ Million)	115	93	120	125	152	234	259	236	440	626	975	1374	1990	1985	2257	2250	2046	2226
4. International Reserves (In US\$ Million)	251	375	549	1037	1502	1360	1642	1525	1883	2423	3155	2574	1711	865	886	1061	2459	1959
5. Debt Service Burden (In US\$ Million)	621	502	404	432	506	498	858	726	1006	1253	1472	1758	2249	1911	1909	1709	2065	1996
6. Nominal GNP (In US\$ Million)	6776	7714	8381	10685	14711	15789	18037	20702	24033	29553	35217	38436	39278	34082	31581	32124	30399	34338
7. Nominal GNP (In P Million)	40.8	49.6	55.9	72.2	99.9	114.4	134.2	153.3	177.0	218.0	264.5	303.6	335.4	378.7	527.4	597.7	619.7	706.2
8. Gross Domestic Investments (In P Billion)	8.3	9.9	10.9	14.6	25.1	33.8	42.0	44.4	51.3	67.7	81.2	93.3	96.5	102.5	92.0	85.4	81.8	103.3
9. Gross Domestic Savings (In P Billion)	8.1	9.5	10.3	17.2	21.9	26.1	33.5	38.5	42.5	55.6	67.5	76.7	73.5	76.8	91.2	103.4	110.3	109.1
10. Investment-Savings Gap (In P Billion)	-0.2	-0.4	-0.6	2.6	-3.2	-7.7	-8.5	-5.9	-8.8	-12.1	-13.7	-16.6	-23.0	-25.7	-0.8	18.0	28.5	5.8
11. Incremental Capital Output Ratio (ICOR)	4.2	3.7	3.9	2.5	4.8	4.4	3.9	4.6	5.3	4.9	5.8	7.5	9.4	27.2	-2.4	-2.8	8.0	3.0
B. Principal Ratios (In Percent)																		
1. Investments/GNP	20.3	20.0	19.5	20.3	25.1	29.6	31.3	28.9	29.0	31.0	30.7	30.7	28.8	27.1	17.4	14.3	13.2	14.6
2. Savings/GNP	19.8	19.1	18.4	23.8	21.9	22.8	25.0	25.1	24.0	25.5	25.5	25.3	21.9	20.3	17.3	17.3	17.8	15.4
3. Current Account/GNP	-0.7	-0.0	0.1	5.0	-1.2	-5.6	-5.8	-3.6	-4.6	-5.1	-5.4	-5.4	-8.1	-8.1	-3.5	-0.3	3.3	-1.6
4. Exports/GNP	19.5	18.2	17.3	23.6	24.2	20.3	19.1	20.5	20.4	21.2	22.7	22.4	20.4	23.9	25.4	24.6	28.4	26.8
5. Debt/GNP	33.9	31.0	32.6	27.0	25.5	31.3	37.5	39.0	44.5	45.2	49.0	54.4	62.8	72.8	80.5	81.7	93.0	83.4
6. Tax Revenues/GNP	11.6	10.6	10.5	10.7	12.2	14.7	13.5	13.0	13.6	13.5	13.1	11.8	11.4	12.3	11.0	11.4	12.8	14.6
7. Debt Service/GNP	9.2	6.5	4.8	4.0	3.4	3.1	4.8	3.5	4.2	4.2	4.2	4.6	5.7	5.6	6.0	5.3	6.8	5.8
8. Interest Payments/GNP	1.7	1.2	1.4	1.2	1.0	1.5	1.2	1.0	1.5	1.8	2.5	3.5	5.8	6.3	7.0	7.0	6.7	6.5
9. Debt/Exports	174.0	170.8	188.0	114.3	105.5	154.3	196.5	190.5	217.8	213.4	215.4	242.4	308.3	305.2	312.6	331.6	327.3	310.8
10. Debt Service/Exports	47.0	35.8	27.8	17.1	14.2	15.6	24.9	17.1	20.5	20.0	18.4	20.4	28.1	23.5	23.8	21.6	23.9	21.7
11. Interest Payments/Exports	8.7	6.6	8.3	5.0	4.3	7.3	8.1	6.9	9.0	10.0	12.2	15.9	24.9	24.4	28.2	28.4	23.7	24.2
12. International Reserves/Debt	10.9	15.7	20.1	35.9	40.0	27.5	24.3	18.9	17.6	18.1	18.3	12.3	6.9	3.5	3.5	4.0	8.7	6.8
13. Investment-Savings Gap/GNP	-0.5	-0.8	-1.1	3.6	-3.2	-6.7	-6.3	-3.8	-5.0	-5.5	-5.2	-5.5	-6.9	-6.8	-0.1	3.0	4.6	0.8
14. Interest Payments/Total Debt	5.0	3.9	4.4	4.3	4.0	4.7	3.8	2.9	4.1	4.7	5.7	6.6	8.1	8.0	8.9	8.6	7.2	7.8

Source: Central Bank of the Philippines and National Economic and Development Authority (NEDA)

Table III.3
STATUS REPORT ON PHILIPPINE DEBT-EQUITY CONVERSION PROGRAM
As of end-December 1988
(Amounts in US\$ Million)

Item	Number	Amount
I. Applications Received	405	1826.71
By Type of Investment	---	---
Schedule 2	359	1422.04
Schedule 3	46	404.67
II. Approved Applications	353	1242.86
By Type of Investment	---	---
Schedule 2	315	984.10
Schedule 3	38	258.76
III. Closed Transactions 1/	209	623.83
By Type of Investment	---	---
Schedule 2	191	577.76
Schedule 3	18	46.07
IV. Pending Applications	4	9.33
V. Denied Applications 2/	14	220.29
VI. Inactive Applications	7	10.06
VII. Deferred Applications 3/	6	9.05
VIII. Withdrawn Applications	14	83.12
IX. Applications Outbid 4/	7	252.00

1/ Purely debt-equity transactions; excludes closed applications proceeds of which were temporarily invested under Philippine Long-Term Equity Fund
2/ Includes US\$39.4 million corresponding to the disallowed portions of 15 applications
3/ Applicants/ investors requested in writing for deferral of processing of their applications
4/ Involves auction of assets subject to privatization
Source of Data: Debt Restructuring Office, Central Bank of the Philippines

Table III.4
BREAKDOWN OF DEBT-EQUITY CONVERSION
TRANSACTIONS BY NATIONALITY OF INVESTORS 1/
As of end-December 1988

	Requested			Approved			Closed		
	Value (In US\$ M)	Percent to Total		Value (In US\$ M)	Percent to Total		Value (In US\$ M)	Percent to Total	
Philipino	983.44	53.84		669.55	53.87		286.77	45.97	
American	383.28	20.98		210.07	16.90		107.39	17.21	
Japanese	51.87	2.84		49.87	4.01		46.15	7.40	
Chinese/Hongkong	180.33	9.87		141.28	11.37		81.24	13.02	
Taiwanese	55.87	3.06		53.66	4.32		17.33	2.78	
Canadian	30.62	1.68		18.32	1.47		5.65	0.91	
Australian	1.69	0.09		1.69	0.14		1.55	0.25	
New Zealand	1.60	0.09		-	-		-	-	
Other Asian	15.91	0.87		11.89	0.96		4.10	0.66	
Singaporean	5.84	0.32		1.84	0.15		-	-	
Malaysian	1.95	0.11		1.95	0.16		1.09	0.17	
Korean	2.31	0.13		2.31	0.19		0.31	0.05	
Thai	2.93	0.16		2.90	0.23		0.85	0.14	
Indian	2.88	0.16		2.88	0.23		-	-	
European	18.86	1.03		18.86	1.52		12.71	2.04	
Swiss	4.08	0.22		4.08	0.33		4.08	0.65	
Belgian	1.70	0.09		1.70	0.14		1.00	0.16	
Dutch	3.40	0.19		3.40	0.27		0.32	0.05	
French	1.80	0.10		1.80	0.14		1.00	0.16	
British	1.20	0.07		1.20	0.10		-	-	
Swedish	4.48	0.25		4.48	0.36		4.10	0.66	
Danish	1.00	0.05		1.00	0.08		1.00	0.16	
German	1.20	0.07		1.20	0.10		1.20	0.19	
Others	103.23	5.65		67.67	5.44		60.95	9.77	
Jersey Channel Islands	7.30	0.40		5.26	0.42		4.26	0.68	
British Virgin Islands	35.44	1.94		26.17	2.10		25.73	4.12	
British West Indies	4.30	0.24		4.30	0.35		2.19	0.35	
Republic of Vanuatu	1.05	0.10		-	-		-	-	
Bermuda	19.75	1.08		16.74	1.35		16.50	2.65	
Liberian	34.59	1.89		15.20	1.22		12.26	1.97	
Total	1826.71	100.00		1242.86	100.00		623.83	100.00	

1/ In the case of corporate stockholders, based on the country whose laws such corporations are registered.

Source: Debt Restructuring Office, Central Bank of the Philippines

Table III.5
BREAKDOWN OF DEBT-EQUITY CONVERSION
TRANSACTIONS BY INDUSTRY/SECTOR
As of end-December 1988

	Requested			Approved			Closed		
	Value (In US\$ M)	Percent to Total		Value (In US\$ M)	Percent to Total		Value (In US\$ M)	Percent to Total	
Schedule 2	1422.04	77.85		984.10	79.18		577.76	92.61	
1. Export Producer	628.49	23.46		402.26	32.37		220.76	35.39	
2. Agricultural/Aquaculture Producer	71.40	3.96		58.22	4.68		29.98	4.81	
3. Health Care Services	17.42	0.95		11.16	0.90		9.04	1.45	
4. Low/Middle Income Housing Project	11.96	0.65		11.96	0.96		2.40	0.38	
5. Educational facilities	11.69	0.64		9.69	0.78		5.60	0.90	
6. Investment Priorities Plan Listed Activities	97.74	5.35		63.20	5.08		19.40	3.11	
7. Banking and Finance	87.26	4.78		74.96	6.03		41.08	6.58	
8. Service Exporter	33.32	1.82		33.32	2.68		1.03	0.17	
9. Assets for Privatization	661.76	36.23		319.33	25.69		248.46	39.83	
Schedule 3	404.67	22.15		258.77	20.82		46.07	7.38	
1. Hotels	10.94	0.60		10.83	0.87		3.66	0.59	
2. Housing Project	89.537	4.90		89.54	7.20		6.17	0.99	
3. Condominium	24.83	1.36		24.83	2.00		9.17	1.47	
4. Shopping Complex	94.79	5.19		94.79	7.63		-	-	
5. Pharmaceuticals	2.70	0.15		2.70	0.22		1.50	0.24	
6. Finance	11.00	0.60		8.80	0.71		8.67	1.39	
7. General Merchandise	3.58	0.20		2.38	0.19		-	-	
8. Marketing/Promotion	4.47	0.24		4.47	0.36		0.47	0.07	
9. Stock Brokerage	0.66	0.04		0.36	0.03		0.36	0.06	
10. Shipping	1.52	0.08		-	-		-	-	
11. Tropical Fish Producer	1.50	0.08		1.50	0.12		-	-	
12. Real Estate	9.84	0.54		9.84	0.79		9.64	1.55	
13. Manufacturing	149.29	8.17		8.72	0.70		6.42	1.03	
Total	1826.71	100.00		1242.86	100.00		623.83	100.00	

Source: Debt Restructuring Office, Central Bank of the Philippines

Table III.6
 BREAKDOWN OF DEBT-EQUITY TRANSACTIONS
 BY TYPE OF DEBT PAPER/NATURE OF LIABILITY
 (as of end-December 1988)
 (Amounts in US\$ Million)

	Approved		Closed	
	Amount	Percent To Total	Amount	Percent To Total
A. CB Debt Paper	581.11	46.8	488.44	78.3
Monetary	...	-	36.44	5.8
Non-Monetary	...	-	452.00	72.5
B. Non-CB Debt Paper	645.35	51.9	112.24	18.0
1. Private Sector	591.83	47.6	103.44	16.6
of which: Commercial Banks (Monetary)	...	-	16.10	2.6
2. Public Sector (Non-Monetary)	53.52	4.3	8.80	1.4
C. Fresh Money	16.41	1.3	23.15	3.7
Total	1242.86	100.0	623.83	100.0
	=====	=====	=====	=====

Source: Debt Restructuring Office, Central Bank of the Philippines

Table III.7
 SUMMARY TABLE OF ACCOUNTING ENTRIES UNDER
 EXTERNAL SECTOR IMPACT OF DEBT-EQUITY SWAPS

	Non-Resident Investor		Resident Bank		Resident Non-Bank	
					Non-Monetary	Monetary
	Non-Monetary	Monetary	Non-Monetary	Monetary	Local FCD	Foreign FCD/ Black Market
A. Merchandise Trade						
Exports						
Imports						
B. Non-Merchandise Trade						
Inflow			+ d	+ d	+ d	+ d
Outflow					+ d	+ d
C. Transfers, Net						
Current Account Balance						
D. Medium & Long-Term Loans						
Inflow	- FY		- FY		- FY	- FY
Outflow	+ FY		+ FY			
E. Direct Investments						
Inflow	+ FY	+ FY			+ FY	+ DV
Outflow	+ FY	+ FY			+ DV	+ DV
F. Short-Term Capital, Net						
G. Errors and Omissions						+ DV
Non-Monetary Capital Account						
H. Monetization of Gold						
I. Allocation of SDR						
J. Revaluation Adjustments						
Overall BOP Surplus/Deficit(-)	-	+ FY	- DV	+ d	-	+ FY
K. CB Compensatory Borrowings						
L. Increase(-)/Decrease in CB Reserves						
Foreign Assets		- FY				
Foreign Liabilities	+ FY					
M. Increase(-)/Decrease in KB Reserves						
Foreign Assets	or - FY		+ DV	- d		- FY
Foreign Liabilities	+ FY		- DV	- DV		+ FY
N. Arrears				+ FY		
Monetary Capital	-	- FY	+ DV		-	- FY

Legend: d = discount; DV = Discounted Value; FY = Face Value

Table III.8
 IMPACT OF DEBT-EQUITY CONVERSION ON
 SELECTED EXTERNAL SECTOR ACCOUNTS
 For the Period Indicated
 (Amounts in US\$ Million)

Period	Effect on the Balance of Payments (BOP)							Effect on Net International Reserves (NIR) of the Banking System		
	Closed Transactions	Payment of Loans	Increase in Direct Foreign Investments 1/	Interest Income 2/	Net Immediate Effect	Reduction in Interest Payments 3/	Net Subsequent Effect	Foreign Assets 4/	Foreign Liabilities	Net Effect
(1)	(2)	(3)	(4)	(5)	(6)	[(4)+(5)-(3)] (7)	[(6)+(7)] (8)	(9)	(10)	[(7)+(8)] (9)
1986 (Aug-Dec)	15.2	10.7	14.3	0.3	3.9	-	3.9	-0.6	4.5	3.9
1987 (Jan-Dec)	266.4	220.8	166.3	44.8	-9.7	12.0	2.3	-43.2	45.5	2.3
1988 (Jan-Dec) a/	479.2	453.6	459.8	9.7	15.9	47.0	62.9	-27.1	90.0	62.9
Total	760.8	685.1	640.4	54.8	10.1	59.0	69.1	-70.9	140.0	69.1

- a/ Includes transactions under the Philippine Long-Term Equity Fund amounting to US\$137 million
 1/ Inclusive of fresh money
 2/ Represents discounts obtained by residents on account of their purchase of debt paper at discounted value
 3/ See Table III.10 for estimation of interest savings
 4/ Represents drawdowns from commercial banks reserves arising from the purchase by a resident of debt paper at discounted value or build-up in Central Bank reserves arising from interest savings

Table III.9
 NET DIRECT FOREIGN INVESTMENTS
 IN THE PHILIPPINES

	Levels of Net Direct Foreign Investments (In US\$ Million)	Annual Flows (In US\$ Million)	Annual Growth Rates (In Percent)
1970	-28		
1971	-4	24	14.3
1972	-22	-18	550.0
1973	64	86	-290.9
1974	28	-36	43.7
1975	125	97	446.4
1976	144	19	115.2
1977	216	72	150.0
1978	100	-116	46.3
1979	20	-80	20.0
1980	-102	-122	-510.0
1981	175	277	-171.6
1982	17	-158	9.7
1983	112	95	658.8
1984	17	-95	15.2
1985	17	0	100.0
1986	140	123	823.5
1987	205	65	146.4
1988	986	781	481.0
Average	116	53	139

Source: Central Bank of the Philippines

Table III.10
ESTIMATED INTEREST SAVINGS ON FOREIGN LOANS
ARISING FROM DEBT-EQUITY CONVERSION SCHEME
For the Period Indicated
(Amounts in US\$ Million)

	Total Principal Amortizations Before Debt-Equity Conversion 1/ (1)	Outstanding Amount [(2)n-1 -(1)] (2)	Interest Payments R = L + 7/8 [(2)n+(2)n-1]/2 * R (3)	Amount Converted to Equity 2/ (4)	Total Principal Amortizations After Debt-Equity Conversion 1/ (5)	Outstanding Amount [(6)n-1 -(5)] (6)	Interest Payments R = L + 7/8 [(6)n+(6)n-1]/2 * R (7)	Interest Savings [(3)-(7)] (8)
Total	10615	10615	11178	761	9854	10615	10386	792
1987	37	10578	867	282	37	10296	856	12
1988	37	10541	951	479	37	9780	904	47
1989	37	10504	1065		37	9743	988	77
1990	181	10323	1028		174	9569	953	75
1991	181	10142	1010		174	9395	936	74
1992	181	9961	993		174	9221	919	73
1993	456	9505	961		450	8771	888	73
1994	1184	8321	880		1109	7662	811	69
1995	1239	7082	761		1166	6496	699	61
1996	1210	5872	640		1137	5359	585	54
1997	847	5025	538		774	4585	491	47
1998	847	4178	454		773	3812	415	40
1999	846	3332	371		772	3040	338	32
2000	833	2499	288		760	2280	263	25
2001	833	1666	206		760	1520	188	18
2002	833	833	123		760	760	113	11
2003	833	0	41		760	0	37	4
Memo Item:	1987	1988	1989	Beyond 1989				
LIBOR (%)	7.31	8.13	9.25	9.00				
Spread	7/8	7/8	7/8	7/8				

1/ Refer to Annex Table III-A for derivation of principal amortizations before and after debt-equity conversion
2/ Amount converted in 1986 added to 1987 for simplicity

Annex Table III-A
SCHEDULE OF PRINCIPAL AMORTIZATIONS TO COMMERCIAL BANKS
BEFORE AND AFTER DEBT-EQUITY CONVERSION 1/
For the Period Indicated
(Amounts in US\$ Million)

	Total	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Before Debt-Equity Conversion	10615	37	37	37	181	181	181	456	1184	1239	1210	847	847	846	833	833	833	833
October 17, 1983-December 31, 1986 Maturities	5896							178	661	840	840	483	483	483	482	482	482	482
Option 1 of Circular 1091	1070							178	178	357	357							
Others	4826								483	483	483	483	483	483	482	482	482	482
1987-1992 Restructurable Amounts	3516								352	352	352	352	352	352	351	351	351	351
New Money	925	37	37	37	181	181	181	180	91									
1993-Beyond Maturities	278							98	80	47	18	12	12	11				
After Debt-Equity Conversion	9854	37	37	37	174	174	174	450	1109	1166	1137	774	773	772	760	760	760	760
October 17, 1983-December 31, 1986 Maturities	5164							178	588	767	767	410	409	409	409	409	409	409
Option 1 of Circular 1091	1070							178	178	357	357							
Others	4094								410	410	410	410	409	409	409	409	409	409
1987-1992 Restructurable Amounts	3516								352	352	352	352	352	352	351	351	351	351
New Money	896	37	37	37	174	174	174	174	89									
1993-Beyond Maturities								98	80	47	18	12	12	11				

1/ Per provisions of the second round rescheduling agreement
Source of Basic Data: Department of Economic Research-International, Central Bank of the Philippines

Table III.11
SUMMARY TABLE OF ACCOUNTING ENTRIES UNDER
MONETARY SECTOR IMPACT OF DEBT-EQUITY SWAPS

Reserve Money (RM)	
Currency issue	
Reserve Balances of Banks	+ Net RM Effect
Net Foreign Assets	
Net International Reserves	+ BOP Effect * ER
Medium & Long-Term Foreign Liabilities	
Net Domestic Assets	
Net Credits to the Public Sector	
National Government	
Budgetary & Other Loans	
Deposits	- CTF; +/- PP
Overdrafts	
Domestic Securities	
Other Public Sector	+ GCCA
Net Credits to Banks/Financial Institutions	
Rediscounting	
Reverse Repurchase	
Overdrafts	
CB Bills	- CB
Others	
Net Other Assets	
Blocked Peso Deposits	+ BPD
Others	

Legend: BOP - Balance of Payments; ER - Exchange Rate;
CTF - Conversion Transaction Fees; CB - CB Bills
BPD - Blocked Peso Deposits; PP - Privatization Proceeds
GCCA - Advances to Government Corporations

Table III.12
IMPACT OF DEBT-EQUITY CONVERSION ON
RESERVE OR BASE MONEY (RM)
For the Period Indicated
(Amounts in Million Pesos)

Period (1)	Amount Closed 1/ (In US\$ Million) (2)	Philippine Peso Equivalent 2/ (3)	Without RM Impact 3/ (4)	With RM Impact		Contractionary Factors		Expansionary Factor Redemptions of Maturing CB Bills (9)	Net Immediate RM Impact 6/ [(5)+(6)+ (7)+(8)-(9)] (10)	Build-up(-)/ Withdrawal(+) in NG Deposit with CB 7/ (11)	Net Subsequent RM Impact [(10)+(11)] (12)
				Conversion of CB Paper Money (5)	Fresh Money (6)	Issuance of Special Series CB Bills 4/ (7)	Conversion Transaction Fees 5/ (8)				
1986 (Aug-Dec)	15.2	311.5	27.2	284.2	-	-	-19.2	-	265.1	-	265.1
1987 (Jan-Dec)	266.4	5499.4	353.8	5145.6	-	-1062.8	-263.4	481.0	4300.5	-313.6	3986.9
1988 (Jan-Dec)	479.2	10069.5	1846.0	7735.9	487.6	-10443.1	-241.5	7644.2	5183.1	313.6	5496.7
Total	760.8	15880.4	2227.0	13165.8	487.6	-11505.9	-524.0	8125.2	9748.7	-	9748.7

1/ Inclusive of transactions under Philippine Long-Term Equity Fund amounting to US\$137 million

2/ Converted at prevailing CB buying rate upon date of transaction

3/ Involves non-CB debt papers

4/ Portion of conversion proceeds not immediately utilized by the firm are temporarily kept in non-interest bearing CB securities

5/ Conversion transaction fees are either credited to the National Government's deposit account with CB or netted out of the conversion proceeds.

6/ Represents the amount of conversion proceeds credited to the demand deposit account with CB of commercial banks where Philippine recipient firms maintain their accounts

7/ Conversion proceeds involving privatized assets are remitted directly by the Asset Privatization Trust to the National Government's deposit account with CB, proceeds of which are earmarked for beneficiaries of the Comprehensive Agrarian Reform Program.

Table III.13
IMPACT OF DEBT-EQUITY CONVERSION
ON SELECTED REAL SECTOR VARIABLES
For the Period Indicated

Prices						
Consumer Price Index (1972=100)			Inflation Rate (In Percent)			
Actual with Debt-Equity (1)	Fitted Without Debt-Equity (2)	Variance [(2)-(1)] (3)	Actual with Debt-Equity (3)	Fitted Without Debt-Equity (4)	Variance [(4)-(3)] (5)	
1986	749.6	748.3	-1.3	0.8	0.6	-0.2
1987	778.0	760.0	-18.0	3.8	1.6	-2.2
1988	846.2	812.0	-34.2	8.8	6.8	-2.0
Cumulative Effects:		-53.5				-4.4

Production						
Real Gross National Product (Amounts in Million Pesos)			Annual Growth Rates (In Percent)			
Actual with Debt-Equity (7)	Fitted Without Debt-Equity (8)	Variance [(8)-(7)] (9)	Actual with Debt-Equity (10)	Fitted Without Debt-Equity (11)	Variance [(11)-(10)] (12)	
1986	89488	89465	-23	1.8	1.8	0
1987	94768	94286	-482	5.9	5.4	-0.5
1988	101438	100803	-635	7.0	6.9	-0.1
Cumulative Effects:		-1140				-0.6

Employment						
Employed Labor Force (In Thousands)			Unemployment Rate (In Percent)			
Actual with Debt-Equity (13)	Fitted Without Debt-Equity (14)	Variance [(14)-(13)] (15)	Actual with Debt-Equity (16)	Fitted Without Debt-Equity (17)	Variance [(17)-(16)] (18)	
1986	17788	17785	-3	16.76	16.77	0.01
1987	18797	18760	-37	16.81	16.97	0.16
1988	18771	18718	-53	20.07	20.30	0.23
Cumulative Effects:		-93				0.40

Note: The fitted forecasts with debt-equity effects (baseline) were made to coincide with the actual figures.

Table III.14
IMPACT OF DEBT-EQUITY CONVERSION
ON FISCAL AGGREGATES
For the Period Indicated

Total Revenues (In Million Pesos)			Total Expenditures (In Million Pesos)			Budget Deficit (In Million Pesos)			
Actual with Debt-Equity (1)	Fitted Without Debt-Equity (2)	Variance [(2)-(1)] (3)	Actual with Debt-Equity (3)	Fitted Without Debt-Equity (4)	Variance [(4)-(3)] (5)	Actual with Debt-Equity (6)	Fitted Without Debt-Equity (7)	Variance [(4)-(3)] (8)	
1986	79245	79226	-19	110497	110497	0	-31252	-31271	-19
1987	103214	102637	-577	119471	119478	7	-16257	-16841	-584
1988	112900	112972	72	138400	138409	9	-25500	-25437	63
Cumulative Effects:		-524			16				-540

Note: The fitted forecasts with debt-equity effects (baseline) were made to coincide with the actual figures.

Table III.15
IMPACT OF DEBT-EQUITY CONVERSION
ON DOMESTIC INTEREST RATES AND
FOREIGN EXCHANGE RATES
For the Period Indicated

	Treasury Bill Rate (In Percent)		Exchange Rate (In Pesos per US\$1.00)		Variance [(2)-(1)] (3)	Actual with Debt-Equity (1)	Fitted Without Debt-Equity (2)	Actual with Debt-Equity (3)	Fitted Without Debt-Equity (4)	Variance [(4)-(3)] (5)
	(1)	(2)	(In Pesos per US\$1.00)	(4)						
1986	16.9	16.8	20.3857	20.3857	0.0000					
1987	11.5	10.1	20.5677	20.5630	-0.0047					
1988	14.4	11.7	21.0950	21.0702	-0.0248					
Cumulative Effects:										
					-4.2					-0.0295

Note: The fitted forecasts with debt-equity effects (baseline) were made to coincide with the actual figures.

Table III.17
EFFECTIVE DISCOUNTS TO THE INVESTOR
OF PHILIPPINE DEBT-EQUITY SWAPS
(In Percent)

Fresh Money Requirement (In Percent)	Effective Discount Rates on Schedule 2 Investments 1/										
	0	10	20	30	40	50	60				
25 %	5.00	6.30	7.92	9.45	10.98	12.50	...				
30 %	10.00	10.80	11.92	12.95	13.98	15.00	...				
35 %	15.00	15.30	15.92	16.45	16.98	17.50	...				
40 %	20.00	19.80	19.92	19.95	19.98	20.00	...				
45 %	25.00	24.30	23.92	23.45	22.98	22.50	...				
50 %	30.00	28.80	27.92	26.95	25.98	25.00	...				
55 %	35.00	33.30	31.92	30.45	28.98	27.50	...				
Secondary Market Discount											
25 %	1.00	2.25	4.00	5.25	6.90	8.50	10.00				
30 %	6.00	6.75	8.00	8.75	9.90	11.00	12.00				
35 %	11.00	11.25	12.00	12.25	12.90	13.50	14.00				
40 %	16.00	15.75	16.00	15.75	15.90	16.00	16.00				
45 %	21.00	20.25	20.00	19.25	18.90	18.50	18.00				
50 %	26.00	24.75	24.00	22.75	21.90	21.00	20.00				
55 %	31.00	29.25	28.00	26.25	24.90	23.50	22.00				

1/ See Annex Table III-D for computations

2/ See Annex Table III-G for computations

... - Not applicable as Schedule 2 Investments allow only up to 50 percent fresh money infusion

Table III.16
PHILIPPINE EXTERNAL DEBT PROFILE
As of end-April 1989
(In US\$ Million)

Debtor	Amount	Percent to Total
Monetary	8281	30.0
Central Bank	5689	20.6
Commercial Banks	2592	9.4
Non-Monetary	19323	70.0
Public Sector	15967	57.8
Private Sector	3356	12.2
Total	27604	100.0

Source: Central Bank of the Philippines

Table IV.1
CROSS-COUNTRY COMPARISON OF DEBT CONVERSION SCHEMES

Country	Date of Program	Eligible Debt	Participants	Priority Investments	Withholding Tax (In Percent)	Restrictions on Remittance		Unique Features
						Dividends (Years)	Capital	
Argentina	May 1987	All public foreign debt except those involving prepayment of obligations or breach of original loan agreement	Foreign/Local	New Equipment New Plant Export-Related Activities	17.5	4	10	One-to-one matching of debt conversion with fresh money
Brazil	Feb 1988	Medium & long-term foreign obligations and foreign currency deposits with Central Bank of Brazil relating to overdue installments of principal & interest	Foreign/Local	Exports Hotel Development Northeast Region High-Technology Industries	25.0	4	12	Auction system for swap rights; Public sector debt exempt from auction when investment is made in public sector companies
Chile	May 1985	All foreign debts except: a) official credits; b) loans from multilateral agencies and c) loans with less than one year to maturity	DL 600-Foreign Chp.18-Foreign/Local Chp.19-Foreign	Privatization Export Activities & Services	49.5 (DL 600) 16.0 (capo)	4	10	Auction system for swap rights subject to quotas; issuance of long-term bonds to investor for liquidation by commercial banks; no access to official foreign exchange markets
Mexico	Aug 1985 (suspended) Nov 1987	All public sector debts	Foreign	Privatization Employment-Creation New Technology Export-Oriented Designated Industrial Zones	55.0	3 (7%)	12	Redemption value in local currency varies from 75 to 100% depending on priority sector where investment is made; redemptions kept in interest-bearing account and proceeds directly disbursed to suppliers, contractors, etc.
Philippines	Aug 1986	All debts covered by restructuring; all credits covered by Trade Facility and New Money Agreement; private sector debts provided consent for prepayment in local currency is obtained	Foreign/Local	Exports Agriculture Privatization Banking Social Services Investment Priorities	6.7-24.0	0 (Schedule 2) (20%) 4 (Schedule 3) (20%)	3 (20%) 5 (20%)	Individual evaluation of applications except privatized assets which are subject to auction; Temporary sterilization in CB Bills of conversion proceeds not immediately utilized by firms; Sliding scale of conversion fees depending on percentage of fresh money infusion
Venezuela	Apr 1987	Public sector debt	Foreign	Import Substitution Export-Oriented Capital Goods Construction Heavy Industry Investment Priorities		3 (10%)	5 (12.5%)	Foreign exchange rate pegged at certain rate for debt-conversion purposes; Redemptions in cash or government bonds actively traded in stock market

Table IV.2
MAGNITUDES OF DEBT CONVERSION AND TOTAL EXTERNAL DEBT OUTSTANDING
OF HEAVILY-INDEBTED DEVELOPING COUNTRIES
For the Period Indicated

Country	Debt Conversions 1/						Total External Debt Outstanding					Ratio of Debt Converted to Total Debt					
	1984	1985	1986	1987	1988 a/	Total	1984	1985	1986	1987	1988 b/	1984	1985	1986	1987	1988	Total c/
Argentina	31	469	-	35	1328	1863	48856	49324	49715	56813	59600	0.06	0.95	-	0.06	2.23	3.13
Brazil	731	537	176	1800	8643	11887	104926	106484	112778	123931	120100	0.70	0.50	0.16	1.45	7.20	9.90
Chile	11	313	987	1983	3205	6499	19843	20390	20236	21239	20800	0.06	1.53	4.88	9.34	15.41	31.24
Mexico	-	769	1023	4804	7402	13998	94908	96875	101054	107882	107400	-	0.79	1.01	4.45	6.89	13.03
Philippines	-	-	15	266	479	760	25418	26252	28256	28649	27915	-	-	0.05	0.93	1.72	2.72
Venezuela	-	-	-	-	130	130	36457	34693	34709	36519	35000	-	-	-	-	0.37	0.37
Sub-Total	773	2088	2201	8888	21187	35137	330408	334018	346748	375033	370815	0.23	0.62	0.63	2.37	5.71	9.48
Others	-	-	7	280	1021	1308	89153	95947	107016	120512	102100	-	-	0.01	0.23	1.00	1.28
Bolivia	-	-	-	1	349	350	4268	4740	5528	5548	5700	-	-	-	0.02	6.12	6.14
Costa Rica	-	-	7	146	17	170	3970	4374	4529	4727	4800	-	-	0.15	3.09	0.35	3.54
Ecuador	-	-	-	125	258	383	8251	8597	9228	10437	11000	-	-	-	1.20	2.35	3.48
Honduras	-	-	-	6	11	17	2291	2742	2985	3303	...	-	-	-	0.18	0.33	0.51
Jamaica	-	-	-	2	100	102	3445	3867	3999	4446	4500	-	-	-	0.04	2.22	2.27
Peru	-	-	-	-	15	15	13159	14190	15956	18058	19000	-	-	-	-	0.08	0.08
Uruguay	-	-	-	-	97	97	3271	3919	3908	4235	4500	-	-	-	-	2.16	2.16
Yugoslavia	-	-	-	-	50	50	19521	20426	21220	23518	22100	-	-	-	-	0.23	0.23
Nigeria	-	-	-	-	120	120	18664	19522	24470	28714	30500	-	-	-	-	0.39	0.39
Sudan	-	-	-	-	1	1	8466	8929	9568	11126	...	-	-	-	-	0.01	0.01
Zambia	-	-	-	-	3	3	3847	4641	5625	6400	...	-	-	-	-	0.05	0.05
Total	773	2088	2208	9168	22208	36445	419561	429965	453764	495545	472915	0.18	0.49	0.49	1.85	4.70	7.71

... - Not available

a/ Identified to date in 1988

b/ Estimates, except for the Philippines, per World Debt Table, p. xviii

c/ Ratio of total debt conversions to the most current available figure for total debt outstanding

1/ Includes debt-for-equity and domestic debt swaps, conversions and debt repurchases and other transactions excluding interbank trading

Sources of Basic Data: Ishaq Diwan and Stijn Claessens, An Analysis of Debt Reduction Schemes Initiated by Debtor Countries

(Washington, D.C.: World Bank Working Paper, March 1989), p. 54.

World Bank, World Debt Tables: External Debt of Developing Countries, 1988-89.

Annex Table III-B
REGRESSION RUN ON EXCHANGE RATE

SMPL 1974 - 1988
15 Observations
LS // Dependent Variable is ER

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	8.4021952	1.5080181	5.5716807	0.001
ER1	0.5985335	0.0942105	6.3531528	0.000
PPP	0.0639212	0.0175104	3.6504685	0.006
DV1	3.0056079	0.7854726	3.8264961	0.005
DV2	2.5348258	1.0326713	2.5514661	0.034
PDL1	0.0016229	0.0004561	3.5585472	0.007
PDL2	-12.368548	2.7146200	-4.5562723	0.002

R-squared	0.995995	Mean of dependent var	11.73603
Adjusted R-squared	0.992992	S.D. of dependent var	5.827081
S.E. of regression	0.487804	Sum of squared resid	1.903622
Durbin-Watson stat	2.060110	F-statistic	331.6237
Log likelihood	-5.801891		

Lag Distribution of DGIR

Lag	Coef	S.E.	T-Stat	
1	0	0.00108	0.00030	3.55855
2	1	0.00108	0.00030	3.55855
0	Sum	0.00216	0.00061	3.55855

Lag Distribution of BUFF

Lag	Coef	S.E.	T-Stat	
1	0	0.00033	0.00018	1.77787
2	1	0.00033	0.00018	1.77787
0	Sum	0.00066	0.00037	1.77787

Covariance Matrix

C.C	2.274119	C.ER1	-0.092319
C.PPP	0.005986	C.DV1	-0.006034
C.DV2	1.054848	C.PDL1	0.000587
C.PDL2	-3.922255	ER1.ER1	0.008876
ER1.PPP	-0.000189	ER1.DV1	-0.053025
ER1.DV2	-0.077765	ER1.PDL1	-2.310-05
ER1.PDL2	0.125476	PPP.PPP	0.007337
PPP.DV1	-0.000898	PPP.DV2	0.016300
PPP.PDL1	1.400-06	PPP.PDL2	-0.016300
DV1.DV1	0.616967	DV1.DV2	0.298-07
DV1.PDL1	1.100-05	DV1.PDL2	0.382664
DV2.DV2	1.066410	DV2.PDL1	0.000231
DV2.PDL2	-1.899167	PDL1.PDL1	2.080-07
PDL1.PDL2	-0.001016	PDL2.PDL2	7.369162

Residual Plot

obs	RESIDUAL	ACTUAL	FITTED
1974	-0.11357	6.78790	6.90147
1975	0.76357	7.24790	6.48393
1976	0.34970	7.44030	7.09060
1977	0.14276	7.40280	7.26004
1978	-0.31625	7.36580	7.68205
1979	-0.01726	7.37760	7.39486
1980	-0.27708	7.51140	7.78848
1981	-0.62683	7.89970	8.52653
1982	0.10456	8.54000	8.43544
1983	-0.44080	11.1127	11.5535
1984	0.55652	16.6987	16.1422
1985	-0.11572	18.6073	18.7230
1986	0.00168	20.3857	20.3840
1987	0.16259	20.5677	20.4051
1988	-0.16427	21.0950	21.2593

Dependent variable: ER
Command: LS ER C ER1 PPP PDL(DGIR) PDL(BUFF) DV1 DV2
Equation: ER=C(1)+C(2)*ER1+C(3)*PPP+C(4)*DV1+C(5)*DV2+C(6)*DGIR+C(7)*DGIR(-1)+C(8)*BUFF+C(9)*BUFF(-1)
C(1) = 8.402195 C(4) = 3.005608 C(7) = 0.001082
C(2) = 0.598533 C(5) = 2.634826 C(8) = -8.245699
C(3) = 0.063921 C(6) = 0.001082 C(9) = -8.245699

obs	ER	PPP	BUFF	DGIR	DV1	DV2
1973	6.756300	7.540000	0.650000	488.2900	0.000000	0.500000
1974	6.787900	22.27310	0.480000	465.4600	0.000000	0.500000
1975	7.247900	-7.428200	0.390000	-141.8600	0.000000	0.500000
1976	7.440300	-2.952900	0.450000	281.0300	0.000000	0.500000
1977	7.402800	-2.571300	0.390000	-116.5900	0.000000	0.500000
1978	7.365800	-3.364600	0.400000	357.6300	0.000000	0.500000
1979	7.377600	3.301601	0.560000	540.2000	0.000000	0.500000
1980	7.511400	4.294799	0.410000	732.4502	0.000000	0.500000
1981	7.899700	2.769701	0.320000	-581.4102	0.000000	0.500000
1982	8.540000	-4.590799	0.120000	-864.6800	1.000000	0.000000
1983	11.112700	-0.040400	0.140000	19.3599	1.000000	0.000000
1984	16.698700	17.858300	0.140000	19.3599	1.000000	0.000000
1985	18.607300	-0.399400	0.210000	195.0800	1.000000	0.000000
1986	20.385700	-11.688700	0.490000	1397.8400	1.000000	1.000000
1987	20.567700	-5.926601	0.290000	-499.9800	1.000000	1.000000
1988	21.095000	-3.260000	0.250000	100.0000	1.000000	1.000000

Annex Table III-C
REGRESSION RUN ON INTEREST RATE
(TREASURY BILL RATE)

SMPL 1973 - 1988
16 Observations
LS // Dependent Variable is TBILL

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	14.746454	1.2972063	11.367855	0.000
TBILL1	-0.4798948	0.0910329	-5.2716649	0.001
DV1	-8.4095171	2.4309289	-3.4593842	0.009
DV2	8.3243945	1.2311281	6.7615990	0.000
DV3	2.9220807	0.6128868	4.7877334	0.001
DV7	4.6777013	1.6216961	2.8844499	0.020
DV8	11.631230	1.3842308	8.4026667	0.000
PDL1	0.0004934	0.0002775	1.7778713	0.113

R-squared	0.982392	Mean of dependent var	13.52125
Adjusted R-squared	0.966985	S.D. of dependent var	4.537525
S.E. of regression	0.824475	Sum of squared resid	5.438077
Durbin-Watson stat	2.418820	F-statistic	63.76188
Log likelihood	-14.06971		

Lag Distribution of CRM

Lag	Coef	S.E.	T-Stat	
1	0	0.00033	0.00018	1.77787
2	1	0.00033	0.00018	1.77787
0	Sum	0.00066	0.00037	1.77787

Covariance Matrix

C.C	1.682744	C.TBILL1	-0.107259
C.DV1	1.867357	C.DV2	-0.570251
C.DV3	0.189343	C.DV7	0.800936
C.DV8	1.184561	C.PDL1	-0.000255
TBILL1.TBILL1	0.008287	TBILL1.DV1	-0.083415
TBILL1.DV2	0.021250	TBILL1.DV3	-0.018938
TBILL1.DV7	-0.040325	TBILL1.DV8	-0.076681
TBILL1.PDL1	1.120-05	DV1.DV1	5.909416
DV1.DV2	-2.411728	DV1.DV3	0.128995
DV1.DV7	-0.179992	DV1.DV8	0.518760
DV1.PDL1	-0.000554	DV2.DV2	1.515676
DV2.DV3	-0.110382	DV2.DV7	0.498931
DV2.DV8	-0.144027	DV2.PDL1	0.001564
DV3.DV3	0.375630	DV3.DV7	0.150581
DV3.DV8	0.215461	DV3.PDL1	-4.8705-05
DV7.DV7	2.629898	DV7.DV8	1.664282
DV7.PDL1	-0.000211	DV8.DV8	1.916095
DV8.PDL1	-0.000211	PDL1.PDL1	7.700-08

Residual Plot

obs	RESIDUAL	ACTUAL	FITTED
1973	-0.08723	9.43000	9.49723
1974	-0.73807	10.0500	10.0881
1975	-0.24493	10.3400	10.5849
1976	-0.19669	10.1800	10.3767
1977	0.11466	10.9000	10.7853
1978	0.00111	10.8800	10.8789
1979	1.13115	12.2400	11.1089
1980	-1.00278	12.1400	13.1428
1981	-0.32490	12.5500	12.8849
1982	1.37768	13.7900	12.4323
1983	1.80-15	14.2300	14.2300
1984	-0.09380	27.1600	27.2538
1985	0.09380	19.8500	19.5562
1986	1.80-15	16.9000	16.9000
1987	-0.53515	11.5000	12.0352
1988	0.53515	14.4000	13.8648

Dependent variable: TBILL
Command: LS TBILL C TBILL1 PDL(CRM) DV1 DV2 DV3 DV7 DV8
Equation: TBILL=C(1)+C(2)*TBILL1+C(3)*DV1+C(4)*DV2+C(5)*DV3+C(6)*DV7+C(7)*DV8+C(8)*CRM+C(9)*CRM(-1)
C(1) = 14.74645 C(4) = 8.324394 C(7) = 11.63123
C(2) = -0.479895 C(5) = 2.922081 C(8) = 0.000329
C(3) = -8.409517 C(6) = 4.677701 C(9) = 0.000329

obs	TBILL	CRM	DV1	DV2	DV3	DV7	DV8
1973	9.430000	570.0000	0.000000	0.000000	0.000000	0.000000	0.000000
1974	10.050000	1154.0000	0.000000	0.000000	0.000000	0.000000	0.000000
1975	10.340000	857.0000	0.000000	0.000000	0.000000	0.000000	0.000000
1976	10.180000	944.0000	0.000000	0.000000	0.000000	0.000000	0.000000
1977	10.900000	1864.0000	0.000000	0.000000	0.000000	0.000000	0.000000
1978	10.880000	2279.0000	0.000000	0.000000	0.000000	0.000000	0.000000
1979	12.240000	2536.0000	0.000000	0.000000	0.000000	0.000000	0.000000
1980	12.140000	1563.0000	0.000000	0.000000	1.000000	0.000000	0.000000
1981	12.550000	1806.0000	0.000000	0.000000	1.000000	0.000000	0.000000
1982	13.790000	846.0000	0.000000	0.000000	1.000000	0.000000	0.000000
1983	14.230000	9079.0000	1.000000	1.000000	1.000000	0.000000	0.000000
1984	27.160000	5722.0000	1.000000	1.000000	1.000000	0.000000	1.000000
1985	19.850000	4541.0000	1.000000	1.000000	1.000000	0.000000	1.000000
1986	16.900000	11998.0000	1.000000	0.000000	1.000000	0.000000	1.000000
1987	11.500000	6879.0000	1.000000	0.000000	1.000000	1.000000	0.000000
1988	14.400000	9682.0000	1.000000	0.000000	1.000000	1.000000	0.000000

Annex Table III-D
COMPUTATION OF EFFECTIVE DISCOUNTS
ON SCHEDULE 2 INVESTMENTS

Amount of Investment : ₱ 1000						
1. Fresh Money						
a. Percent to Total Investment	0	10	20	30	40	50
b. Amount (Investment * 1.a)	0	100	200	300	400	500
2. Amount to be Converted, Face Value						
	1000	900	800	700	600	500
3. Secondary Market Discount (2 * Discount Rate)						
25 %	250	225	200	175	150	125
30 %	300	270	240	210	180	150
35 %	350	315	280	245	210	175
40 %	400	360	320	280	240	200
45 %	450	405	360	315	270	225
50 %	500	450	400	350	300	250
55 %	550	495	440	385	330	275
4. Net Purchase Value (2 - 3)						
25 %	750	675	600	525	450	375
30 %	700	630	560	490	420	350
35 %	650	585	520	455	390	325
40 %	600	540	480	420	360	300
45 %	550	495	440	385	330	275
50 %	500	450	400	350	300	250
55 %	450	405	360	315	270	225
5. Cash Outlay, Before CB Fee (1 + 4)						
25 %	750	775	800	825	850	875
30 %	700	730	760	790	820	850
35 %	650	685	720	755	790	825
40 %	600	640	680	720	760	800
45 %	550	595	640	685	730	775
50 %	500	550	600	650	700	750
55 %	450	505	560	615	670	725
6. Ratio of Cash Outlay to Investment, Before CB Fee (5/Investment * 100)						
25 %	75.0	77.5	80.0	82.5	85.0	87.5
30 %	70.0	73.0	76.0	79.0	82.0	85.0
35 %	65.0	68.5	72.0	75.5	79.0	82.5
40 %	60.0	64.0	68.0	72.0	76.0	80.0
45 %	55.0	59.5	64.0	68.5	73.0	77.5
50 %	50.0	55.0	60.0	65.0	70.0	75.0
55 %	45.0	50.5	56.0	61.5	67.0	72.5
7. Percent Net Discount, Before CB Fee (100% - 6)						
25 %	25.0	22.5	20.0	17.5	15.0	12.5
30 %	30.0	27.0	24.0	21.0	18.0	15.0
35 %	35.0	31.5	28.0	24.5	21.0	17.5
40 %	40.0	36.0	32.0	28.0	24.0	20.0
45 %	45.0	40.5	36.0	31.5	27.0	22.5
50 %	50.0	45.0	40.0	35.0	30.0	25.0
55 %	55.0	49.5	44.0	38.5	33.0	27.5
8. CB Fee (Per Revised Guidelines)						
a. Rate (in percent)	20.0	18.0	15.1	11.5	6.7	0.0
b. Amount (2 * 8.a)	200	162	120.8	80.5	40.2	0
9. Cash Outlay, After CB Fee (5 + 8.b)						
25 %	950	937	920.8	905.5	890.2	875
30 %	900	892	880.8	870.5	860.2	850
35 %	850	847	840.8	835.5	830.2	825
40 %	800	802	800.8	800.5	800.2	800
45 %	750	757	760.8	765.5	770.2	775
50 %	700	712	720.8	730.5	740.2	750
55 %	650	667	680.8	695.5	710.2	725
10. Ratio of Cash Outlay to Investment, After CB Fee (9/Investments)						
25 %	95	93.7	92.08	90.55	89.02	87.5
30 %	90	89.2	88.08	87.05	86.02	85.0
35 %	85	84.7	84.08	83.55	83.02	82.5
40 %	80	80.2	80.08	80.05	80.02	80.0
45 %	75	75.7	76.08	76.55	77.02	77.5
50 %	70	71.2	72.08	73.05	74.02	75.0
55 %	65	66.7	68.08	69.55	71.02	72.5
11. Effective Discount, After CB Fee (100% - 10)						
25 %	5.00	6.30	7.92	9.45	10.98	12.50
30 %	10.00	10.80	11.92	12.95	13.98	15.00
35 %	15.00	15.30	15.92	16.45	16.98	17.50
40 %	20.00	19.80	19.92	19.95	19.98	20.00
45 %	25.00	24.30	23.92	23.45	22.98	22.50
50 %	30.00	28.80	27.92	26.95	25.98	25.00
55 %	35.00	33.30	31.92	30.45	28.98	27.50

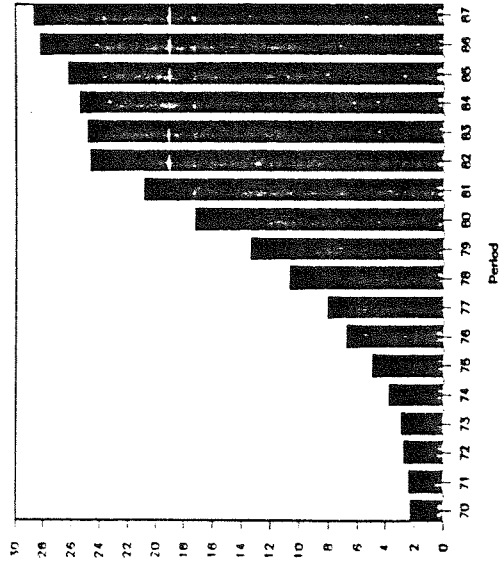
Source of Basic Data: Central Bank Circular No. 1111, Central Bank of the Philippines, October 20, 1987

Annex Table III-E
COMPUTATION OF NET DISCOUNTS
ON SCHEDULE 3 INVESTMENTS

Amount of Investment : ₱ 1000							
1. Fresh Money							
a. Percent to Total Investment	0	10	20	30	40	50	60
b. Amount (Investment * 1.a)	0	100	200	300	400	500	600
2. Amount to be Converted, Face Value							
	1000	900	800	700	600	500	400
3. Discount at Secondary Market (2 * Discount Rate)							
25 %	250	225	200	175	150	125	100
30 %	300	270	240	210	180	150	120
35 %	350	315	280	245	210	175	140
40 %	400	360	320	280	240	200	160
45 %	450	405	360	315	270	225	180
50 %	500	450	400	350	300	250	200
55 %	550	495	440	385	330	275	220
4. Net Purchase Value (2 - 3)							
25 %	750	675	600	525	450	375	300
30 %	700	630	560	490	420	350	280
35 %	650	585	520	455	390	325	260
40 %	600	540	480	420	360	300	240
45 %	550	495	440	385	330	275	220
50 %	500	450	400	350	300	250	200
55 %	450	405	360	315	270	225	180
5. Cash Outlay, Before CB Fee (1 + 4)							
25 %	750	775	800	825	850	875	900
30 %	700	730	760	790	820	850	880
35 %	650	685	720	755	790	825	860
40 %	600	640	680	720	760	800	840
45 %	550	595	640	685	730	775	820
50 %	500	550	600	650	700	750	800
55 %	450	505	560	615	670	725	780
6. Ratio of Cash Outlay to Investment, Before CB Fee (5/Investment * 100)							
25 %	75.0	77.5	80.0	82.5	85.0	87.5	90.0
30 %	70.0	73.0	76.0	79.0	82.0	85.0	88.0
35 %	65.0	68.5	72.0	75.5	79.0	82.5	86.0
40 %	60.0	64.0	68.0	72.0	76.0	80.0	84.0
45 %	55.0	59.5	64.0	68.5	73.0	77.5	82.0
50 %	50.0	55.0	60.0	65.0	70.0	75.0	80.0
55 %	45.0	50.5	56.0	61.5	67.0	72.5	78.0
7. Percent Net Discount, Before CB Fee (100% - 6)							
25 %	25.0	22.5	20.0	17.5	15.0	12.5	10.0
30 %	30.0	27.0	24.0	21.0	18.0	15.0	12.0
35 %	35.0	31.5	28.0	24.5	21.0	17.5	14.0
40 %	40.0	36.0	32.0	28.0	24.0	20.0	16.0
45 %	45.0	40.5	36.0	31.5	27.0	22.5	18.0
50 %	50.0	45.0	40.0	35.0	30.0	25.0	20.0
55 %	55.0	49.5	44.0	38.5	33.0	27.5	22.0
8. CB Fee (Per Revised Guidelines)							
a. Rate (in percent)	24.0	22.5	20.0	17.5	13.5	0.0	0.0
b. Amount (2 * 8.a)	240	202.5	160	122.5	81	40	0
9. Cash Outlay, After CB Fee (5 + 8.b)							
25 %	990	977.5	960	947.5	931	915	900
30 %	940	932.5	920	912.5	901	890	880
35 %	890	887.5	880	877.5	871	865	860
40 %	840	842.5	840	842.5	841	840	840
45 %	790	797.5	800	807.5	811	815	820
50 %	740	752.5	760	772.5	781	790	800
55 %	690	707.5	720	737.5	751	765	780
10. Ratio of Cash Outlay to Investments, After CB Fee (9/Investments)							
25 %	99	97.75	96	94.75	93.1	91.5	90
30 %	94	93.25	92	91.25	90.1	89.0	88
35 %	89	88.75	88	87.75	87.1	86.5	86
40 %	84	84.25	84	84.25	84.1	84.0	84
45 %	79	79.75	80	80.75	81.1	81.5	82
50 %	74	75.25	76	77.25	78.1	79.0	80
55 %	69	70.75	72	73.75	75.1	76.5	78
11. Effective Discount, After CB Fee (100% - 10)							
25 %	1	2.25	4	5.25	6.9	8.5	10
30 %	6	6.75	8	8.75	9.9	11.0	12
35 %	11	11.25	12	12.25	12.9	13.5	14
40 %	16	15.75	16	15.75	15.9	16.0	16
45 %	21	20.25	20	19.25	18.9	18.5	18
50 %	26	24.75	24	22.75	21.9	21.0	20
55 %	31	29.25	28	26.25	24.9	23.5	22

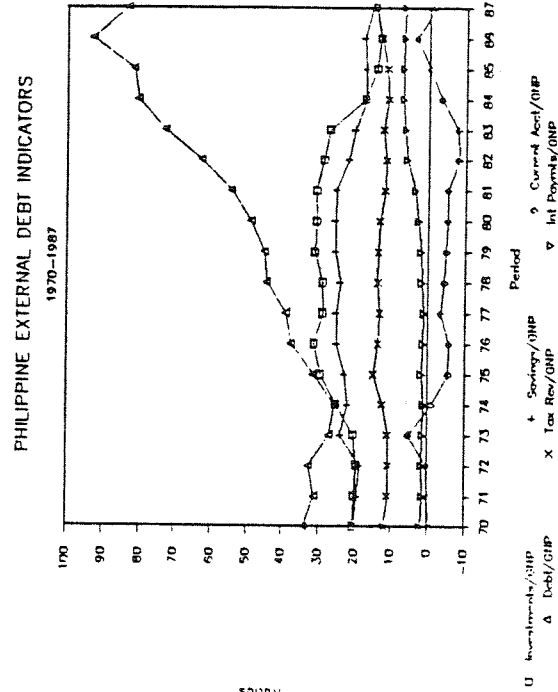
Source of Basic Data: Central Bank Circular No. 1111, Central Bank of the Philippines, October 20, 1987

CHART 2
PHILIPPINE EXTERNAL DEBT OUTSTANDING



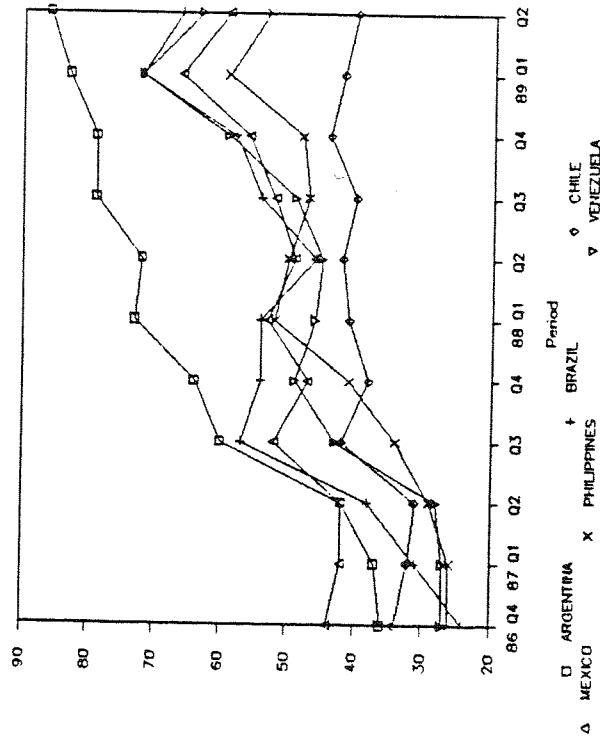
(in US\$ Billion)

CHART 3
PHILIPPINE EXTERNAL DEBT INDICATORS
1970-1987



Prices

CHART 1
SECONDARY MARKET DISCOUNT RATES OF HICS



Rates (in Percent)

CHART 4

EXTERNAL IMPACT OF DEBT-EQUITY SWAPS

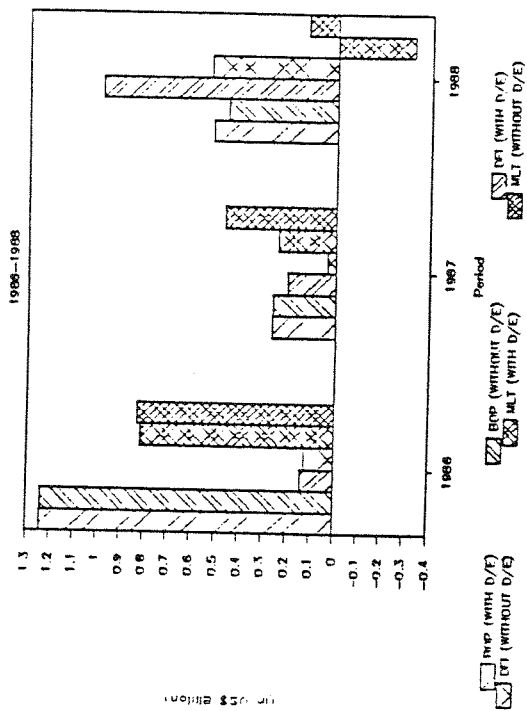


CHART 5

MONETARY IMPACT OF DEBT-EQUITY SWAPS

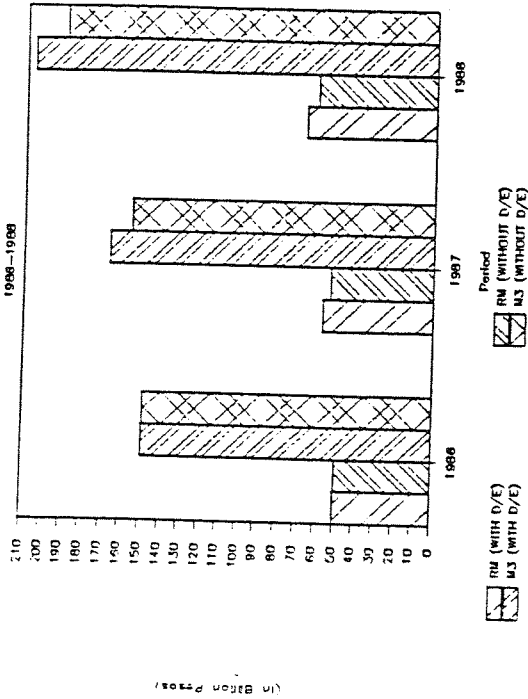


CHART 6

REAL SECTOR IMPACT OF DEBT-EQUITY SWAPS

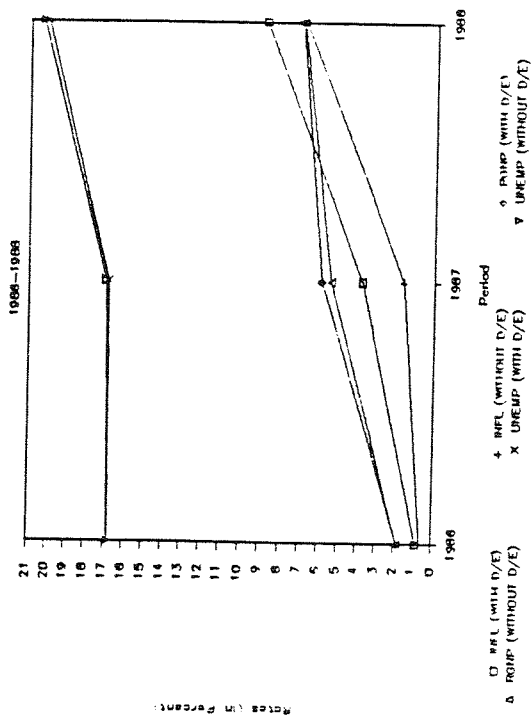


CHART 7

FISCAL IMPACT OF DEBT-EQUITY SWAPS

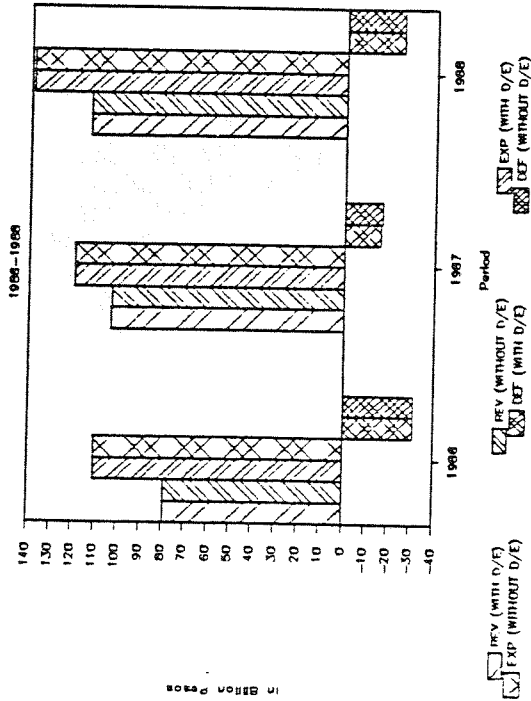
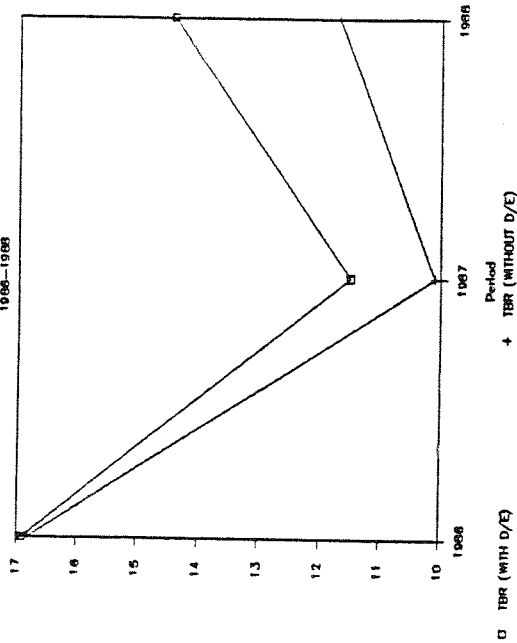


CHART 8

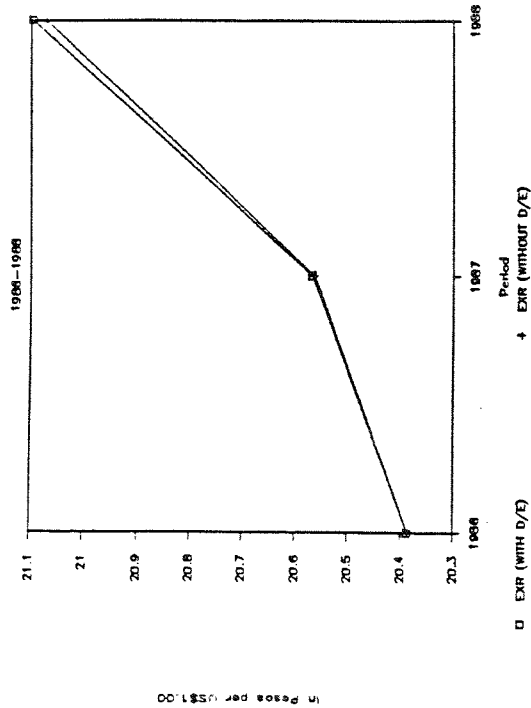
INTEREST RATE IMPACT OF DEBT-EQUITY



in Percent per Annum

CHART 9

EXCHANGE RATE IMPACT OF DEBT-EQUITY



5 Pesos per US\$1.00

Chart 10

PHILIPPINE EXTERNAL DEBT PROFILE

As of April 1989

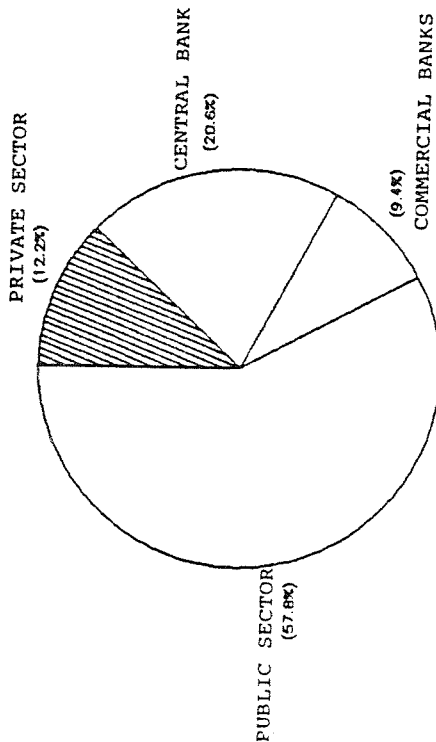
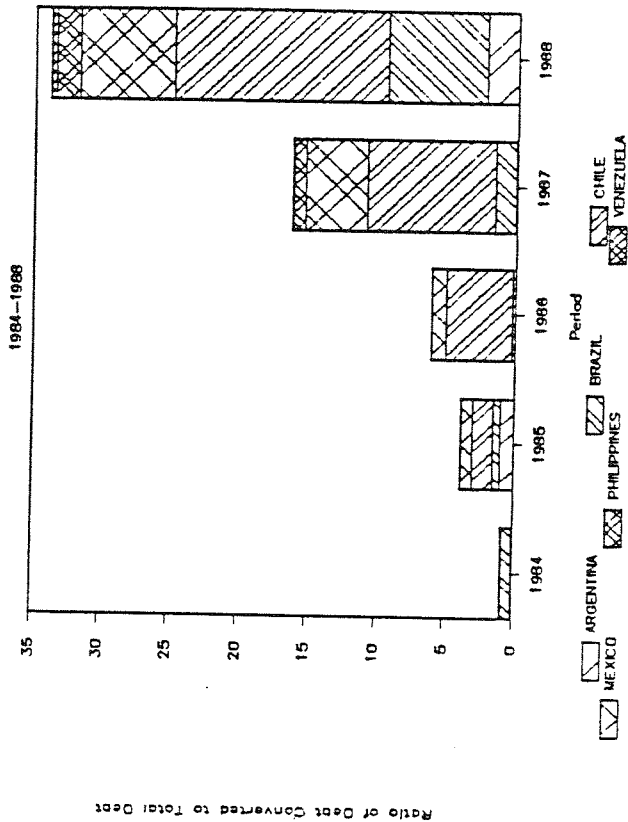


Chart 11

DEBT CONVERSION RATIOS OF HICS



Ratio of Debt Converted to Total Debt

TECHNICAL APPENDIX
THE PIDS-NEDA MACROECONOMETRIC MODEL
FOR THE PHILIPPINES

The PIDS-NEDA macroeconomic model for the Philippines is used as the basis for the macroeconomic targets in the Five-Year Philippine Development Plan and has found increasing application in policy analysis and formulation.

The model is comprised of four major blocks, namely: 1) the real, 2) fiscal, 3) financial and 4) external sectors. The core of the model is the real sector block which determines output and its expenditure and production components, prices, employment and wages. The fiscal sector is designed to determine total government revenues and its components and to assess the effects of reducing or raising government expenditures to attain a targeted GNP growth rate or budget deficit level or its ratio to GNP. The financial sector block estimates the various components of reserve money and monetary base from which money supply and total liquidity are derived. Finally, the external sector block determines the current account, capital account, balance of payments and international reserves. The intersectoral linkages are shown in the appended flow chart.

There are 104 equations in the model, 41 of which are identities and the rest are behavioral or estimated equations. There are 54 exogenous variables consisting of: a) policy instruments directly affecting the fiscal deficit, current account balance, balance of payments, debt service and money supply expansion such as government expenditures, capital outlays, net lending to government corporations, foreign borrowings, interest payments, domestic interest rates, money multipliers, nominal exchange rate and loan grants by banks to specific industries like agriculture; b) external economic assumptions such as export and import prices, and GNP of the United States; and c) miscellaneous variables such as population, changes in stock, oil dependency, legislated minimum wages and dummies for the crisis period and weather conditions.

The list of exogenous and endogenous variables is shown in Appendix 1. On the other hand, the estimated behavioral or regression equations including statistical tests of significance are provided in Appendix 2 while equational identities are enumerated in Appendix 3. Finally, measures of the tracking ability of the model for the various economic aggregates under static and dynamic simulations over the period 1976 to 1985 are shown in Appendix 4.

Appendix 1
LIST OF EXOGENOUS AND ENDOGENOUS VARIABLES

VARIABLE	DESCRIPTION	UNIT	COVERAGE	VARIABLE	DESCRIPTION	UNIT	COVERAGE
EXOGENOUS VARIABLES				ENDOGENOUS VARIABLES			
ALLSDR	Allocation of SDR	US\$ Million	1970-85	1. REAL SECTOR BLOCK			
CAPOUT	Capital Outlays, Cash Basis	Million Pesos	1975-85	Output			
CAPUTO	Capital Outlays, Obligation Basis	Million Pesos	1969-85	GNP	Gross National Product (Real)	Million Pesos	1967-85
DISCRA	Discount Rate (Nominal)	Percent	1967-85	GNPN	Gross National Product (Nominal)	Million Pesos	1967-85
D03B4	1983-84 = 1; Otherwise = 0	-	1967-85	GDP	Gross Domestic Product (Real)	Million Pesos	1967-85
DUMCB3	1983 = 1; Otherwise = 0	-	1967-85	GS	Gross National Product (Real)	Million Pesos	1967-85
DUMD	1982-83 = 1; Otherwise = 0	-	1967-85	Expenditures			
DUM67	1967-80 = 1; Otherwise = 0	-	1967-85	CP	Personal Consumption Expenditures (Real)	Million Pesos	1967-85
DUM76	1976-85 = 1; Otherwise = 0	-	1967-85	CG	Government Consumption Expenditures (Real)	Million Pesos	1967-85
DUM83	1983-85 = 1; Otherwise = 0	-	1967-85	CGM	Government Consumption Expenditures (Real)	Million Pesos	1967-85
DUM84	1984-85 = 1; Otherwise = 0	-	1967-85	CGOVN	Government Construction Expenditures (Nominal)	Million Pesos	1967-85
DUM85	1985 = 1; Otherwise = 0	-	1967-85	CONSGO	Government Construction Expenditures (Real)	Million Pesos	1967-85
ER	Nominal Exchange Rate	P/US\$	1967-85	CONSPR	Private Construction Expenditures (Real)	Million Pesos	1967-85
ERROR	Errors and Omissions (BOP)	US\$ Million	1970-85	GDCF	Gross Domestic Capital Formation	Million Pesos	1967-85
EXPEGW	Government Expenditure for Electricity, Power & Water	Million Pesos	1970-85	IDER	Investment in Durable Equipment (Real)	Million Pesos	1967-85
GNPUS	Gross National Product (Real) USA	US\$ Billion	1970-85	M	Total Imports of Goods and Services (Real)	Million Pesos	1967-85
IINV	Increase in Stocks (Real)	Million Pesos	1967-85	MCAPR	Imports of Capital Equipment (Real)	Million Pesos	1967-85
ILTLOW	Inflow of Medium & Long-Term Loans	US\$ Million	1970-85	MFLR	Imports of Fuel Oil (Real)	Million Pesos	1967-85
INCOUT	Income Remittances to Rest of the World	US\$ Million	1970-85	MGDS	Imports of Goods (Real)	Million Pesos	1967-85
INCREM	Income Remittances from Abroad	US\$ Million	1970-85	MOTHR	Imports of Other Goods (Real)	Million Pesos	1967-85
INTINC	Investment & Interest Income from Abroad	US\$ Million	1970-85	MRAWR	Imports of Raw Materials (Real)	Million Pesos	1967-85
ITRANS	Transfers from Abroad	US\$ Million	1970-85	MSV	Imports of Services (Real)	Million Pesos	1967-85
KCAR	Capital Consumption Allowance (Real)	Million Pesos	1967-85	X	Total Exports of Goods and Services (Real)	Million Pesos	1967-85
MINT\$	Interest Payments on Foreign Loans	US\$ Million	1970-85	XGDS	Exports of Goods (Real)	Million Pesos	1967-85
MMULT	Money Multiplier (M3)	-	1967-85	XSV	Exports of Services (Real)	Million Pesos	1967-85
MNGOLD	Monetization of Gold	US\$ Million	1970-85	Production			
MPIF\$	Dollar Import Price Index for Fuel Products	1972 = 100	1972-85	SCONS/DCONS	Gross Value-Added in Construction (Real)	Million Pesos	1967-85
MPINF\$	Dollar Import Price Index for Non-Fuel Products	1972 = 100	1972-85	SCROPS/DCROPS	Gross Value Added in Agricultural Crops (Real)	Million Pesos	1967-85
MULT1	Money Multiplier (M1)	-	1967-85	SEGW	Gross Value Added in Electricity, Gas and Water (Real)	Million Pesos	1967-85
NETLEN	Net Lending of the Government	Million Pesos	1975-85	SFISH/DFISH	Gross Value Added in Fishery (Real)	Million Pesos	1967-85
NINDF	Net Direct Foreign Investment	US\$ Million	1970-85	SLIVPO/DLIVPO	Gross Value Added in Livestock and Poultry (Real)	Million Pesos	1967-85
NSHTRM	Net Inflows of Short-Term Capital	US\$ Million	1970-85	SMFG/DMFG	Gross Value Added in Manufacturing (Real)	Million Pesos	1967-85
OILDEP	Oil Dependency Ratio	-	1974-85	SMQ/DMQ	Gross Value Added in Mining Quarrying (Real)	Million Pesos	1967-85
OLTLOW	Outflows of Medium and Long-Term Loans	US\$ Million	1970-85	SSER/DSER	Gross Value Added in Services (Real)	Million Pesos	1967-85
OPEXP	Current Operating Expenditures, Cash Basis	Million Pesos	1975-85	VAR	Gross Value Added in Agriculture (Real)	Million Pesos	1967-85
OPEXPO	Current Operating Expenditures, Obligation Basis	Million Pesos	1975-85	VIR	Gross Value Added in Industry (Real)	Million Pesos	1967-85
OTHINH	Other Inflows of Non-Merchandise Trade	US\$ Million	1970-85				
OTHONM	Other Outflows of Non-Merchandise Trade	US\$ Million	1970-85				
OTRANS	Transfers to the Rest of the World	US\$ Million	1970-85				
PFEEDS	International Price of Corn	US\$/Metric Ton	1970-85				
PMGDS	Implicit Price Deflator for Imports of Goods	1972 = 100	1967-85				
PMSV	Implicit Price Deflator for Imports of Services	1972 = 100	1967-85				
POP	Population	Millions	1967-85				
POP15	Population, 15 Years & Over	Thousands	1967-85				
PPFET	World Price of Fertilizer	US\$/Metric Ton	1970-85				
PXGDS	Implicit Price Deflator for Exports of Goods and Services	1972 = 100	1967-85				
PXSV	Implicit Price Deflator for Exports of Services	1972 = 100	1967-85				
RBLOAN	Loans Granted by Rural Banks to Agricultural Sector	Million Pesos	1970-85				
RECS	Reserve Eligible Government Securities	Million Pesos	1970-85				
REVADJ	Revaluation Adjustment	US\$ Million	1970-85				
SECLNS	Interest Rate on Secured Loans	Percent	1967-85				
SFORES	Gross Value Added in Forestry (Real)	Million Pesos	1967-85				
TBILL	Average Interest Rates on Treasury Bills (90 Days)	Percent	1972-85				
UNREM	Unremitted Arrears	US\$ Million	1970-85				
WLAGRI	Effective Legislated Wage, Average for Plantation & Non-Plantation Workers	Pesos	1967-85				
XAGRI	Value of Exports of Agricultural Products	US\$ Million	1967-85				

Prices

CPI	Consumer Price Index	1972 = 100	1967-85
INFL	Inflation Rate	1972 = 100	1967-85
PCG	Implicit Price Deflator for Government Consumption	1972 = 100	1967-85
PCGOV	Implicit Price Deflator for Government Construction	1972 = 100	1967-85
PCONS	Implicit Price Deflator for Construction	1972 = 100	1967-85
PEGW	Implicit Price Deflator for Electricity, Gas and Water	1972 = 100	1967-85
PGDCF	Implicit Price Deflator for Gross Domestic Capital Formation	1972 = 100	1967-85
PGDP	Implicit Price Deflator for Gross Domestic Product	1972 = 100	1967-85
PCNP	Implicit Price Deflator for Gross National Product	1972 = 100	1967-85
PINC	Implicit Price Deflator for Agricultural Crops	1972 = 100	1967-85
PINFI	Implicit Price Deflator for Fishery	1972 = 100	1967-85
PINFO	Implicit Price Deflator for Fishery	1972 = 100	1967-85
PLIVPO	Implicit Price Deflator for Livestock and Poultry	1972 = 100	1967-85
PM	Implicit Price Deflator for Imports of Goods and Services	1972 = 100	1967-85
PMFG	Implicit Price Deflator for Manufacturing	1972 = 100	1967-85
PMQ	Implicit Price Deflator for Mining and Quarrying	1972 = 100	1967-85
PSER	Implicit Price Deflator for Services	1972 = 100	1967-85

Employment and Wages

LF	Labor Force	Thousands	1967-85
FTEN45	Total Employment, Full-Time Equivalent	Thousands	1967-85
FIENPA	Employment in Agriculture, Full-Time Equivalent	Thousands	1967-85
FTEMP1	Employment in Industry, Full-Time Equivalent	Thousands	1967-85
FTEMPS	Employment in Services Full-Time Equivalent	Thousands	1967-85
FTUEMP	Unemployed, Full-Time Equivalent	Thousands	1967-85
FTUERA	Unemployment Rate, Full-Time Equivalent	Thousands	1967-85
MWAGUS	Wage Rate Index of Unskilled Workers	Thousands	1967-85

Others

R66	Capital Stock (Real)	Million Pesos	1967-85
NFIA	Net Factor Income from Abroad (Real)	Million Pesos	1967-85
POICNP	Potential Output (Real)	Million Pesos	1967-85
STAD	Statistical Discrepancy	Million Pesos	1967-85
ICOR	Incremental Capital-Output Ratio	Percent	1968-85

II. FISCAL SECTOR BLOCK

DEFG	Government Deficit (Cash Basis)	Million Pesos	1975-85
DIRTAX	Direct Taxes	Million Pesos	1975-85
EXFN	Total Expenditures (Cash Basis)	Million Pesos	1975-85
NTAXRE	Non-Tax Revenues	Million Pesos	1975-85
OTHYAX	Taxes on Property, Goods and Services and Other Taxes	Million Pesos	1975-85
REV	Total Revenues	Million Pesos	1975-85
TAXREV	Tax Revenues	Million Pesos	1975-85
TRADET	Taxes on International Trade	Million Pesos	1975-85

III. FINANCIAL SECTOR BLOCK

CLMDMB	Monetary Authorities' Net Credit to Deposit Money Banks	Million Pesos	1967-85
MACNEW	Monetary Authorities' Credit to the Public Sector Including RFGS	Million Pesos	1967-85
MB	Monetary Base	Million Pesos	1967-85
MS	Money Supply, End-of-Year	Million Pesos	1967-85
MSA	Money Supply, Average for Year	Million Pesos	1967-85
NDA	Net Domestic Assets	Million Pesos	1967-85
NFA	Net Foreign Assets	Million Pesos	1967-85
OTHNDA	Other Components of Reserve Money	Million Pesos	1967-85
RM	Reserve Money	Million Pesos	1967-85
TL	Total Liquidity, End-of-Year	Million Pesos	1967-85
TLA	Total Liquidity, Yearly Average	Million Pesos	1967-85

IV. EXTERNAL SECTOR BLOCK

BOP	Balance of Payments	US\$ Million	1970-85
CAPBAL	Capital Accounts Balance	US\$ Million	1970-85
CURBAL	Current Accounts Balance	US\$ Million	1970-85
M\$	Merchandise Imports	US\$ Million	1970-85
X\$	Merchandise Exports	US\$ Million	1970-85

LIST OF BEHAVIORAL/REGRESSION EQUATIONS WITH STATISTICAL TESTS OF SIGNIFICANCE 1/

I. REAL SECTOR BLOCK

A. Expenditures

1. Private Consumption
 $CP = 1834.819 + 0.072396 * QS - TAXREV/(PCRP/100) + 0.4198236 * (MCA/(PCRP/100)) + 0.8563556 * CP(-1)$
 $R^2 = 0.999$ SEE = 71.277 D.M. = 2.399 1975-85 (5.63) (52.59)
2. Private Construction Investment
 $CONSPR = -1480.6108 + 0.5744580 * MCAPR(-1) + 0.1455799 * (TLA/(PCRP/100)) + .2668407 * CONSPR(-1)$
 $R^2 = 0.969$ SEE = 287.823 D.M. = 1.695 1973-85 (3.52) (3.27)
3. Durable Equipment
 $IDER = 4.9215354 + 0.0473103 * QS + 1.1448765 * MCAPR - 140.21779 * (SECUMS - INFL) - 118.52695 * INF1$
 $+ 0.2282400 * IDER(-1)$
 $R^2 = 0.967$ SEE = 434.891 D.M. = 1.706 1972-85 (2.03) (3.27)
4. Government Consumption at Current Prices (National Income Accounts)
 $CCM = 1159.8189 + 0.8575719 * OFEXP - 3412.0371 * DMBR4$
 $R^2 = 0.993$ SEE = 985.286 D.M. = 2.122 1969-85 (34.67) (-3.08)
5. Government Construction at Current Prices (National Income Accounts)
 $CCOON = -938.36219 + 1.1646553 * CAPUTO + 3077.8522 * DMBR76 + 5928.4678 * DMBR4 - 4074.5668 * DMBR5$
 $+ (-1.65) (10.01) (2.47) (3.88) (-1.95)$
 $R^2 = 0.973$ SEE = 1352.754 D.M. = 1.326 1969-85 (0.71) (22.90)
6. Exports of Goods
 $XGUS = -9144.4239 + 0.5767285 * MCAPR + 6.7713393 * GNPUS$
 $+ (-3.25) (2.76) (4.55)$
 $R^2 = 0.913$ SEE = 892.799 D.M. = 2.228 1972-85 (3.41) (1.06)
7. Exports of Non-Factor Services
 $XSV = 102.29562 + 0.9733247 * (IOTHM + IHWPH1) * ER/(PMSV/100)$
 $R^2 = 0.972$ SEE = 179.190 D.M. = 1.639 1970-85 (0.71) (22.90)
8. Imports of Fuel
 $IFLR = -44.928406 - 85.181655 * (HP1P8 * (ER/6.671)/(CRP) + 821.68577 * OILDEP + 0.4553732$
 $+ 0.4553732 * (-44.928406 - 85.181655 * (HP1P8(-1)) * ER(-1)/(6.671)/(CRP(-1)))$
 $+ 821.68577 * OILDEP(-1) + 0.0094247 * QS(-1) + 0.01213 * (FRESER(-1) * ER(-1)/(PCRP(-1)/(100)))$
 $R^2 = 0.838$ SEE = 58.306 D.M. = 2.547 1975-85 (3.41) (1.06)
9. Imports of Raw Materials Except Fuel
 $IRAMR = -4284.5831 - 2.9981809 * (HP1P8 * (ER/6.671)/(PCRP/100)) + 0.1341887 * QS + 0.0155743 * (FRESER(-1) * ER(-1)/(PCRP(-1)/(100)))$
 $R^2 = 0.928$ SEE = 536.061 D.M. = 1.670 1972-85 (1.24) (-0.13) (8.12) (0.19)
10. Imports of Capital Equipment
 $ICAPR = -1737.2068 + 0.0680354 * QS + 0.1250034 * (FRESER * ER/(PCRP/100)) - 1841.7231 * DMBR4$
 $R^2 = 0.865$ SEE = 431.265 D.M. = 2.177 1972-85 (-2.04) (7.88) (1.54) (-4.37)
11. Other Imports
 $IOTHR = 2882.6458 - 804.07246 * (PFGDS/PCRP) + 0.0266252 * (BCP * ER/(PCRP/100)) + 1192.0447 * DMBR4$
 $+ 851.07127 * DMBR4$
 $R^2 = 0.731$ SEE = 380.156 D.M. = 2.73 1972-85 (1.63) (0.42) (2.51)

12. Imports of Non-Factor Services

- MSV = -153.76061 + 0.8063726 * (IOTHM * ER/(PMSV/100)) + 0.0999118 * MSV(-1)
 $R^2 = 0.947$ SEE = 156.514 D.M. = 1.738 1970-85 (1.19) (12.01) (1.33)
 13. Net Factor Income from Abroad
 $NFA = 61.141839 + 62.438674 * ((INTIRC + IINCENR - INTIS - INCOUT) * ER/CFI)$
 $- 0.5209428 * (61.141839 + 62.438674 * ((INTIRC(-1) + IINCENR(-1) - INTIS(-1) - INCOUT(-1)) * ER/CFI(-1))$
 $R^2 = 0.908$ SEE = 232.716 D.M. = 1.240 1971-85 (2.17) (1.240)
- B. Production
14. Supply of Crops
 $SCROPS = 3959.2238 + 9.9150368 * PIRC + 0.4901374 * FTENPA - 1.2956898 * PPEET + 2.077878 * RBLOW$
 $+ (-2621.4651 * DMBR)$
 $R^2 = 0.936$ SEE = 750.631 D.M. = 2.236 1970-85 (1.19) (3.84) (0.85) (-2.27) (6.15)
 15. Demand for Crops
 $DCROPS = -15499.004 - 4.8285842 * PIRC + 601.43327 * POP + 0.4770553 * (XAGRI * ER/(PFGDS/100))$
 $+ (-8.25) (-2.21) (10.50) (2.28)$
 $R^2 = 0.928$ SEE = 226.712 D.M. = 1.492 1970-85 (1.19) (3.84) (0.85) (-2.27) (6.15)
 16. Supply of Livestock and Poultry
 $SLIVPO = 2094.1494 + 4.1762138 * PLIVPO + 0.3870597 * RBLOW - 213.67655 * PFEEDS$
 $+ (-8.53) (6.82) (5.34) (-1.60)$
 $R^2 = 0.928$ SEE = 226.712 D.M. = 1.492 1970-85 (1.19) (3.84) (0.85) (-2.27) (6.15)
 17. Demand for Livestock and Poultry
 $DLIVPO = -743.83847 - 1.6898867 * PLIVPO + 0.0221284 * CP + 1.0234427 * DLIVPO(-1)$
 $R^2 = 0.971$ SEE = 144.650 D.M. = 2.825 1968-85 (-2.58) (-1.90) (3.00) (5.97)
 18. Supply of Fishery
 $SFISH = 2274.4151 + 3.5555732 * PIRFI + 0.1764829 * RBLOW - 515.12915 * DMBR4$
 $R^2 = 0.981$ SEE = 89.843 D.M. = 1.693 1970-85 (36.48) (4.61) (3.06) (-2.05)
 19. Demand for Fishery
 $DFISH = -2679.6504 - 1.2060841 * PIRFI + 143.98775 * POP$
 $R^2 = 0.987$ SEE = 86.762 D.M. = 1.814 1967-85 (-7.82) (-3.08) (14.81) (-1.60)
 20. Supply of Mining and Quarrying
 $SNO = 575.47041 + 0.9800928 * PMO + 0.2181266 * MCAPR$
 $R^2 = 0.846$ SEE = 121.842 D.M. = 1.583 1972-85 (4.03) (4.69) (7.54)
 21. Demand for Mining and Quarrying
 $DMO = 99.513399 - 0.3940705 * PMO + 0.0078951 * GRP + 0.6559445 * DMO(-1)$
 $R^2 = 0.926$ SEE = 115.861 D.M. = 1.360 1968-85 (10.64) (-1.53) (1.17) (2.63)
 22. Supply of Manufacturing
 $SMEG = 8105.1773 + 7.2293401 * PMFG + 0.9851438 * MCAPR + 0.470762 * IDER$
 $R^2 = 0.967$ SEE = 642.901 D.M. = 2.085 1972-85 (8.90) (2.61) (3.08) (2.13)
 23. Demand for Manufacturing
 $DMFG = -3140.0372 - 9.6063178 * PMFG + 0.2178913 * (CP + CG + XGDS) + 0.5101699 * DMFG(-1)$
 $R^2 = 0.996$ SEE = 289.310 D.M. = 1.415 1968-85 (-1.75) (-2.83) (3.90) (2.36)
 24. Supply of Construction
 $SCONS = -2751.5291 + 1.7314894 * PCOMS + 0.6774289 * MCAPR + 0.2539002 * (TLA/(PCRP/100))$
 $R^2 = 0.960$ SEE = 405.845 D.M. = 2.256 1972-85 (-5.79) (1.50) (4.13) (1.31)

25. Demand for Construction
 $DCONS = 1783.0829 - 1.8347828 * PCONS + 0.5899698 * (CONS0 + CONS1)$
 $(0.58) \quad (-1.07) \quad (13.54)$
 $-0.9310642 * (1783.0829 - 1.8347828 * PCONS[-1] + 0.5899698 * (CONS0[-1] + CONS1[-1] - DCONS[-1]))$
 (7.53)
 $R^2 = 0.997$ SEE = 126.578 D.W. = 1.864 1968-85
 26. Supply of Electricity, Gas and Water
 $SEGW = 322.80106 + 1.0695113 * PEGW + 0.0463864 * WELR + 0.0254913 * EXPECH + 0.7318618 * (17.09) \quad (21.62) \quad (16.48) \quad (-2.78)$
 $(322.80106 + 1.0695113 * PEGW[-1] + 0.0463864 * WELR[-1] + 0.0254913 * EXPECH[-1] - SEGW[-1])$
 $R^2 = 0.996$ SEE = 18.310 D.W. = 2.175 1973-85
 27. Supply of Services
 $SSER = 16283.993 + 61.039296 * PSER - 107.38587 * (SEGLUS - IMFL) - 21071.853 * DMR84$
 $(16.05) \quad (13.18) \quad (-1.85) \quad (-7.98)$
 $R^2 = 0.922$ SEE = 1953.476 D.W. = 1.915 1968-85
 28. Demand for Services
 $DSEW = 806.08462 - 3.8729625 * PSER + 0.345496 * (VAR + VIR) + 0.4738175 * DSER[-1]$
 $(11.12) \quad (-2.10) \quad (5.03) \quad (3.29)$
 $R^2 = 0.997$ SEE = 400.507 D.W. = 2.538 1968-85

C. Prices and Potential GRP

29. Potential Output
 $\ln POTGRP = 0.9108189 + 0.3559218 * \ln(LF) + 0.5688104 * \ln(K66) - 0.1110500 * DMR84 - 0.7454444 * (0.9108189 + 0.3559218 * \ln(LF[-1]) + 0.5688104 * \ln(K66[-1]) - 0.1110500 * DMR84[-1])$
 $(0.39) \quad (1.72) \quad (4.24) \quad (-3.73) \quad (2.98)$
 $R^2 = 0.995$ SEE = 0.022 D.W. = 1.674 1968-85
 30. GNP Implicit Price Deflator
 $PCRP = -59.555501 + 75.215296 * (TLA/POTGRP) + 1.0295944 * MWAGUS + 0.3762898 * PM + 26.429337 * DMR84$
 $(-2.77) \quad (2.01) \quad (3.63) \quad (3.89) \quad (1.97)$
 $-0.6222779 * (-59.555501 + 75.215296 * (TLA[-1]/POTGRP[-1]) + 1.0295944 * MWAGUS[-1] + 0.3762898 * PM[-1] + 26.429337 * DMR84[-1])$
 (2.78)
 $R^2 = 0.999$ SEE = 6.351 D.W. = 2.022 1969-85
 31. Consumer Price Index
 $CPI = -13.384372 + 1.0927946 * PCRP$
 $(-5.41) \quad (124.94)$
 $R^2 = 0.999$ SEE = 6.365 D.W. = 1.480 1967-85
 32. Implicit Price Deflator for Gross Domestic Product
 $PCRP = -0.2048893 + 1.0012708 * PCRP$
 $(-2.44) \quad (33374.44)$
 $R^2 = 0.999$ SEE = 0.216 D.W. = 2.279 1967-85
 33. Implicit Price Deflator for Government Consumption
 $PGC = 7.4640677 + 0.3637571 * PCRP + 0.6255593 * PCG[-1]$
 $(2.43) \quad (11.35) \quad (12.09)$
 $R^2 = 0.998$ SEE = 5.294 D.W. = 2.159 1968-85
 34. Implicit Price Deflator for Government Construction
 $PCGV = -12.717461 + 1.2015290 * PCRP$
 $(-4.54) \quad (121.49)$
 $R^2 = 0.999$ SEE = 7.198 D.W. = 1.774 1967-85
 35. Implicit Price Deflator for Gross Domestic Capital Formation
 $PODCF = -609.52873 + 1.2456471 * PCRP - 0.9929406 * (-609.52873 + 1.2456471 * PCRP[-1] - PODCF[-1])$
 $(-0.22) \quad (35.41) \quad (10.66)$
 $R^2 = 0.999$ SEE = 4.152 D.W. = 2.018 1968-85
 36. Implicit Price Deflator for Electricity, Gas and Water
 $PEGW = -9.1046992 + 1.039951 * PCRP$
 $(-1.55) \quad (53.35)$
 $R^2 = 0.994$ SEE = 15.059 D.W. = 2.092 1967-85

D. Employment and Wages

44. Employment in Agriculture Sector (Full-Time Equivalent)
 $FTDPA = 3148.7040 + 0.1411839 * VAR - 197.96887 * (MWAGEI/PCRP/100) + 0.2785914 * FTDPA[-1]$
 $(3.02) \quad (3.03) \quad (-1.72) \quad (0.28)$
 $R^2 = 0.750$ SEE = 344.635 D.W. = 2.106 1968-85
 45. Employment in Industrial Sector (Full-Time Equivalent)
 $FTDPI = 2229.2511 + 0.0265930 * VIR - 8.7818139 * (MWAGUS/PCRP/100)$
 $(2.30) \quad (1.24) \quad (-1.35)$
 $-0.6228782 * (2229.2511 + 0.0265930 * VIR[-1] - 8.7818139 * (MWAGUS[-1]/PCRP[-1]/100))$
 (2.74)
 $R^2 = 0.887$ SEE = 156.091 D.W. = 1.423 1968-85
 46. Employment in Services Sector (Full-Time Equivalent)
 $FTDPS = 3649.1188 - 21.679273 * (MWAGUS/PSER/100) + 0.6255843 * FTDPS[-1]$
 $(2.27) \quad (-2.17) \quad (3.43)$
 $R^2 = 0.947$ SEE = 313.432 D.W. = 2.148 1968-85
 47. Labor Force
 $LF = -1378.1135 + 0.3842159 * PCPI5 + 0.4761745 * LFI[-1]$
 $(-3.12) \quad (4.54) \quad (3.63)$
 $R^2 = 0.991$ SEE = 296.246 D.W. = 2.163 1968-85
 48. Nominal Wage of Unskilled Workers
 $MWAGUS = 66.939560 + 0.3531504 * CPI - 144.86522 * FTDPA$
 $(23.60) \quad (44.45) \quad (-3.25)$
 $R^2 = 0.994$ SEE = 4.730 D.W. = 1.501 1967-85

II. FISCAL SECTOR BLOCK

49. Direct Taxes
 DIRTAX = 894,968.36 + 0.0183394 * GRPW - 693,064.36 * DUMC83 + 4.367,0831 * DUM85 + 0.1960336 * DIRTAX(-1)
 (-1.88) (5.79) (-1.44) (7.11) (1.36)
 $\bar{R}^2 = 0.993$ SEE = 381.256 D.W. = 1.614 1976-85
50. Taxes on International Trade
 TRADET = 1886.1770 + 0.1562828 * (INDS * (FINDS/100))
 (3.41) (18.62)
 $\bar{R}^2 = 0.972$ SEE = 754.890 D.W. = 2.434 1975-85
51. Taxes on Property, Goods and Services, and Other Taxes
 OTTAX = -9085.5651 + 33.534054 * PCRP + 0.1141418 * GRP
 (-5.30) (25.25) (5.25)
 $\bar{R}^2 = 0.991$ SEE = 595.122 D.W. = 1.554 1975-85
52. Non-Tax Revenues
 NTARE = -346.08972 + 9.5941793 * PCRP + 0.0198256 * GRP + 0.426297 * (-346.08972 + 9.5941793 * PCRP(-1))
 (-0.35) (13.46) (1.58) (-1.19)
 + 0.0198256 * GRP(-1) - NTARE(-1)
 $\bar{R}^2 = 0.950$ SEE = 375.248 D.W. = 2.445 1976-85

III. FINANCIAL SECTOR BLOCK

53. Monetary Authorities' Net Credits to Deposit Money Banks
 CLDMNB = -3634.7157 + 391.85950 * DISCMB + 0.0317630 * GRPW - 13496.807 * DUM84
 (-2.45) (2.19) (8.85) (-7.21)
 $\bar{R}^2 = 0.873$ SEE = 1595.447 D.W. = 1.723 1967-85
54. Monetary Authorities' Credits to the Public Sector and Reserve Eligible Government Securities (RECS)
 MACHEN = 8557.8588 - 451.78997 * TBILL + 0.9239329 * DDFG + 11883.232 * DUM83
 (4.04) (2.43) (7.26) (6.24)
 $\bar{R}^2 = 0.942$ SEE = 1609.112 D.W. = 1.445 1975-85
55. Other Components of Net Domestic Assets
 OTHDA = -3013.6653 - 0.8350705 * MFA - 1.0483531 * CLDMNB + 1033.1145 * TIME + 0.3103862 * OTHDA(-1)
 (-2.04) (-8.29) (-3.70) (4.39) (2.20)
 $\bar{R}^2 = 0.994$ SEE = 2218.163 D.W. = 1.789 1968-85
56. Net Foreign Assets
 MFA = 3738.7900 + 1.4611569 * (BOP * ER) - 55527.698 * DUM84 - 94160.507 * DUM85 - 0.5189561 * (3738.7900
 (1.57) (7.66) (-10.34) (-12.16) (1.94)
 + 1.4611569 * (BOP(-1) * ER(-1)) - 55527.698 * DUM84(-1) - 94160.507 * DUM85(-1) - MFA(-1)
 $\bar{R}^2 = 0.980$ SEE = 3704.789 D.W. = 1.710 1971-85
57. Average Level of Money Supply
 MSA = 367.16452 + 0.8583064 * MS + 0.6687698 * (367.16452 + 0.8583064 * MS(-1) - MSA(-1))
 (1.25) (54.49) (-3.18)
 $\bar{R}^2 = 0.986$ SEE = 1065.831 D.W. = 2.474 1969-85
58. Average Total Liquidity
 TLA = -501.87012 + 0.9194631 * TL + 0.3289285 * (-501.87012 + 0.9194631 * TL(-1) - TLA(-1))
 (-1.48) (171.44) (-1.35)
 $\bar{R}^2 = 0.999$ SEE = 1193.377 D.W. = 2.039 1968-85

IV. EXTERNAL SECTOR BLOCK

59. Inflow of Freight and Merchandise Insurance
 IMFMI = -5,5768.393 + 0.0200694 * X8 + 56.029329 * DUM84
 (-0.51) (6.68) (3.73)
 $\bar{R}^2 = 0.850$ SEE = 18.595 D.W. = 1.545 1970-85
60. Outflow of Freight and Merchandise Insurance
 OMFMI = 79,941.711 + 0.0603925 * M8 - 0.5142915 * (79,941.711 + 0.0603925 * M8(-1)) - OMFMI(-1)
 (1.37) (5.59) (1.76)
 $\bar{R}^2 = 0.923$ SEE = 1.950 D.W. = 1.950 1971-85
61. International Reserves of the Central Bank
 IRESCB = 245,20119 + 0.3939952 * BOP - 614,13791 * DUM84 + 0.9607050 * IRESCB(-1)
 (1.21) (2.71) (-1.71) (7.11)
 $\bar{R}^2 = 0.775$ SEE = 384.298 D.W. = 1.762 1970-85
62. Implicit Exchange Rate for Exports of Goods
 ERXX = 3.6999443 + 97.812728 * ER - 0.6768063 * (3.6999443 + 97.812728 * ER(-1)) - ERXX(-1)
 (0.25) (88.94) (3.71)
 $\bar{R}^2 = 0.989$ SEE = 8.614 D.W. = 1.923 1971-85
63. Implicit Exchange Rate for Imports of Goods
 ERIM = 37,890674 + 101.96031 * ER - 0.6551639 * (37,890674 + 101.96031 * ER(-1)) - ERIM(-1)
 (1.65) (55.45) (3.09)
 $\bar{R}^2 = 0.998$ SEE = 14.710 D.W. = 1.948 1971-85

1/ Figures enclosed in parentheses refer to t-tests

Source: Roberto S. Mariano and Winifrida M. Constantino, The PIDS-NEDA Macroeconometric Model for the Philippines: Recent Modifications and Experience on Its Use for Policy Analysis (Makati, Metro Manila: Philippine Institute for Development Studies, November 1987).

APPENDIX 3 LIST OF EQUATIONAL IDENTITIES

I. REAL SECTOR BLOCK

A. Output

1. GDP = VAR + VIR + SSER
2. GNP = CP + CG + CONSGO + IDER + IINV + XGDS + XSV - MGDS - MSV + STATD + NFIA
3. GNP_N = GNP * (PCNP/100)
4. QS = VAR + VIR + SSER + NFIA
5. CG = CGN / (PCG/100)
6. CONSGO = CGOVN / (PCGOV/100)
7. GDCF = CONSGO + CONSPR + IDER + IINV
8. X = XGDS + XSV
9. MGDS = MFLR + MRAWR + MOTHR + MCAPR
10. M = MGDS + MSV
11. VAR = SCROPS + SFISH + SLIVPO + SFORES
12. VIR = SMQ + SMFG + SCONS + SEGW
13. STATD = QS - (CP + CG + CONSGO + CONSPR + IDER + IINV + XGDS + XSV - MGDS - MSV + NFIA)
14. K66 = K66[-1] + CONSGO + CONSPR + IDER + IINV - KCAR
15. ICOR = GDCF[-1] / (GDP-GDP[-1]) * 100

B. Employment

16. FTEM45 = FTEMPA + FTEMPI + FTEMP
17. FTUEMP = LF - FTEM45
18. FTUERA = FTUEMP/LF

C. Prices

19. PM = PMGDS * MGDS/M + PMSV * MSV/M
20. INFL = ((CPI - CPI[-1]) / CPI[-1]) * 100
21. PINFO = GDP * PGDP/SFORES - SCROPS * PINC/SFORES - SLIVPO * PLIVPO/SFORES - SFISH * PINFI/SFORES - SMQ * PMQ/SFORES - SMFG * PMFG/SFORES - SCONS * PCONS/SFORES - SEGW * PEGW/SFORES - SSER * PSER/SFORES

II. FISCAL SECTOR BLOCK

22. TAXREV = DIRTAX + TRADET + OTHTAX
23. REV = TAXREV + NTAXRE
24. EXPN = OPEXP + CAPOUT + NETLEN
25. DEFG = EXPN - REV
26. REVEFF = (REV/GNP) * 100
27. TAXEFF = (TAXREV/GNP) * 100
28. DRATIO = (DEFG/GNP) * 100

III. FINANCIAL SECTOR BLOCK

29. NDA = MACNEW + CLMDMB + OTHNDA - REGS
30. RM = NFA + NDA
31. MB = MACNEW + CLMDMB + NFA + OTHNDA
32. TLA = MULTI * MB
33. MS = MULTI * MB

IV. EXTERNAL SECTOR BLOCK

34. X\$ = XGDS * PXGDS/ERXX
35. M\$ = MGDS * PMGDS/ERM
36. TRABAL = X\$ - M\$
37. INMTRD = OTHINH + INCREM + INTINC + INMFMI
38. ONMTRD = OTHONM + MINT\$ + ONMFMI
39. CURBAL = TRABAL + INMTRD - ONMTRD + ITRANS - OTRANS
40. CAPBAL = NSHTRM + ILILON - OLILON + MINDF + ERROR
41. BOP = CURBAL + CAPBAL + MNGOLD + ALLSDR + UNREM + REVADJ

Appendix 4

STATIC AND DYNAMIC SIMULATIONS

OF THE MODEL

STATIC SIMULATION OF THE MODEL: 1976 - 1985

VARIABLE	Mean Absolute % Error	Root Mean Square % Error	VARIABLE	Mean Absolute % Error	Root Mean Square % Error	
Output						
Gross National Product (GNP)	0.80	1.04	Services Deflator (PSER)	6.71	8.21	
Gross Domestic Product (GDP)	0.68	0.87	Nominal Wage (NWAGUS)	2.93	3.38	
Nominal GNP (GNPN)	4.09	5.19	Employment			
Demand						
Private Consumption (CP)	0.26	0.32	Labor Force (LF)	0.84	1.08	
Government Consumption (CG)	3.19	3.99	Total Employment (FTEM45)	1.24	1.51	
Private Construction (CONSPR)	3.34	3.73	Agriculture (FTEMPA)	3.75	4.88	
Government Construction (CONSGO)	3.61	4.74	Industry (FTEMPI)	3.50	5.34	
Durable Equipment Investment (IDER)	5.18	6.71	Services (FTEMP)	2.79	4.01	
Exports of Goods (XGDS)	5.24	6.17	Unemployment Rate (FTUERA)	23.20	34.23	
Exports of Services (XSV)	4.92	6.05	Government Revenues			
Imports of Goods (MGDS)	5.06	6.25	Tax Revenues (TAXREV)	4.70	6.39	
Fuel (MFLR)	2.74	3.73	Direct Tax (DIRTAX)	5.94	7.68	
Capital (MCAPR)	9.00	10.62	Trade Tax (TRADET)	6.16	7.29	
Raw Materials (MRAWR)	7.06	8.15	Other Tax (OTH TAX)	5.85	7.76	
Other Imports (MOTHR)	16.34	19.65	Non-tax Revenues (NTAXRE)	4.60	5.41	
Imports of Services	6.25	8.14	Deficit (DEFG)	102.92	254.93	
Production						
Agriculture (VAR)	1.50	1.72	External Account			
Crops (SCROPS)	2.77	3.24	Trade Balance (TRABAL)	18.15	24.08	
Livestock and Poultry (SLIVPO)	1.81	2.16	Exports (X\$)	4.94	5.89	
Fisheries (SFISH)	1.03	1.24	Imports (M\$)	4.94	6.19	
Industry (VIR)	1.66	2.17	Receipts from Non-Merchandise	0.80	1.32	
Mining and Quarrying (SMQ)	4.93	5.93	Trade (INMTRD)	1.37	1.40	
Construction (SCONS)	4.52	6.05	Payments for Non-Merchandise	33.65	58.43	
Manufacturing (SMFG)	1.44	1.88	Current Account Balance (CURBAL)	89.57	137.23	
Utilities (SEGW)	1.65	1.97	Balance of Payments (BOP)	19.12	21.39	
Services (SSER)	0.80	0.94	Gross International Reserves, CB			
			(IRESCB)			
Prices and Wages						
GNP Deflator (PGNP)	3.66	4.54	Monetary Sector			
GDP Deflator (PGDP)	3.66	4.55	Net Domestic Assets (NDA)	18.96	29.34	
Consumer Price Index (CPI)	4.50	5.81	Net Foreign Assets (NFA)	18.50	31.02	
Crops Deflator (PINC)	11.93	15.67	Reserve Money (RM)	6.57	9.45	
Livestock and Poultry Deflator (PLIVPO)	9.32	11.05	Base Money (MB)	5.24	7.54	
Fishery Deflator (PINFI)	6.01	6.84	Money Supply (MS)	5.24	7.51	
Forestry Deflator (PINFO)	317.00	345.27	Total Liquidity (TL)	5.24	7.54	
Mining and Quarrying Deflator (PMQ)	14.86	17.00	Others			
Construction Deflator (PCONS)	42.95	47.28	Net Factor Income (NFIA)	123.97	253.22	
Manufacturing Deflator (PMFG)	8.85	9.76	Statistical Discrepancy (STATD)	350.70	859.24	
Utilities Deflator (PEGW)	5.44	7.25	Capital Stock (K66)	0.25	0.29	

VARIABLE	Mean Absolute % Error	Root Mean Square % Error	VARIABLE	Mean Absolute % Error	Root Mean Square % Error
Output					
Gross National Product (GNP)	1.34	1.58	Prices and Wages (Continued)		
Gross Domestic Product (GDP)	1.10	1.35	Services Deflator (PSER)	9.49	11.79
Nominal GNP (GNPN)	4.95	6.01	Nominal Wage (NWAGUS)	4.11	4.41
Demand					
Private Consumption (CP)	0.59	0.68	Employment		
Government Consumption (CG)	3.00	3.75	Labor Force (LF)	0.93	1.13
Private Construction (CONSPR)	4.77	5.46	Total Employment (FTEM45)	1.32	1.58
Government Construction (CONSGO)	4.52	5.46	Agriculture (FTEMPA)	3.41	4.45
Durable Equipment Investment (IDER)	6.17	7.00	Industry (FTEMPI)	5.14	6.33
Exports of Goods (XGDS)	5.48	6.33	Services (FTEMPS)	3.20	4.33
Exports of Services (XSV)	4.91	6.05	Unemployment Rate (FTUERA)	23.67	33.98
Imports of Goods (MGDS)	5.46	6.26	Government Revenues		
Fuel (MFLR)	3.20	4.23	Tax Revenues (TAXREV)	6.77	5.50
Capital (MCAPR)	8.13	9.75	Direct Tax (DIRTAX)	6.31	8.35
Raw Materials (MRAWR)	7.16	8.26	Trade Tax (TRADET)	5.54	6.91
Other Imports (MOTHR)	16.45	20.19	Other Tax (OTHATX)	6.94	8.34
Imports of Services	6.30	8.34	Non-tax Revenues (NTAXRE)	5.38	5.52
			Deficit (DEFG)	95.45	206.53
Production					
Agriculture (VAR)	1.33	1.64	External Account		
Crops (SCROPS)	2.73	3.21	Trade Balance (TRABAL)	15.76	23.61
Livestock and Poultry (SLIVFO)	2.87	3.23	Exports (X\$)	5.35	6.19
Fisheries (SFISH)	1.02	1.24	Imports (M\$)	5.68	6.44
Industry (VIR)	2.43	2.79	Receipts from Non-Merchandise	0.78	1.32
Mining and Quarrying (SMQ)	6.03	7.29	Trade (INMTRD)		
Construction (SCONS)	5.69	6.64	Payments for Non-Merchandise	1.63	1.79
Manufacturing (SMFG)	1.86	2.15	Trade (ONMTRD)	25.33	36.84
Utilities (SEGW)	2.02	2.55	Current Account Balance (CURBAL)	88.00	134.59
Services (SSER)	1.25	1.45	Balance of Payments (BOP)		
			Gross International Reserves, CB	15.23	18.17
			(IRESCB)		
Prices and Wages					
GNP Deflator (PGNP)	4.21	5.50	Monetary Sector		
GDP Deflator (PGDP)	4.22	5.21	Net Domestic Assets (NDA)	15.85	24.72
Consumer Price Index (CPI)	4.97	6.71	Net Foreign Assets (NFA)	21.17	31.77
Crops Deflator (PINC)	11.72	16.05	Reserve Money (RM)	8.07	10.81
Livestock and Poultry Deflator (PLIVPO)	9.46	10.86	Base Money (MB)	6.40	6.61
Fishery Deflator (PINF)	6.01	6.84	Money Supply (MS)	6.40	6.61
Forestry Deflator (PINFO)	370.64	421.29	Total Liquidity (TL)	6.40	6.61
Mining and Quarrying Deflator (PMQ)	14.49	17.34	Others		
Construction Deflator (PCONS)	50.27	54.72	Net Factor Income (NFIA)	188.83	449.66
Manufacturing Deflator (PMFG)	8.21	9.27	Statistical Discrepancy (STATD)	401.27	1066.69
Utilities Deflator (PEGW)	5.93	8.38	Capital Stock (K66)	0.71	0.80

BIBLIOGRAPHY

- Alesina, Alberto. *Optimal Borrowing Policies for Developing Countries: The Cases of Korea, the Philippines and Thailand, 1965-83*. Washington, D.C.: IMF Working Paper, June 10, 1987.
- Alvarez, Meherson. *Senate Resolution No. 141*. Manila: Philippine Senate, July 1988.
- Ashford, Moyra. "Brazil Plans for State Auctions". *The Birth of New Market: Special Report*. Euromoney. Edited by Paul King. London: Euromoney Publications PLC, September 1987.
- Banco Central de Chile. *Circular No. 4115*. "Acquisition of Titles (Rights) to External Debt". Chapters XVIII and XIX. Santiago, Chile: Banco Central de Chile.
- Banco Rio de la Plata. "Debt-to-Equity Conversion in Argentina". *Debt Management: Latin America Sets the Pace*. Supplement to Euromoney. Edited by Ron Cooper and Paul King. London: Euromoney Publications PLC, September 1988.
- Bank of Boston. *Debt Capitalization Programmes in Latin America*. Memorandum sent to the Debt Restructuring Office, Central Bank of the Philippines, February 26, 1987.
- Bartholomew Douglas. "Mexico: No Time for New Toys". *Debt Management: Latin America Sets the Pace*. Supplement to Euromoney. Edited by Ron Cooper and Paul King. London: Euromoney Publications PLC, September 1988.
- Bergsten, C. Fred; Cline, William R.; and Williamson, John. *Bank Lending to Developing Countries: The Policy Alternatives*. Washington, D.C.: Institute for International Economics, April 1985.
- Bird, Graham. "Debt-Swapping in Developing Countries: A Preliminary Investigation". *The Journal of Development Studies*. Vol. 24, No. 3. London: Frank Cass and Co., Ltd., April 1988.
- Blackwell, Michael, and Nocera, Simon. *Debt/Equity Swaps*. Washington, D.C.: IMF Working Paper, February 12, 1988.
- _____. "The Impact of Debt to Equity Conversion". *Finance and Development*. Washington, D.C.: International Monetary Fund and The World Bank, June 1988.
- Buchheit, Lee. *Debt/Equity Conversion Programmes from the Debtor Country's Perspective*. Speech delivered during the Philippine Investment Conference on Privatization and Debt-Equity Conversion. Manila, Philippines: Euromoney and the Central Bank of the Philippines, November 12-13, 1987.
- Bulow, Jeremy, and Rogoff, Kenneth. "The Buyback Boondoggle". *Brookings Paper on Economic Activity 2*. Edited by William C. Brainard and George L. Perry. Washington, D.C.: The Brookings Institution, 1988.
- Central Bank of the Philippines. *Central Bank Circular No. 1111*. Manila, Philippines: Central Bank of the Philippines, August 4, 1986 and October 20, 1987.
- Chase Investment Bank. "Corporate Financial Strategies in Latin America: International Equity Report No. 1". *Global Debt: The Equity Solution*. Supplement to Euromoney and

- Corporate Finance. Edited by Paul King. London: Euromoney Publications PLC, January 1988.
- Citicorp Investment Bank. *Financing Alternatives in Developing Countries*. Sponsored Supplement. Euromoney. London: Euromoney Publications PLC, September 1987.
- Claessens, Stijn. *The Debt-Laffer Curve: Some Estimates*. Washington, D.C.: The World Bank, mimeo, August 23, 1988.
- Cline, William R. "Debt Strategy: Staying the Course". *Economic Impact*. No. 60. Washington, D.C.: Fourth Quarter 1987.
- _____. "International Debt: Progress and Strategy". *Finance and Development*. Washington, D.C.: International Monetary Fund and The World Bank, June 1988.
- _____. "Proposals for Reform: An Analysis". *Economic Impact*. No. 60. Washington, D.C.: Fourth Quarter 1987.
- Cohen, Daniel. *Is the Discount on the Secondary Market A Case for LDC Debt Relief?* Washington, D.C.: World Bank Working Paper, November 1988.
- Coone, Tim. "Argentina: Waiting for the Green Light". *Global Debt: The Equity Solution*. Supplement to Euromoney. Edited by Paul King. London: Euromoney Publications PLC, January 1988.
- "Debt Conversion Regulations". *Global Debt: The Equity Solution*. Supplement to Euromoney. Edited by Paul King. London: Euromoney Publications PLC, January 1988.
- Debt Management and Financial Advisory Services Department. *Market-Based Menu Approach*. Washington, D.C.: The World Bank, monograph, September 1988.
- de Guzman, Raquel D., and Aldana, Cornelia H. "The Debt-to-Equity Alternative: A Swap Trap". *IBON Facts and Figures*. Vol. XI, No. 12. Metro Manila, Philippines: June 30, 1988.
- de Venecia, Jose Jr., *House Concurrent Resolution No. 6*. Quezon City: House of Representatives, October 1987.
- Diwan, Ishac. *An Analysis of Debt Conversion Schemes*. Paper prepared for the Conference on Recent Developments in the Capital Markets. New York University: The Japan Center, May 5-6, 1988.
- Diwan, Ishac, and Claessens, Stijn. *An Analysis of Debt-Reduction Schemes Initiated By Debtor Countries*. Washington, D.C.: World Bank Working Paper, March 1989.
- Dohner, Robert S., and Intal, Ponciano, Jr. "Debt Crisis and Adjustment in the Philippines" in *Developing Country Debt and the World Economy*. Edited by Jeffrey D. Sachs. Chicago: University of Chicago Press, 1989.
- Donovan, Donal J. "Nature and Origins of Debt-Servicing Difficulties". *Finance and Development*. Washington, D.C.: International Monetary Fund and The World Bank, December 1984.
- Dooley, Michael P. *An Analysis of the Debt Crisis*. Washington, D.C.: IMF Working Paper, December 4, 1986.

- _____. *Analysis of Self-Financed Buybacks and Asset Exchanges*. Washington, D.C.: IMF Working Paper, May 10, 1988.
- _____. *Buybacks and the Market Valuation of External Debt*. Washington, D.C.: IMF Working Paper, September 10, 1987.
- _____. "Market Valuation of External Debt". *Finance and Development*. Washington, D.C.: International Monetary Fund and The World Bank, March 1987.
- _____; Helkie, William; Tryon, Ralph; and Underwood, John. "An Analysis of External Debt Positions of Eight Developing Countries Through 1990". *Journal of Development Economics*. North-Holland: Elsevier Science Publishers, B.V., 1986.
- _____; Symansky, Steven; and Tryon, Ralph. *A Dynamic Model of Buybacks*. Washington, D.C.: IMF Working Paper, July 12, 1989.
- Dornbusch, Rudiger. "International Debt and Economic Instability". *Economic Review*. Kansas City: Federal Reserve Bank of Kansas City.
- _____. "Debt Problems and the World Macroeconomy". In *Developing Country Debt and the World Economy*. Edited by Jeffrey D. Sachs. Chicago: University of Chicago Press, 1989.
- Emminger, Otmar. "The International Debt Crisis and the Banks". *Intereconomics*. Hamburg: Verlag Weltarchiv, GmbH, HWVA-Institut für Wirtschaftsforschung, May/June 1985.
- Erbe, Rainer. "Foreign Indebtedness and Economic Growth: The Philippines". *Intereconomics*. Hamburg: Verlag Weltarchiv, GmbH, HWVA-Institut für Wirtschaftsforschung, May/June 1982.
- Errunza, Vihang R., and Moreau, Arthur F. *Debt-for-Equity Swaps Under A Rational Expectations Equilibrium*. McGill University Working Paper 87-26.
- Evans, Judith. "Argentina: Lots of Twinkle - Few Stars". *Debt Management: Latin America Sets the Pace*. Supplement to *Euromoney*. Edited by Ron Cooper and Paul King. London: Euromoney Publications PLC, September 1988.
- _____. "Venezuela: Advancing with Decree 1988". *Debt Management: Latin America Sets the Pace*. Supplement to *Euromoney*. Edited by Ron Cooper and Paul King. London: Euromoney Publications PLC, September 1988.
- Evans, Richard. "A Side-Door into Equity Investment". *Global Debt: The Equity Solution*. Supplement to *Euromoney and Corporate Finance*. Edited by Paul King. London: Euromoney Publications PLC, January 1988.
- _____. "Bankers Proceed Cautiously with Debt/Equity Strategy". *Global Debt: The Equity Solution*. Supplement to *Euromoney and Corporate Finance*. Edited by Paul King. London: Euromoney Publications PLC, January 1988.
- _____. "Secondary Markets: Anomalous But Profitable". *Global Debt: The Equity Solution*. Supplement to *Euromoney and Corporate Finance*. Edited by Paul King. London: Euromoney Publications PLC, January 1988.

_____. "Mexico: Sophistication Marks the Mexican Programme". *Global Debt: The Equity Solution*. Supplement to *Euro money and Corporate Finance*. Edited by Paul King. London: Euro money Publications PLC, January 1988.

_____. "New Debts for Old - And the Swapper is King". From the Flames A New Market: Special Report. *Euro money*. London: Euro money Publications PLC, September 1987.

_____. "Philippines: Swapping Turmoil for Progress". *Global Debt: The Equity Solution*. Supplement to *Euro money and Corporate Finance*. Edited by Paul King. London: Euro money Publications PLC, January 1988.

_____. "Venezuela: Plan May Now Be Made to Work". *Global Debt: The Equity Solution*. Supplement to *Euro money and Corporate Finance*. Edited by Paul King. London: Euro money Publications PLC, January 1988.

Fernandez, Jose B. *Debt-Equity Swaps: A Recipient's Viewpoint - The Philippine Experience*. Speech delivered during the Roundtable Conference on Trends in International Capital Markets: Implications for Developing Countries. Oxford, England: February 20-26, 1988.

Ffrench-Davis, Ricardo. "Debt-Equity Conversion: A View From Developing Countries". *The CTC Reporter*. New York: United Nations Centre on Transnational Corporations, No. 23, Spring 1987.

Findakly, Hani K. *LDC Debt Securitization and Secondary Markets*. Speech delivered during the Roundtable Conference on Trends in International Capital Markets: Implications for Developing Countries. Oxford, England: February 20-26, 1988.

Fisher, Stanley. "Resolving the International Debt Crisis". In *Developing Country Debt and the World Economy*. Edited by Jeffrey D. Sachs. Chicago: University of Chicago Press, 1989.

_____. "Sharing the Burden of the Debt Crisis". *Economic Impact*. No. 60. Washington, D.C.: Fourth Quarter 1987.

Fishlow, Abert. "External Borrowing and Debt Management". *The Open Economy*. Edited by Rudiger Dornbusch and F. Leslie C.H. Helmers. New York: Oxford University Press, 1989.

Foncerrada, Luis. *Debt-for-Equity in Mexico's Debt Restructuring Plans*. Speech delivered during the Philippine Investment Conference on Privatization and Debt-Equity Conversion. Manila, Philippines: Euro money and the Central Bank of the Philippines, November 12-13, 1987.

_____. "Why the Mexicans Are Cautious About Swaps". Interview. *Global Debt: The Equity Solution*. Supplement to *Euro money and Corporate Finance*. Edited by Paul King. London: Euro money Publications PLC, January 1988.

Fontaine, J. A. *Debt Conversion Mechanisms in Chile*. Speech delivered during the Roundtable Conference on Trends in International Capital Markets: Implications for Developing Countries. Oxford, England: February 20-26, 1988.

Franke, Gunter. *Economic Analysis of Debt-Equity Swaps*. Konstanz University, Fakultat fur Wirtschafts- wissenschaften und Statistik, Series II, No. 23, May 1987.

- French, Martin. "Conversion Funds? The Conception Was Quite Simple...". *The Birth of A New Market: Special Report. Euromoney*. Edited by Paul King. London: Euromoney Publications PLC, September 1987.
- Ghosh, Surojit. *Debt and Debt-Equity Swaps*. Speech delivered during the Roundtable Conference on Trends in International Capital Markets: Implications for Developing Countries. Oxford, England: February 20-26, 1988.
- Gill, David. *Opening Remarks on Privatization and Debt-Equity Conversion*. Speech delivered during the Philippine Investment Conference on Privatization and Debt-Equity Conversion. Manila, Philippines: Euromoney and the Central Bank of the Philippines, November 12-13, 1987.
- Gonzales, Carlos. *The Secondary Market for Debt*. Speech delivered during the Philippine Investment Conference on Privatization and Debt-Equity Conversion. Manila, Philippines: Euromoney and the Central Bank of the Philippines, November 12-13, 1987.
- Griffith-Jones, Stephany. "Learning to Live With Crisis". *The Banker*. Vol. 137. No. 739. London: September 1987.
- Gutowski, Armin. "A New Round of Rescheduling?" *Intereconomics*. Hamburg: Verlag Weltarchiv, GmbH, HWWA-Institut für Wirtschaftsforschung, March/April 1986.
- Heller, H. Robert. "Debt and the Future of Bank Lending". *Economic Impact*. No. 60. Washington, D.C.: Fourth Quarter 1987.
- Helpman, Elhanan. *The Simple Analytics of Debt-Equity Swaps and Debt Forgiveness*. Washington, D.C.: IMF Working Paper, March 1988.
- Hieronymus, Bill. "Brazil: Bankers Cheered as the Centrao Holds". *Global Debt: The Equity Solution*. Supplement to Euromoney and Corporate Finance. Edited by Paul King. London: Euromoney Publications PLC, January 1988.
- _____. "Brazil: Debt Swaps - Yes, But Who Pays?" *Debt Management: Latin America Sets the Pace*. Supplement to Euromoney. Edited by Ron Cooper and Paul King. London: Euromoney Publications PLC, September 1988.
- Hope, Nicholas, and Klein, Thomas. "Issues in External Debt Management". *International Borrowing: Negotiating and Structuring International Debt Transactions*. Washington, D.C.: Martinis Nijhoff Publishers, International Law Institute, 1986.
- Huizinga, Harry. *How Has the Debt Crisis Affected Commercial Banks?* Washington, D.C.: World Bank Working Paper, May 1989.
- Krueger, Anne D. "Origins of Developing Countries' Debt Crisis: 1970-1982". *Journal of Development Economics*. North-Holland: Elsevier Science Publishers B.V., No. 27, 1987.
- _____. "Debt, Capital Flows, and LDC Growth". *Economic Impact*. No. 60. Washington, D.C.: Fourth Quarter 1987.
- Krugman, Paul R. *Market-Based Debt Reduction Schemes*. Cambridge, Massachusetts: National Bureau of Economic Research, mimeo.

- Lahera, Eugenio. "The Conversion of Foreign Debt Viewed from Latin America". *CEPAL Review No. 32*. Santiago, Chile: United Nations Economic Commission for Latin American and the Caribbean.
- Lanyi, Anthony. "Issues in Capital Flows to Developing Countries". *Finance and Development*. Washington, D.C.: International Monetary Fund and The World Bank, September 1987.
- Layman, Thomas A., and Kearney, Timothy F. "Debt for Equity: A Solution to the LDC Debt Crisis?". Parts 1 and 2. *The Journal of Commercial Bank Lending*. Vol. 70, Nos. 5 and 6. Philadelphia: Robert Morris and Associates, January and February 1988.
- Manasan, Rosario G.; Amatong, Juanita D.; and Beltran, Gil. "Public Enterprise Sector in the Philippines: Economic Contribution and Performance, 1975-1984". *Public Enterprise*. Vol. 8, No. 4. Ljubjana: December 1988.
- Mariano, Roberto S., and Constantino, Winifrida M. *The PIDS-NEDA Macroeconometric Model for the Philippines: Recent Modifications and Experience on Its Use for Policy Analysis*. Makati, Metro Manila: Philippine Institute for Development Studies, November 1987.
- Mark, Imogen. "Chile: Deal of the Year". *Debt Management: Latin America Sets the Pace*. Supplement to *Euromoney*. Edited by Ron Cooper and Paul King. London: Euromoney Publications PLC, September 1988.
- _____. "Chile: Foreigners Find Favour and Incentives". *Global Debt: The Equity Solution*. Supplement to *Euromoney and Corporate Finance*. Edited by Paul King. London: Euromoney Publications PLC, January 1988.
- _____. "Debt-Business Boom in Latin America". From the *Flames A New Market: Special Report*. *Euromoney*. London: Euromoney Publications PLC, September 1987.
- Marton, Andrew. "The Debate Over Debt-for-Equity Swaps". *Institutional Investor*. Vol. XXI, No. 2. New York: February 1987.
- Menckhoff, L., and Sell, F. L. "Is A Second Debt Crisis Looming?" *Intereconomics*. Hamburg: Verlag Weltarchiv, GmbH, HWWA-Institut für Wirtschaftsforschung, January/ February 1986.
- Monteiro, Antonio Carlos. *Debt/Equity Conversion in Brazil*. Speech delivered during the Philippine Investment Conference on Privatization and Debt-Equity Conversion. Manila, Philippines: Euromoney and the Central Bank of the Philippines, November 12-13, 1987.
- Morande, Felipe and Schmidt-Hebbel, Klaus. *A Simple Portfolio Framework for Debt Conversion*. ILADES/ Georgetown Graduate Program in Economics, mimeo, December 1988.
- Morgan Guaranty Trust Company of New York. "Debt-Equity Swaps". *World Financial Markets*. New York: June/July 1987.
- _____. "LDC Debt Realities". *World Financial Markets*. New York: June/July 1987.
- Nair, Govindan, and Frazier, Mark. "Debt-Equity Conversion and Privatization". *Economic Impact*. No. 60. Washington, D.C.: Fourth Quarter 1987.
- Munnenkamp, Peter. *Voluntary and Involuntary Lending: A Test of Major Hypotheses*. Washington, D.C.: World Bank Working Paper, June 1989.

- Ollard, William. "The Debt Swappers". *Euromoney*. London: Euromoney Publications PLC, August 1986.
- Osborn, Neil. "Can This Dream Come True?" From the Flames A New Market: Special Report. *Euromoney*. London: Euromoney Publications PLC, September 1987.
- Pearce, David W., ed. *MacMillan Dictionary of Modern Economics*. London: MacMillan Press Ltd., 1981.
- Regling, Klaus P. "New Financing Approaches in the Debt Strategy". *Finance and Development*. Washington, D.C.: International Monetary Fund and The World Bank, March 1988.
- Roberts, David L. and Remolona, Eli M. "Debt Swaps: A Technique in Developing Country Finance". *Finance for Developing Countries*. Edited by Richard Debs. New York: Group of Thirty, 1987.
- Robinson, James D. III. "A Comprehensive Agenda for LDC Debt and World Trade Growth. *The AMEX Bank Review Special Papers*. London, England: No. 13, March 1988.
- Rodriguez, Carlos Alfredo. *The Strategy of Debt Buybacks: A Theoretical Analysis of the Competitive Case*. Washington, D.C.: IMF Working Paper, February 22, 1988.
- Sachs, Jeffrey D., ed. "Introduction". *Developing Country Debt and the World Economy*. Chicago: University of Chicago Press, 1989.
- _____. *Efficient Debt Reduction*. Washington, D.C.: World Bank Working Paper, May 1989.
- Schubert, Martin. "Trading Debt for Equity". *The Banker*. Vol. 137. No. 739. London: February 1987.
- Segal, Susan L. "Debt-Equity Swaps: A Banker's View". *The CTC Reporter*. New York: United Nations Centre on Transnational Corporations, No. 23, Spring 1987.
- Tanzi, Vito. *The Role of the Public Sector in the Market Economies of Developing Asia: General Lessons for the Current Debt Strategy*. Washington, D.C.: IMF Working Paper, January 22, 1988.
- Tetangco, Amando M., Jr., and Laqui, A. Luwalhati M. "Developments in External Debt Strategy and Selected Country Experiences". *CB Review*. Manila: Central Bank of the Philippines, April 1988.
- "TMBs and the Debt Crisis". *The CTC Reporter*. New York: United Nations Centre on Transnational Corporations, No. 27, Spring 1989.
- U, Peter Lee, and Maquito, Ferdinand. "How Good A Deal is Debt-Equity Conversion?" *CRC Briefing Folio*. Pasig, Metro Manila: Center for Research and Communication, December 1987.
- United Nations Conference on Trade and Development. "Toward International Debt Reform?" *Trade and Development Report 1986*. New York: United Nations.
- _____. "Recent Developments in the International Capital Markets". *Trade and Development Report 1987*. New York: United Nations.

- _____. "Debt and Development". *Trade and Development Report 1988*. New York: United Nations.
- Vatnick, Silvina. *The Secondary Market for Debt: A Possible Explanation of How LDC Debt Prices Are Determined*. Washington, D.C.: The World Bank and LACVP, mimeo, April 1988.
- Velasco, Andres. *The Macroeconomics of Debt Swaps: A Simple Exposition*. New York: Columbia University and CIEPLAN, November 1988.
- Versluisen, Eugene L. *A Review of Alternative Debt Strategies*. Washington, D.C.: World Bank Working Paper, May 1989.
- Wanamaker, Melissa. "No Easy Path for Debt/Equity Swaps". *Debt Management: Latin America Sets the Pace*. Supplement to *Euromoney*. Edited by Ron Cooper and Paul King. London: Euromoney Publications PLC, September 1988.
- Westphalen, Jurgen. "Origins and Consequences of the Debt Crisis and Ways of Solving It". *Intereconomics*. Hamburg: Verlag Weltarchiv, GmbH, HWWA-Institut für Wirtschaftsforschung, March/April 1984.
- Wienart, Richard S. "Swapping Third World Debt". *Foreign Policy*. No.65. Washington, D.C.: Carnegie Endowment for International Peace, Winter 1986-1987.
- Wiesner, Eduardo. "Domestic and External Causes of the Latin American Debt Crisis". *Finance and Development*. Washington, D.C.: International Monetary Fund and the World Bank, March 1985.
- Williamson, John. *Voluntary Approaches to Debt Relief*. Washington, D.C.: Institute for International Economics, mimeo, April 1988.
- World Bank. "Development and Debt Service: Dilemma of the 1980's". *World Debt Tables: External Debt of Developing Countries*. 1985-1986 Edition. Washington, D.C.: The World Bank.
- _____. "Developments in External Borrowing". *World Debt Tables: External Debt of Developing Countries*. 1983-1984 Edition. Washington, D.C.: The World Bank.
- _____. "Implementing the Consensus". *World Debt Tables: External Debt of Developing Countries*. 1986-1987 Edition. Washington, D.C.: The World Bank.
- _____. "Reversing the Decline". *World Debt Tables: External Debt of Developing Countries*. 1987-1988 Edition. Washington, D.C.: The World Bank.
- _____. "The Evolving Debt Strategy". *World Debt Tables: External Debt of Developing Countries*. 1987-1988 Edition. Washington, D.C.: The World Bank.
- Zuckerman, Sam. "Trading Debt for Bonds - Will the Banks Bite?" *Global Debt: The Equity Solution*. Supplement to *Euromoney and Corporate Finance*. Edited by Paul King. London: Euromoney Publications PLC, January 1988.