

ABSTRACT

Internal Debt in Honduras

by

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The report is divided into two parts to address two related issues concerning domestic debt in Honduras. The first part evaluates the management systems, mechanisms, practices and procedures for obtaining, collecting, processing and exchanging information. It identifies operational and administrative improvements, and recommends specific action in the following areas:

- sources of information on internal debt that feed registry and control operations;
- timeliness and quality of data to be processed by institutions dealing with internal public debt; and
- the coordination of the flow of information on domestic public debt.

The second part examines the global economic aspects of internal debt, and the relationship and coordination between internal debt and other macroeconomic variables, in particular monetary policy. It includes detailed recommendations on the coordination of debt, budgetary and monetary policies at the decision and technical advisory level.

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**The United States Agency for International Development
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INTERNAL DEBT IN HONDURAS

***A Report for the Government of Honduras
Policy Analysis and Implementation Project***

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FOREWORD

This report is concerned with domestic debt in Honduras, in two related but separate issues. The first concerns the operational and institutional aspects involved in internal decision making and generation, handling and transmission of information. The second pertains to the global economic aspects of internal debt, and the relationship and coordination between internal debt and other macroeconomic variables, in particular monetary policy.

The first of these issues is treated in Part 1 (Chapters I through V); the second in Part 2 (Chapters VI through XI). The short Appendixes A and B contain some brief technical material which is not "required reading" for the general comprehension of the report.

Although the two authors have worked together in Honduras and have discussed extensively both parts of the report, Bruno Wyler has been primarily responsible for Part 1, and Leonardo Auernheimer for Part 2.

During their work in Honduras both authors have interviewed with and received substantial and very generous help from many government officials. In particular, they extend their recognition to:

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Lic. Victor Pineda - Debt Service Payments
Lic. Ivan Navarro - Debt Service Payments
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CENTRAL BANK OF HONDURAS

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I.- INTRODUCTION

This first part of the report is concerned with the systems, mechanisms, practices and procedures used for obtaining, collecting, processing and exchanging information at the participating institutions. It begins with a statement of OBJECTIVES as derived from the Terms of Reference; followed by a BACKGROUND section which describes the Legal Framework for internal public debt, the Procedures used in the issuance and administration of Debt Instruments, and the Institutions Involved; and a description of the research METHODOLOGY used. The RESULTS AND RECOMMENDATIONS section identifies the individual issues which surfaced and recommends alternatives for solutions; and it is followed by our SUMMARY CONCLUSIONS.

Objective

The overall objective is to evaluate the existing management systems, mechanisms, practices and procedures for obtaining, collecting, processing and exchanging information by the involved institutions and departments regarding the Government of Honduras' internal public debt; and identify operational, systems and administrative improvements and recommend specific actions in the following areas:

- Sources of information on internal debt that feed registry and control operations.
- Timeliness and quality of data to be processed by institutions dealing with internal public debt.
- How participant institutions coordinate the flow of information on domestic public debt, including:
 - . Systems for recording and controlling information.
 - . The processing and presentation of information in an appropriate format for decision making.
 - . Other Observations and Recommendations related to internal public debt.

II.- BACKGROUND INFORMATION

The structural adjustment program recently adopted by the Government of Honduras (GOH) is expected to change the composition of the sources of funds it uses to finance the fiscal deficit. In particular, the GOH will gradually finance more of its operations through market driven savings mobilizations from domestic and external sources, either through the stock market or through public offerings. Due to the seasonal revenue flows, the GOH will have to fine-tune its open market operations by varying the nature, tenor and interest rate structure of the instruments it issues.

For these reasons, the overall public finance activities need to be reviewed. In particular, the public finance operations of the Ministry of Finance, the Central Bank and other related agencies need to be evaluated for the purpose of establishing operations begin.

To provide a better understanding of the operational issues at hand, it is necessary to describe the Legal Framework within which this debt is issued; the administrative and operational steps taking place; and the institutions presently involved in the emission of new, and in the administration of unexpired, debt instruments used to finance internal public debt.

A.- Legal Framework

The authorizations to issue Treasury Notes and Bonds are contained in government decrees which the National Congress of the Republic of Honduras issues for this purpose or, in special circumstances, in agreements or decrees which originate from the Executive Powers. For each emission of securities there exist regulations and bylaws which address all the specific dispositions for these securities, including negotiation and amortization. In general, almost all bond emissions have similar regulatory characteristics, except certain bonds issued in 1987 and 1988 which have the exceptional peculiarity that they can be negotiated at prices different from their nominal value (at a premium or discount).

The Government of Honduras, to finance the general Expense budget, counts on

revenues from current and capital sources. Current revenues consist of tax and other revenues. Capital revenues, in accordance with the constitutional law of the Budget, do not alter the patrimony of the State ("el patrimonio del Estado"). Such revenues are generated from loans obtained from the external and internal sector. Loans from the internal sector are obtained by means of Treasury Notes of the Central Bank of Honduras, the sale of "Bonos Corrientes" (Regular Bonds) and Financial Bonds to the public and to local banks, and from Bridge Loans provided by the Central Bank.

B.- Debt Instrument Procedures

After approval of the specific decrees for internal debt the following takes place:

1.- TREASURY NOTES

The Treasurer of the Republic maintains a register of the Treasury Notes approved for issuance during the course of the fiscal year, indicating the beginning of the fiscal year, and the total amount of notes approved for issuance this year.

When it is necessary to issue Treasury Notes due to a cash shortfall in the bank account or a budget deficit, the Treasurer completes the Treasury Note in original form only, and numbers it sequentially within the fiscal year. Once prepared and signed by the Treasurer, it is registered in form PA-34 showing required details, and sent for approval and signature by the Minister of Finance and Public Credit via the Public Credit department.

Public Credit, on receipt of the Treasury Notes, verifies that they are within the corresponding legal authorizations and sends them for signature of the Minister of Finance, then to the Central Bank. If there are any problems they communicate with the Treasurer to clarify discrepancies.

The Central Bank accepts, and purchases, the Treasury Notes and deposits the funds in the account the Treasury maintains. A credit advice is sent to the Treasurer advising him of the credit to the account, with copies to the Accounting unit of the Budget department, to Public Credit and the General Accountant of the Republic.

The Treasurer, upon receipt of the credit advice, verifies against form PA-34 that the

correct amount has been deposited in the account, and notes the date of negotiation on the form. He makes the corresponding entries on his cash journal and files the credit advice for further reference.

Public Credit, on receipt of the copy of the credit advice from the Central Bank, gives it to the Registry and Accounting units where it is verified that the total proceeds of the Treasury Notes issued have been deposited in the Treasury account. Then, it prepares form PA-09 "Detalle Diario de Ingresos de Capital" in original and copy, sending the original to the Accounting unit of the Budget department and retaining a copy for reference.

The Accounting unit of the Budget department, on the basis of the credit advice from the Central Bank and from form PA-09 from Public Credit, verifies the accuracy of the deposit made. If all is in order, it sends form PA-09 to the Data Processing department for recording of the revenue received. Daily and monthly the Data Processing department prepares a report of all revenue received. This report is sent to the Treasurer, the Accounting department and to the Revenue unit of the Budget department, and to the General Accountant of the Republic.

At the end of the fiscal year Public Credit effects the transactions necessary to cancel the balance and to convert the outstanding Treasury Notes into "Bonos Corrientes". This is done in collaboration with the Budget and Treasury departments, and the securities to be issued are submitted for approval of the required decree.

2.- BONDS

a.- Provisional Bonds

Initially, Provisional Bonds (bonos provisionales) are issued to enable Public Credit and the Central Bank to repay the Treasury Notes at year end. The Central Bank debits the Treasury account for the total of Treasury Notes outstanding at year end, and credits the Treasury account for the proceeds of the provisional bonds purchased. Copies of the corresponding credit and debit advices are sent to the Treasurer, Public Credit, the accounting unit of the Budget department, and the Accountant General of the Republic.

The Treasurer and Public Credit make the corresponding entries in their records (as described previously). Public Credit also updates form PA-34 regarding the Treasury Notes, and completes the form PA-35 "Bonds Register" showing all required information. It also prepares form PA-09 to record the cash flow, and sends the original to Data Processing for data entry while retaining a copy, as described previously.

Once the conversion has been completed, the Accountant General of the Republic performs the corresponding accounting entries in the General Ledger.

b.- "Bonos Corrientes" and Financial Bonds

Public Credit, on the basis of the corresponding decrees, prepares a draft of the contract between the Ministry of Finance and Public Credit, and the Central Bank, in which the details not covered in the general decree on the use, administration and emission of bonds are addressed. Once the decree has been signed by both parties, the Central Bank proceeds with the sale of the authorized bonds.

Two classes of bonds are issued: "Bonos Corrientes" which pay lower interest rates, are for longer terms (10 years), and which can be redeemed at any time; and Financial Bonds which pay higher interest rates, are issued for shorter terms (6-12 or 18 months), and which can not be redeemed until maturity.

Once the Central Bank sells the Financial Bonds it places the corresponding proceeds in the Treasury account. In the case of "Bonos Corrientes", the Central Bank purchases the total emission and places the total proceeds immediately in the account of the Treasury, even before selling them to the private sector. Credit advices are sent to the Treasurer, the accounting unit of the Budget department, to Public Credit and to the Accountant General of the Republic for these transactions.

Upon receipt of the credit advice the Treasurer makes the corresponding entry of cash revenue in his cash journal and files the advice for reference. Public Credit verifies that the deposit for "Bonos Corrientes" coincides with the emission made. Then it completes form PA-35 "Bonds Register" and PA-09, which it sends to Data Processing for data entry.

The Accountant General of the Republic effects the corresponding entries in the

General Ledger on the basis of the credit advices.

c.- Interest, Commission and Amortization of internal debt

Interest payments and accruals, amortization of debt, and commission due are handled by the Central Bank on the basis of their detailed record. This is done by the Credit and Securities department which prepares, one month in advance, monthly detailed billings for interest, commission and amortization due on bonds subject to amortization. For bonds not amortized, the interest and commission are billed semi-annually one month before due date.

Public Credit verifies these billings against its own records and, if no differences (which is rarely the case), proceeds with the issuance of a payment order which details the underlying payments. Issuing and obtaining all the approvals and signatures for these payment orders is a lengthy process, often causing it to be issued after the payment due date stated in the Central Bank's billing advice. Once the payment order has been properly approved and signed, it is sent to the Treasurer for issuance and signature of the corresponding check to the Central Bank. Copies of the payment order and check issued are forwarded to the various departments at the Ministry of Finance and the Accountant General of the Republic for proper recording and control. Once signed, the Treasurer delivers the check by hand to the Central Bank, which acknowledges receipt. The Central Bank deposits the check into the account "Fondo de Fideicomiso in relation to Debt", and it effects the corresponding interest payments and amortization entries, while retaining the commission payments for its own account. It prepares a debit note of the total payments made to the Treasury account with copies to the Treasury, Public Credit, Budget departments and to the Accountant General of the Republic, who update their respective records.

If, by the due date stated in the billing advice, the Central Bank does not receive the payment check, it charges the Treasury account without further delay and passes the entries as described above. It also sends a debit advice to the responsible parties, who pass corresponding entries and update their records.

Public Credit, after verifying the accuracy of the charge by the Central Bank,

proceeds with the process of issuing a payment order post facto to legitimize the payment made. This payment order goes through the process described above including all the signatures required. However, no check is issued since the Central Bank obtained payment by debiting the Treasury account. Copies of the payment order are sent to the interested parties and records updated accordingly.

For Treasury Notes, the Central Bank collects interest once a year. It prepares an advice or statement of account on the total of interest due by the Ministry of Finance, which it sends to Public Credit. Public Credit verifies the amounts due against its records and, if in agreement, proceeds with the issuance of a payment order and check as described above for bonds related payments. Again, the check must arrive at the Central Bank by the due date to avoid a charge to the Treasury account. Copies of underlying advices are sent to the interested parties for updating of their records.

d.- Redemption of Debt

At the date agreed for redemption, Public Credit requests from Central Bank a detailed listing, by emission, of bonds maintained in the "Fondo en Fideicomiso para la Redencion de la Deuda" account at the Central Bank. Once received, Public Credit analyzes same to determine the amounts which should remain in the account and which have not been redeemed, and it checks that the amounts paid are in accordance with its own records.

After establishing the amounts of those which have not been redeemed, Public Credit with the Vice Minister and the Central Bank determine together the appropriateness of requesting from the bank the return to the Treasury account of the amounts retained and not redeemed. If appropriate and approved by both parties, the Ministry and the Bank, they request the return of those amounts. The Central Bank, after depositing the funds to the Treasury Account, sends credit advices to the various interested parties.

e.- Other Responsibilities

Monthly, Public Credit is required to send to the Accountant General of the Republic five reports related to Treasury Notes, and four reports related to Bonds. The Accountant General, based on the reports received from Public Credit and the Central Bank, prepares

the corresponding accounting entries in the General Ledger and maintains the total balances of internal debt on behalf of the Government of Honduras.

Based on the monthly reports received from Public Credit, the Accountant General compares the balances with the debit and credit advices from the Central Bank to reconcile both records. If there are any differences, they are advised to Public Credit for investigation and resolution.

C.- Institutions Involved

The institutions involved in the operations of internal public debt include the Public Credit, Budget, and Treasury departments of the Ministry of Finance; and the Securities and Credit department of the Central Bank of Honduras. The role of each of these institutions, and the degree of formal and informal operations and information coordination among them, are described below.

1.- MINISTRY OF FINANCE AND PUBLIC CREDIT

a.- Public Credit Department

Public Credit is the department responsible for the direction, supervision and control of all the activities necessary for the negotiation, reaching agreement, renegotiation and readjustment of the public debt. Furthermore, this department proposes criteria for the formulation of public debt policy and its execution, in accordance with the directives issued by the Secretary of Finance.

The department also maintains an information system over public debt; exercises financial control over the resources derived from public debt; and takes care of or supervises, as is the case, the fulfillment of the obligations entered into, including the development of the administrative process with respect to the budgeting of debt service, the program of foreign debt conversion, and the formalization of the bilateral conventions negotiated on the basis of the minutes of the "Club de Paris" accord subscribed on September 14, 1990.

With respect to internal public debt, Public Credit is the central point for issuance,

registry and control. It interacts with the Budget and Treasury departments of the Ministry of Finance, the Central Bank, and the Accountant General to different degrees, as described below and in the previous section on debt instruments.

b.- Budget Department

The Budget department is charged with the responsibility for the development, preparation, control and administration of the projections for the General Budget of Tax Receipts and Expenditures of the Republic; as well as exercising management control and administrative follow-up of the decentralized institutions.

With regard to internal public debt, this department is involved in the decision and authorization process for the issuance of new debt, in the approval of related debt service payments made by Public Credit to the Central Bank, and in the recording of such in the respective budget line items, as described in the debt instrument section.

c.- Treasury Department

The Treasury department is responsible for the handling and care of the public funds by means of the centralized system of Tax Revenue and Expenditures. This includes the final approval of payment orders and the related issuance of checks for funds disbursements, and the issuance of Treasury Notes to cover short term (intra fiscal year) budget deficits and cash shortfalls.

The department is involved in the decision and authorization process regarding the issuance of new long and short term debt, and in the issuance of checks for debt service payments.

2.- CENTRAL BANK OF HONDURAS

a.- Credit and Securities Department

The Credit and Securities department is concerned with the application of the credit policy which the General Management of the Central Bank decides annually for its different monetary programs. In this context, the department is obliged to participate actively in the analysis of the financing which the bank provides to the rest of the banking system through advances and rediscounts, and to the public sector through the emission

and sale/repurchase of securities. It also assists the General Management and the Comision de Cartera (Portfolio Commission) in everything related to credit operations which are performed in this institution.

This includes the coordination and participation in the emission of securities of the State, of public entities, and of official and semi-official banking institutions as well as private enterprises of the country, so that such emissions remain within the market's ability to absorb them. In addition, the department initiates the placement of Government Bonds with the public, the banking system and institutional investors, through promotional activities and publicity.

With respect to internal public debt, the Credit and Securities department acts as issuing and managing agent for a monthly fee, charged over the life of the instrument. The department is involved in all aspects of issuance and administration of internal public debt, including debt sold to and repurchased from the public or other institutions. It initiates billings and entries for debt servicing, and it is in frequent contact with the Public Credit department of the Ministry of Finance and Public Credit. The two departments maintain different detail records of debt issued and sold, and reconciliation differences between these records occur because of timing differences and errors made by either unit in the transcription and recording of information.

b.- Accounting Department

The Accounting department of the Central Bank handles and processes the transactions originated by the Credit and Securities department. With respect to internal debt, its role is limited to the typing of debt service and other billing advices, to making the corresponding accounting and systems entries, and to the forwarding of such advices to Public Credit.

III.- METHODOLOGY

The operational research covered in this part of the report was performed during three visits to Tegucigalpa, Honduras, during the months of June, July and August, 1991. In performing this research, current operational, administrative and accounting procedures, practices and controls were discussed. Where available, written policies, procedures, forms and reports were obtained and reviewed.

Strengths and weaknesses of present practices and systems were discussed with officials and staff in the respective sections of the Public Credit, Treasury, Budget and Technical Assistance departments of the Ministry of Finance and Public Credit; with officials at the Credit and Securities department of the Central Bank and its "Sub-Gerente"; and with the Accountant General of the Republic of Honduras. The information thus obtained served as a basis for the analysis of the existing practices and procedures, the data available at or needed by the various originators and users, and the flows of such data. The results of this analysis, together with our related recommendations, are reflected in the following section of this report.

IV.- RESULTS AND RECOMMENDATIONS

Our analysis of the systems, mechanisms, practices and procedures used for obtaining, collecting, processing and exchanging information on internal public debt resulted in the Observations and Recommendations presented below. They are subdivided by the Objectives stated at the beginning of this report, and numbered sequentially for ease of reference. The subdivision headers are cross referenced to subsections (shown in brackets) of Article III, Section 2.a. of the Terms of Reference of this project.

A.- Sources of Information [TR ii.a)]

1.- SOURCE DOCUMENTS

Registry and Control operations are fed by a variety of source documents, depending on the nature of the transactions involved. These source documents include the decree authorizing the transactions, and the contract, resolution and record of emissions for maintenance of standing data on the Master Files. Furthermore, the registers are fed by source documents which initiate related transactions, such as credit advices for Provisional Bonds issued or for Bonds sold, and debit advices for payments due (interest, commission, amortization, etc.) or for settlement at maturity.

All of these source documents are presently in typed or handwritten text form, and they need to be transcribed to input forms for data entry. While this is a lengthy process where it relates to the emission of new bonds because of the volume of standing data required, these types of transcriptions are relatively infrequent and do not represent a major problem. Regular transactions for debt servicing or bond holder updating, however, are much more frequent and therefore represent more opportunity for errors and delays due to the multiple transcriptions involved.

Recommendation:

Develop source document forms for update/maintenance transactions which contain the data fields of the corresponding data entry screen, arranged so that the data fields

follow the cursor sequence and screen sequence of the system. These source documents may be similar to the input forms presently used, but they should also contain space for additional information, printed text/instructions and authorizations needed by the user(s) but not entered on the system to avoid the need for separate forms.

A second, but less preferable, alternative is to use the existing source documents as a direct input source by having a senior employee "prepare" the source documents for data entry without completing an input form. This preparation entails highlighting (with a color marker) on the source document the information to be entered; validation of the completeness and accuracy of the information shown on the source document; and the correction of errors and addition of missing data such as transaction type ID, bond or customer numbers, etc.. Only after this preparation should the source document be given for data entry.

B.- Timeliness and Quality of Data [TR ii.b)]

There are several factors which affect the timeliness and quality of data being processed by the participating institutions. These involve the extent of data transcriptions involved, transaction flows, absence of formal checking procedures, lack of accountability and of job descriptions, which are addressed below.

2.- MULTIPLE TRANSCRIPTIONS OF DATA

As shown under Source Documents, the need for multiple data transcriptions increases the potential for errors and delays, affecting both the timeliness and quality (accuracy) of data being processed by the participating institutions. Timing of data entry and errors in the data entered are major contributors to reconciling differences between the records of the institutions involved. The following example illustrates this point:

Monthly and semi-annual charges for debt service (interest, commission and amortization) on unredeemed bonds are initiated by the Credit and Securities department of the Central Bank. These charges are listed by hand and calculated manually, involving 57 individual descriptions of charges with corresponding

calculations and filling up to three handwritten pages. This list is then sent to the Accounting department at the Central Bank, where it is typed (first transcription) as part of the debit advice and sent to various parties. One copy is sent to Data Processing at the Central Bank, where the list is entered (second transcription) onto the system either directly, or through preparation (other transcription) of an input form. Another copy is sent to the Public Credit department where the charges are verified and, after resolution of differences, copied (third transcription) onto input forms and entered (fourth transcription) from there into the system.

Recommendation:

The above example involves four, and possibly five, transcriptions of 57 lines of data at different institutions; with all the inherent possibilities for transcription errors and delays which affect quality and timeliness of data. The design of source documents (see separate comment) which serve as the initial record prepared by the Credit and Securities department of the Central Bank, and as input document for all subsequent users, would eliminate the multiple transcriptions and related errors and delays.

3.- TRANSACTION FLOWS

Non-linear and multiple step process flows frequently contribute to unnecessary delays in completing a transaction, entering it on the records of the respective departments on time, and in the possible loss of source documents due to excessive handling. While not necessarily typical, the following description of the processing of payment orders for debt service payments serves as an example.

Payment orders are originated by Public Credit to initiate, among other things, debt service payments to the Central Bank. They are issued either to initiate the issuance of a check by the Treasury department, or to legitimize a charge made by the Central Bank to the Treasury account if the check is not received by the date due. The process of issuing these payment orders, a relatively frequent procedure, involves the following: 30 individual processing steps spread over 11 different areas at the Ministry of Finance, with

the transaction returned 6 times to areas which handled it previously for further processing.

Every movement between people and areas, be it forward, backward or sideways, entails a loss of time due to pick-up and delivery schedules, only periodic emptying of in/out boxes, non-availability or absence of people involved in the process; and the chances for misplacement are greater. In this example, the delays incurred in issuing the payment orders has caused Public Credit to be late in issuing the check to the Central Bank for debt service, resulting in their debit to the Treasury account for amounts based on their records, and at private sector interest rates for all unredeemed bonds.

Recommendation:

The above example indicates a need for streamlining of the transaction flows for debt service procedures, but it also raises a question with respect to the need of a full blown re-approval process and high level signatures for debt service expenditures which are to be expected and budgeted, and which are internal payments to the Central Bank which is responsible for the correct payments to the bond holders.

Changing the form of payment to an internal type of payment order - requiring only the signatures of the Director and Sub-Director (or alternate officer) of Public Credit - would in itself eliminate many of the processing steps described, and expedite the issuance of the check to the Central Bank. This would have the secondary benefit of not being charged for excessive amounts of interest since Public Credit would make payment based on actual bond holder information. Copies of these internal payment orders could be sent to the Budget and other interested departments for updating of their records, disposition of funds, and other tasks; with the right to request corrections within a given limited time frame.

4.-CHECKING FUNCTIONS

The absence of a formal, and documented, verification or checking function leaves room for errors in preparation, transcription and input of data. A review of available

written procedures and of forms used showed no evidence that work prepared by one employee has to be checked by a second employee, and initialled in a designated space to evidence this verification.

While this does not mean that checking is not performed at all, it is usually done in conjunction with the signing of a document by senior level officials who do not have the time to verify the accuracy of every detail before signing. If any checking is performed, it is not presently part of the formal process.

Recommendation:

At each step where a transaction is prepared, a change in data takes place, a transcription occurs and data is entered into a system, there exists a possibility for making an error. To minimize such errors from going undetected, checking functions should be established at key points during the transaction process to ascertain correct execution of these tasks.

These checking functions should be incorporated in new, or added to existing, written procedures; and spaces should be designated on source documents, input forms and systems reports (unless there is electronic authorization and release) to evidence such verification by initials. Absence of such initials in the designated spaces should prevent a transaction from going forward to the next processing step.

5.- ACCOUNTABILITY

Both the makers (preparers) and checkers involved in the processing of a transaction should be held accountable for the quality (accuracy) and timeliness of the work they perform. Accountability is determined through the written assignment of responsibilities in the form of job descriptions (see separate comment), and the means of identifying the person having performed certain tasks.

Furthermore, accountability should also include the accuracy of an originating User department's records, whether they are maintained manually in the department or on an automated system. This involves not only the verification, by the originating user, of input

at the time it is performed through terminal release or a review/approval of batch or master file edit reports, but also a review the following day of the output reports generated by the system to ascertain acceptance and correct processing of the data. Both the input and review should be evidenced by initials in designated spaces.

Recommendation:

Source documents, input forms and batch/master file edit reports should have designated spaces for initials by makers and checkers to determine accountability. If data entry is performed by an area other than the originating department, the accuracy of input is the responsibility of the input section, and input clerks/checkers should initial in designated spaces to evidence execution of their tasks.

However, the verification of next day output reports after processing is the responsibility of the originating department since they are accountable for the accuracy of the departmental records maintained on the system. Furthermore, periodic listings of all outstanding items should be prepared by the system and verified by the User departments to ensure completeness of the data maintained.

6.- JOB DESCRIPTIONS

The section on Accountability makes reference to Job Descriptions to establish an employee's job responsibilities, and to hold him/her accountable for the performance of his/her responsibilities. Job descriptions can be very detailed or relatively general, but they should describe the position level, the reporting relationship, the functions to be performed and the results expected. As such, job descriptions serve as a useful instructional tool for new employees, especially if supplemented with written procedures of their assigned functions, and they reduce confusion and omission of tasks.

Recommendation:

Once the changes resulting from this project have been implemented, it is recommended that Job Descriptions be prepared for each function as it is then performed.

These job descriptions could be prepared by the various departments under the guidance of the Personnel department, or with external assistance.

**C.- Systems for Recording and Controlling
Information [TR ii.c)i]**

7.- INPUT AND CONTROL

The present separation of work origination and input requires certain scheduling and control disciplines to ensure correct, complete and timely data entry. These include submission schedules for the different types of work, daily cutoff times after which work will be held over, batch proofs and controls, input edit checks, and input totals to batch totals and item count reconciliation. While some of these disciplines are currently performed, they are not documented and enforced to ensure a controlled processing of originated data.

Recommendation:

Even though the daily transaction volumes for internal public debt entries are low, the input section also handles other types of transaction with higher volumes. This makes it necessary to establish some form of input and control procedures to ensure timely and complete delivery of input data from the originating department to the input section, and timely and accurate input there. Input scheduling and control procedures, if they are used for other types of transactions, could be expanded to include internal public debt transactions. If no procedures exist, they will have to be developed and adhered to.

8.- USER DATA ENTRY AND USER MANUALS

With the department's acquisition of an IBM AS/400 mini- computer, the opportunity exists to distribute data entry and retrieval to the various Users. These Users may consist of transaction originating departments, accounting, budget and credit departments, and general management; and each should be given access restricted to their needs. Distribution of data entry and retrieval to the various Users would reduce the extent of

document transcriptions, the number of people and departments involved in handling a transaction, the delays between origination and data entry, and it would make the User even more accountable for the accuracy of the records maintained on the system.

Recommendation:

While the above scenario is not unrealistic given the acquired technology, it also transfers new, and unfamiliar, functions and responsibilities to the Users. To facilitate User understanding and acceptance of the systems related functions, several elements need to be considered, including:

- To the extent that Users have difficulties, input and retrieval screens may have to be redesigned to make them more user friendly and less complex, with additional important user instructions (next steps or correction keys) shown at the bottom of each screen.
- User Manuals need to be developed which explain the data fields on each screen, the functions of certain keys, and the various edit and output reports generated by the system.
- With User Manuals as a tool, employees need to be trained in data entry and retrieval procedures, preferably using real transactions in a test mode. Also, the User Manuals can be used to cross-train other employees to reduce dependence on one individual.

The idea here is not to transfer the input clerks from the input section to the originating user where they would continue doing what they did before, even though this may be useful during transition and for User training. Ultimately, the person performing a transaction should be able to do this task directly on the system on the basis of redesigned source documents, eliminating the multiple transcriptions, steps and sections now involved.

9.- WRITTEN OPERATING PROCEDURES

Written operating procedures were received from the various departments addressing the "Control and Accounting of Public Debt" at the Public Credit department, and for "Procedures and Accounting of 'Bonos Consolidacion Deuda Publica'" at the Credit and Securities department of the Central Bank. While these procedures are said to be current, only few employees at Public Credit were aware that they existed, and they lacked certain checking and control features as described elsewhere in this report.

Recommendation:

To serve the purpose intended, operating procedures should be in writing, complete, and in the hands of the users where they serve as a guide and training tool. In view of anticipated processing changes at Public Credit and possibly at the Credit and Securities department of the Central Bank, it will be necessary to extensively revise the existing procedures after the changes have been made, to incorporate missing elements, and to add procedures for processing steps not previously covered, including accounting and control. These procedures should be developed in modular form, permitting additions at a later date and distribution of specific sections to employees performing the respective tasks or being trained in these tasks.

D.- Processing and Presentation of Information [TR ii.c)ii]

10.- COMMON DATA BASE

As described in the preceding sections, the source documents used by the participating institutions for processing of information on the automated system are similar in nature. However, their transcriptions to different input forms at both the Central Bank and Public Credit, and the input of the same data on separate systems at both institutions who maintain similar records, is causing unnecessary duplication of work and records, and related reconciliation differences due to timing of input and as a result of

transcription and input errors.

Recommendation:

While both the Central Bank and Public Credit have different responsibilities with respect to internal public debt - one is the administrator and the second the obligor - they both have a need for similar up-to-date detail information over bonds issued, their holders, on debt service accruals and payments, etc.. Maintaining two different sets of detail records, even if automated, involves substantial reconciliation tasks and investigative time to resolve differences.

Considering that both institutions exercise the internal debt related functions on behalf of the Central Government, and to resolve the problems identified above, the advantages of both institutions sharing a common data base should be evaluated. In this evaluation, the following should be taken into account:

- The data base currently maintained at Public Credit is divided into three master files named Authorization, Emission and Sales. Of the three, only the Sales master file appears to be the one which needs to be shared since it records both the initial sales to the Central Bank, and subsequent transactions with third parties.
- The responsibility for maintaining and updating the Sales master file needs to be decided. Initial sales to the Central Bank and final redemptions from the Central Bank could be processed by Public Credit, but since most resales and repurchases are handled by the Central Bank, they could be processed there.
- Considering that the Sales master file is a sub-file to the Emissions master file, the updating of resales and repurchases by the Central Bank should not represent a conflict since they can be controlled by the Emission master file totals.
- Whichever department is given the responsibility for updating the Sales master file, there should be some form of control by the other department to ensure correct, and timely, file maintenance. This could be achieved by using copies of the Custody Certificates which are issued by the Central Bank when a third party purchases

bonds, and copies of Repurchase/Redemption forms when a repurchase or redemption takes place. These forms should be sequentially numbered so that the other party could use a bar-sheet (sequential number) control to ensure that they receive copies of all forms issued for their verification or input.

11.- SOURCES OF INFORMATION

In general, there appears to be information overload not only because different units produce, reproduce and present the same data in somewhat similar form, but also because the data is not presented in a manner which is most useful to the various User departments or sections, and to the different levels of users.

Information with respect to internal public debt is currently produced by different sources, and presented in the form of computer printouts or statistical tables. These different sources include, among others, the Public Credit and Budget departments at the Ministry of Finance and Public Credit, and the Credit and Securities and the Economics Studies departments of the Central Bank. Because the information used by the Public Credit and Budget departments is based on the records of Public Credit, and the information used by the Central Bank departments is based on the records of Credit and Securities, there are certain divergences in the information presented.

In addition to the potential differences between the information presented, there is also a fact of redundancy and multiple data entry since most of these departments maintain their data on their own departmental Personal Computers. This involves duplicative data entry at those departments which do not have an electronic downloading capability, or which can not update their files from diskettes generated by the systems maintaining the respective information.

Recommendation:

Different User departments have different needs, and within those departments there are different needs depending on assigned functions and management levels. Thus, it is important that these needs be properly defined and that, to the extent possible, the

information they receive meets their needs.

Consequently, it is recommended that both present, and future, users be identified and their information needs defined based on their respective responsibilities. Daily or less frequent reports should be designed meeting their needs, and those reports could be printed on paper, diskette or COM (computer output microfiche) if desirable and available, or they could be available for downloading to PC's. This should include options for reports being generated on demand only, with some available for printing on a departmental printer or shown on the terminal screen.

If the present internal public debt application limits the type of information and reports which can be generated, advantage should be taken of the new AS/400 equipment's "QUERY" function which provides for additional customized reporting capabilities. Using the common data base described previously as a source, the information generated and used by the various Users would be up-to-date and consistent.

12.- PRESENTATION OF INFORMATION

The presentation of information needed for decision making requires careful evaluation of the "decision makers" needs, and of the available alternatives for presenting the information. Aside from the needs mentioned in the section on Sources of Information, the needs of decision makers also include an ability to analyze past history and to model future scenarios, and to have the results presented in summary form and/or in a graphical format.

Recommendation:

To provide management with the best possible information for decision making, the downloading of needed data from the Public Credit department's AS/400 to PC's, and the conversion of such data to spreadsheet or analytical software packages with graphic presentation capabilities, is required to ensure accuracy of the data used and to avoid redundancies. Here again, IBM provides an optional PC Support software package for the AS/400 which enables PC's to communicate directly with the AS/400, or to act as

terminals.

E.- Other Observations and Recommendations

13.- ACCESS RESTRICTIONS

With the new system, and with distributed data entry and retrieval at the Public Credit, Budget and Treasury departments of the Finance Ministry and at the Credit and Securities department of the Central Bank, come new problems of data security.

Recommendation:

For each individual user it will become necessary to establish a profile determining his need to retrieve, update or release information; and to which applications and files he or she should be given this authority to. Separation of update and release functions, for example, is important to prevent the same person (a supervisor or data entry clerk) from entering unauthorized transactions and releasing them him/herself to the system.

14.- VALUE DATES

Interest calculations are presently performed by the system using the batch/transaction date as a basis for computation. If prior date transactions which have a bearing on interest have to be adjusted to correct an error, the transactions of that date plus intervening end-of-day runs have to be reprocessed to ensure correct interest computations.

Recommendation:

To avoid the need for this lengthy reprocessing, it is recommended that a Value Date field be added to the data base and to the transaction input, and that the interest computations be based on the value date of a transaction. The system should be programmed to read the value dates for interest computations, and to recompute all interest due if a backvalue-dated (or forward value) transaction is entered. If no different

value date is entered at the time of input, the system should automatically add the transaction date into the value date field.

15.- ACCOUNTING TREATMENT FOR BONDS SOLD AT DISCOUNT

The accounting treatment for bonds sold at a discount needs to be reviewed in view of the present practice of charging the full discount to interest expense at the time when bonds have been sold or auctioned off. This practice causes substantial distortions in interest expenses during a fiscal period, as exemplified by a charge of Lemp. 34,000,000 earlier this year; and it affects performance against budget. While the practice of selling bonds at discount has been limited by law, the intention of selling bonds through the open market will make discounts, or premiums, from the nominal values a common practice.

Recommendation:

It is recommended that the responsible parties review the applicable accounting practices to determine whether discounts, or premiums, can be spread over the remaining life of the underlying bonds. Such accounting treatment would have reduced the 1991 charge in the above example to less than Lemp. 6,000,000.00 per year for the remaining 6 to 7 years life of these bonds.

V.- SUMMARY CONCLUSIONS

The most significant issues addressed in this first part of the Report are the sharing of a common data base among all Users, and the related changes in responsibilities and operating procedures. Presently, primary Users of this information include the Public Credit department of the Ministry of Finance, and the Credit and Securities department of the Central Bank. Secondary Users include the Budget, Treasury and Economic Studies departments of their respective organizations.

If the alternative discussed in the second part of the Report (Chapter IX.B.2) of shifting sales of new debt to the Public Credit Department would be chosen, then more issuance and distribution responsibilities, and the related data base maintenance, information collection, processing and interchange functions will be under the direct responsibility of the Ministry of Finance, providing a higher degree of technical capabilities and control over the quality and accuracy of data.

A.- Alternatives

To assist in the implementation of the recommendations included in this report, we provide below two Action Plan alternatives. Although they consider ideal and minimum resource availabilities, the most likely solution probably lies somewhere between these two scenarios:

- Alternative I reflects "The Ideal Situation" where there are few, if any, constraints.
- Alternative II reflects what can be executed "At a Minimum" with limited additional resources.

The recommendations are listed in the suggested order in which they should occur within each alternative. In addition they show, in brackets after the text, the reference number assigned to this recommendation in the IV.- RESULTS AND RECOMMENDATIONS [R&R] section of this report.

ALTERNATIVE I - "THE IDEAL SITUATION"

This alternative assumes few, if any, organizational, financial, knowledge and people constraints to execute the tasks involved. It assumes that the installation of the IBM AS/400 computer and departmental terminals/PC's and printers, and the conversion of the internal public debt software package to run on the AS/400, will have been completed.

Furthermore, the assumption is made that agreement will have been reached for the Credit and Securities department at the Central Bank to have input and retrieval capabilities to the internal public debt "Sales" files maintained at Public Credit.

Action Steps:

1. Enable the sharing of the "Sales" data base with other Users, limited to the retrieval/downloading functions for most. Exceptions are the Credit and Securities department of the Central Bank which should be authorized to input and maintain the sales and repurchases to/from third parties [R&R 10.]
2. Analyze all transaction flows, including the issuance of internal payment orders, for the purposes of streamlining and expediting their processing. This should take into account the distributed data entry/retrieval capabilities of the new AS/400 system. [R&R 3.]
3. Distribute data entry/retrieval to original Users based on revised transaction flows: develop User instructions and provide training. Then, based on User Needs, develop security profiles for each User and implement the required file and functional Access Restrictions. [R&R 8. + 13.]
4. Revise the Source Documents used for transactions so that they can also serve as input form to reduce the number of transcriptions needed, and the related delays and errors. [R&R 1. + 2.]
5. As a result of the work done in items 1. through 4., develop new User Manuals for systems users and Operating Procedures for the manual portions of the work. Both procedures should also incorporate the required checking/release functions and evidence thereof. [R&R 9. + 4.]

6. Develop written Input and Control procedures and schedules for distributed data entry and next day verifications. [R&R 7.]
7. Identify the different User departments and individual Users to determine their needs with respect to the content, level of detail, and presentation of the information/reports they require. [R&R 11. + 12.]
8. Explore the possibility of adding a Value Date field to the existing data base to permit backvalued adjustments for interest sensitive transactions entered incorrectly at an earlier date. [R&R 14.]
9. To reduce the impact on current year interest expenses, determine the most appropriate accounting treatment for the discount/premium from nominal value of bonds sold at auctions. [R&R 15.]
10. Develop Job Descriptions to establish the responsibilities assigned to each function, and to provide the means for holding employees accountable for properly executing their responsibilities. [R&R 5. + 6.]

ALTERNATIVE II - "AT A MINIMUM"

This alternative assumes the availability of only limited additional resources to execute the recommended tasks. It also assumes that the installation of the IBM AS/400 computer and departmental terminals/PC's and printers, and the conversion of the internal public debt software package to run on the AS/400, will have been completed. Furthermore, the assumption is made that the Credit and Securities department of the Central Bank will have been given retrieval only (no input) capabilities to the internal public debt "Sales" files maintained at Public Credit.

Action Steps:

1. Enable the sharing of the "Sales" data base with other Users, but limited to the retrieval function only. This includes the Credit and Securities department of the Central Bank, which will be able to access the information for its own needs, and to verify that sales/repurchase transactions they originated have been correctly input

- by Public Credit. [R&R 10.]
2. Distribute data entry/retrieval to original Users based on revised transactions flows; develop User instructions and provide training. Then, based on User Needs, develop security profiles for each User and implement the required file and functional Access Restrictions. [R&R 8. + 13.]
 3. Revise the Source Documents used for transactions so that they can also serve as input form to reduce the number of transcriptions needed, and the related delays and errors. [R&R 1. + 2.]
 4. Develop written Input and Control procedures and schedules for distributed data entry and next day verifications.[R&R 7.]
 5. To reduce the impact on current year interest expenses, determine the most appropriate accounting treatment for the discount/premium from nominal value of bonds sold at auctions. [R&R 15.]
 6. Analyze the transaction flows for internal payment orders for the purposes of streamlining and expediting their issuance, and taking into account the distributed data entry/retrieval capabilities of the new AS/400 system.[R&R 3.]

B.- Additional Considerations

Although the computer hardware will soon be in place to permit the implementation of the changes recommended above, there are many other issues which need to be addressed. These include organizational and administrative issues between the Central Bank and Public Credit, and within Public Credit, as it relates to the streamlining and resultant combining of certain functions such as User data entry for debt service payments. New source documents need to be developed to reduce transcriptions, related errors and delays; transaction flows streamlined; checking functions incorporated in the process; and input and control responsibilities need to be redefined.

User Manuals should be developed for all applications, whether they are maintained by the transaction originating departments or by the input sections; and Users should be given copies and trained in their respective areas of responsibilities. Written Operating

Procedures need to be developed for the non-systems parts of the procedures, taking into account newly assigned functions and the need to include verification and control requirements. Employees should also be trained in these procedures and given copies of applicable sections.

The anticipated move to open market operations, and eventually the possible use of auctions to sell government bonds through the Public Credit Department, bring with them the need for OPERATIONAL READINESS. This means that the Administrative, Accounting, Operations, Systems and Control issues related to this project have to be reviewed and approved by the parties involved, documented in writing, and the staff trained before implementation takes place.

Given all of the above, the question of technical abilities of the staff arises. While the present staff at the institutions directly involved in the administration of internal public debt may not be in a position to implement the recommended changes without additional technical assistance, they appear qualified to perform the required procedures if the proper tools, guidance and training are provided. However, it may be advisable to instill an increased Operations/Production Management discipline in all aspects of the administration of Internal Public Debt to ensure a better quality of operations; and this may best be achieved by recruiting a professional with an Operations, Systems and Accounting background from a private sector institution to supervise the production side of internal public debt.

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**PART 2: THE ECONOMIC SIGNIFICANCE OF THE DOMESTIC DEBT
AND ITS CONNECTION WITH OTHER RELATED POLICY VARIABLES**

VI.- INTRODUCTION

This second part of the report is broadly concerned with the economic implications of the internal debt, and the interrelationships between internal debt and other macroeconomic variables.

Chapter VII starts by suggesting the "overall" government budget constraint as the appropriate framework, which highlights the trade-offs and the relationship between debt, fiscal and monetary policies.

Chapter VII, the longest and more substantial in this second part of the report, analyzes the relationship between domestic debt and monetary policy. This is undoubtedly the most important of the connections between domestic debt and other variables. The Chapter first attempts to measure the "genuine" outstanding central government debt (i.e., debt outside government, and in the hands of the private sector). Next, it tries to approximate a measurement of the relationship between the inflation rate and revenues from the creation of money. This is important because it gives an idea of the implications of price stability (i.e., a low inflation rate) for public finances, and hence for either a deficit reduction or an increase in indebtedness. Expressed in different words that amount to the same, it is important at times in which the objective is not only (and ultimately) to reduce or eliminate the primary deficit, but also to switch the financing of the deficit from inflationary finance to genuine market indebtedness. Lastly, the Chapter considers (and advises against) any intent to "privatize" (i.e., sell to the private market) any portion of the existing stock of government debt held by the central bank.

Chapter IX considers some basic questions concerning open market operations by both the Central Government (more specifically, the Dirección de Crédito Público) and the central bank.

Chapter X contains detailed recommendations concerning the coordination of debt, budgetary and monetary policies at the decision and technical advisory level.

Lastly, Chapter XI summarizes conclusions and recommendations of the second part.

VII.- DOMESTIC DEBT IN THE GLOBAL ECONOMY: SOME BASIC ISSUES

This Chapter is devoted to review some basic issues pertaining to the economic significance of domestic debt and to the most important relationships between domestic debt and other economic variables. In particular, we use the "overall government budget constraint" as a framework, and show the basic connections between indebtedness, primary deficits and financing via the creation of money by the central bank.

A.- The Global Government Budget Constraint

The government budget constraint provides the basic framework for the discussion of the interrelationships between debt (domestic and foreign), primary deficits and financing via the creation of money.

We first need to justify the aggregation that we perform here and in the rest of the report, i.e., the aggregation of the "central government" and the central bank. We consider both as "agencies" of government so that, for example, claims between the central government and the central bank offset each other. The relevant distinction is, then, not between these "agencies" of aggregate government, but between aggregate government and the private sector.

Notice that this is an issue related to, but different than the general question of the "independence" of the central bank. The question of the independence of the central bank refers to the power of the central bank to set its own monetary targets without being pressured by the central government to provide financing via the creation of money. In other words, the question has to do with whether monetary policy accommodates to fiscal policy, or the other way around. Whichever is the case and whichever policy prevails, the truth remains that ultimately these policies are intimately related.

Aggregating central government and central bank, the overall budget constraint can be summarily expressed as

$$(\text{Taxes}) + (\text{Borrowing}) + (\text{Money Creation}) = (\text{Government Expenditures}) + (\text{Interest on Debt})$$

There are several things to be notice about this expression and its components. First, it is identity, that needs to be fulfilled at all times. Second, its components are expressed as flows (i.e., per unit of time, like a month, or a year), either in nominal or in real terms. Third, some of its components require clarification. "Taxes" are, of course, conventional taxes. "Borrowing" (as well as "Interest on Debt") refer to either domestic or international borrowing, and either of these terms could be negative (if government owns assets exceeding its liabilities, and therefore receives rather than pays interest). "Money creation" refers to the creation of monetary base by the central bank, which can be used to finance central government expenditures, or for paying interest on the debt. This is the term sometimes alluded to as the "inflation tax" (which is discussed in some more detail in Appendix B). In real terms, it is equal to the change in the monetary base per period, divided by an appropriate general price level.

A more compact form can be obtained by calling "primary deficit" the difference between government expenditures and conventional taxes, so that the expression becomes

$$(\text{Primary Deficit}) + (\text{Interest on Debt}) = (\text{Borrowing}) + (\text{Money Creation})$$

The left hand side of this expression is sometimes the "total deficit", made up of the primary deficit and the interest on outstanding debt (sometimes called "quasi-fiscal deficit").

The apparent simplicity of this expression should not obscure the fact that it has important implications. The first and most obvious is that of the three policies represented ("fiscal policy", as it relates to the determination of the primary deficit; "debt policy", concerning the handling of borrowing and payment of interest, and "monetary policy", determining money creation) only two can be determined at any one period, with the third having to "accommodate". We discuss these implications, and then some others, in the following Section. Before doing so, we should notice that none of these conclusions, or the ones that follow, depend on which is the exchange rate regime followed by

government.

B.- Consistent and Inconsistent Policies

As mentioned before, the overall government budget constraint limits the government "degrees of freedom" at every point in time, so that if two "policies" are decided upon, the third one is already determined. Sometimes this is referred to as a "consistency".

There is a more important and far-reaching implication, that has to do with the evolution of the components over time. In this implication, the debt plays a primary role. Consider a situation in which, for example, the primary deficit (that can be financed either by borrowing or money creation) is fixed. Suppose also that, because of various considerations, the primary deficit is not financed via money creation. Borrowing (and therefore a continuous increase in the debt) must finance not only the primary deficit but also the increasing interest on the debt. Since there is a limit to what the government can borrow¹, then eventually the primary deficit will need to fall (and even become a surplus to pay for the interest on the debt) or, more likely, inflation would follow. In fact, this is the simple basis for the celebrated "unpleasant monetarist arithmetic"²: a fall in the inflation rate (i.e., a fall in financing via money creation) without a corresponding fall in the primary deficit will eventually lead to higher inflation than before the change. So because when the limit on borrowing is reached, monetary expansion and the resulting inflation would need to be high enough to finance not only the same initial primary deficit but also the interest on the additional debt accumulated in the interim period. In such situations of this type arise, sometimes they are referred to as cases in which the

¹ We are implicitly assuming, for simplicity, that the economy is not growing. If it does still the limit exists, albeit in a slightly more complicated form.

² Name after the pioneering paper by Sargent and Wallace, "Some Unpleasant Monetarist Arithmetic", *Federal Reserve Bank of Minneapolis Quarterly Review*, Fall 1971.

policies are "dynamically inconsistent". This is only but one of the implications.³

These implications are "enriched", or perhaps complicated, by the presence of private markets that can make forecasts within the framework of the budget constraint. Since the deficit is usually a magnitude that is not changed very quickly, and interest payments are fixed in the short run (since they are given by the debt, which is in turn given by past history), the usual result is that monetary policy needs to accommodate. Then, forecasts of future inflation rates are greatly facilitated to markets, which by anticipating the outcome will in general make it happen sooner rather than later.

From the discussion contained in the following Chapters, it is clear that Honduras is not near the situation of some of the countries where these experiences are common occurrence. It is also true that the level of indebtedness in Honduras does not reach dramatic proportions. Yet, it is useful to discuss these implications at this point, because it is also obvious that at any level of indebtedness or inflation the connections between debt and other policies (in particular, monetary policy) are the same. As it is in the case of any country, the same framework is what allows to measure the consequences of choices (for example, between financing through monetary creation or through indebtedness) for the medium and longer run. This is specially important in the current case of Honduras, in which both monetary stability (i.e., a lower inflation rate) and a higher degree of reliance on private markets and the elimination of financial repression are important objectives of policy. The former means that deficits are to be financed genuine market borrowing and not by monetary expansion; the former, that borrowing in the private market is to be subjected to market real interest rates.

³ A recent variety of experiences following more or less these lines abound. Argentina in the early eighties, and Brazil more recently, are very dramatic examples.

VIII.- DEBT FINANCE VERSUS MONEY CREATION FINANCE

A conclusion from the previous Chapter is that the government budget constraint establishes a connection between debt (domestic and foreign), the primary deficit and money creation, and that a realistic analysis should consider the interdependence among these three broad aggregates. The closest and most apparent connection, though, is between domestic debt and money creation. There are several reasons for this to be the case, but the simplest way in which it can be visualized is by considering, for example, the financing of a primary deficit. The central government (Treasury) issues bonds, and the question boils down to whether those bonds are purchased and kept by the central bank (in which case the financing is done via money creation) or they are purchased and kept by the private sector (in which case the financing is done via government indebtedness). This can also be seen in a still more direct way by considering a change in the monetary base by the central bank (say, for the purpose of influencing liquidity conditions in the market); in this case, there is an immediate one to one connection between the initial change in the monetary base and government debt.

Another reason why the connection between the government's domestic debt and money creation becomes important at this point in Honduras is that price stability (and therefore a lower rate of money creation) is clearly a policy objective. For a given external debt, which cannot be substantially changed in the short run, it is important to have an idea of the fiscal consequences of a substitution of domestic debt for inflationary finance, and therefore of the requirements for a reduction of the primary deficit. Again, this is a matter that needs to be addressed within a global framework (of the type we discuss at some length in Chapter X), taking account of foreign debt and the primary deficit as well. What we wish to discuss at this point, and in a very tentative manner, is the question of "marginal trade-offs" between money creation and true domestic government indebtedness. What are the fiscal consequences, other things (the primary deficit, and external debt) the same, of a change from money creation financing to domestic debt financing? This is the fundamental query to be answered when addressing the question

of "coherent policies" on the part of the Central Bank and the agencies of the Ministry of Finance, and "the effects of open market operations on financial markets and monetary targets".

To help answer this question we first calculate the current "true" current government domestic debt (i.e., the part of domestic debt outside government), and its interest costs, both in nominal and in real terms. Secondly, we calculate current revenues from money creation. We then consider both the monetary and the fiscal consequences of transforming part or all of the existing stock of debt in the hands of the central bank into true government debt, i.e., the sale of such debt to the private market (what we call "privatization" of the debt)¹. Such possibility has been discussed in Honduras in the recent past, and still is.

We should stress once more that many of the calculations performed here should be seen as a tentative first approximation.

A.- The Current Level of "Genuine Domestic Debt"

1.- THE STOCK OF EXISTING NOMINAL DEBT

In a strict economic sense, only a relatively small proportion of Honduras "government public debt" is "genuine debt", being held by the private sector and being, therefore, a true liability of the aggregate government sector. As of June 30, 1991, the holding of a total of approximately 3,150 million Lempiras of Central Government debt was distributed as follows:

Central Bank of Honduras:	1,451 Million (47%)
Development Banks and Desc Institutions	210 Million (6.5%)

¹ Notice the difference between the transformation of the flow of financing via money creation into a flow of financing versus genuine debt, with the question of transforming part of the stock of existing government bonds in the hands of the central bank (which is the result of past flows of money creation financing) into debt held by the market.

Insur Companies and Savings and Loans	42 Million (1.3%)	
Commercial Banks	1,046 Million	(33%)
Private Sector	391 Million (12.5%)	

The relevant point, of course, is the appropriate criteria that should be used to group each of these sectors into what should be considered "government" or "private" sector for purposes of the computation of the true government liability. On the basis of our discussion in Chapter VII, we believe an appropriate apportionment is to consider as "government" institutions both development banks and decentralized institutions, as well, of course, as the Central Bank of Honduras. On this basis, the private sector (in which we include commercial banks, insurance companies, savings and loans associations and the public) holds only about 47 per cent of the total. Of this 47 per cent, commercial banks account for the largest proportion (33 per cent of the total).

In assessing the economic significance of the "genuine government debt" in real terms, when part of the debt pays a negative real interest rate, it makes a crucial difference whether one assumes that such debt will be constant, or rising, or falling in real terms. Suppose, for example, that part of the outstanding debt pays a nominal interest rate equal to the inflation rate (i.e., a zero real rate), and that we assume the debt to remain constant in real terms. For this to be the case, then the nominal debt will need to be increasing at the inflation rate, so that the payment of interest happens to be exactly equal, and it is financing by continuous issue of more debt. In real economic terms, then, such debt should be considered as having a value of zero. The most logical treatment would be to consider the debt to remain constant in nominal terms (and, therefore, decreasing in real terms at the inflation rate). The importance of this general point is apparent when we consider the treatment of debt held by commercial banks and financial institutions as part of their reserve requirements.

As of June 1991, commercial banks and other financial institutions held a total of 1,058 million Lempiras in government bonds that pay 4% nominal interest per annum, and which are acceptable as fulfilling the legal reserve requirement, as an alternative to

cash or deposits in the central bank. One possibility is to consider this stock as "genuine government debt", while computing the "inflation tax" over the whole stock of reserves. Another is to exclude this stock from the private held "genuine government debt", while excluding from the inflation tax the interest paid on these bonds. The important point here is that these are "forced holdings" by commercial banks and other financial institutions, and in calculating the economic significance of such debt, the correct assumption is that such debt will, in real terms, be approximately proportional to total reserves. Then, the payment of interest on these bonds should be considered as being paid with the general "inflation tax" on total bank reserves --with the result that the "net inflation tax" will exclude these payments. The treatment we use, then, is to exclude these bonds from the "genuine" government debt in hands of the private sector. On the basis of this criterion, the total nominal "genuine" government debt outstanding as of the end of June 1991 amounts to a total of approximately 475.1 million Lempiras.

2.- REAL INTEREST PAYMENTS, AND THE REAL EXISTING "GENUINE" DEBT

We turn now to the real economic significance of the current nominal government debt outstanding. As a general reference, Table 1 shows, first, the stock of central government debt held outside the central bank, classified by their nominal interest. It also shows the flow of nominal interest payment for the "genuine" outstanding debt, explicitly eliminating the interest payment on debt paying 4 per cent (held mostly by commercial banks, and to a much lesser extent, by savings and loans associations). All magnitudes in Table 1 are in millions of Lempiras, and they refer to the end of June 1991.

The assessment of the real economic meaning of this debt requires, first, a calculation of their current real value, i.e., the present value of the future stream of interest payments, which is fixed in nominal terms. If there is inflation in the future, the real value of those fixed nominal interest payments will be decreasing over time. The present value of those future real interest payments depends, then, on the rate of inflation assumed to take place in the future. It also depends on what real interest rate is used to

<u>NOMINAL STOCK</u>										
	Interest Rate							Agr Debt		TOTAL
	4 %	7 %	9 %	10 %	11 %	12 %	13 %	2,4,6 %		
COMMERCIAL BANKS	1,015.9	2.5	0.0	0.4	9.1	1.0	1.7	1.1	1,047	
S&L ASSOCIATIONS	37.6	0.0	1.2	0.0	0.0	0.0	0.0	0.0	39	
INSURANCE COMPANIES	0.0	0.0	0.6	0.0	11.0	1.0	0.0	0.0	13	
DEVELOPH BANKS	4.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	5	
DESCENTRAL INSTITUTION	0.0	0.0	0.0	67.6	64.8	65.7	6.0	0.0	204	
PRIVATE SECTOR	0.0	0.0	0.0	189.6	101.6	48.0	52.2	0.0	391	
TOTAL:	1,058	3	17	258	186	116	60	3	1,700	

<u>NOMINAL INTEREST PAYMENTS</u>										
	Interest Rate							Agr Debt		TOTAL
	4 %	7 %	9 %	10 %	11 %	12 %	13 %	2,4,6 %		
COMMERCIAL BANKS		0.2	1.4	0.0	1.0	0.1	0.2	0.0	3.0	
S&L ASSOCIATIONS		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	
INSURANCE COMPANIES		0.0	0.1	0.0	1.2	0.1	0.0	0.0	1.4	
PRIVATE SECTOR		0.0	0.0	19.0	11.2	5.8	6.8	0.0	42.7	
TOTAL:	0.0	0.2	1.5	19.0	13.4	6.0	7.0	0.0	47.1	

Table I

calculate the present value. In order to illustrate these possibilities, Table 2 shows, first, calculated present values, and second, the real value of what would be a constant real interest payment for each alternative. Figures 1 and 2 show the graphical representation of these numbers.

PRESENT VALUE					REAL ANNUAL PNTS				
INFL	2%	Real Int Rate 3%	4%	5%	INFL	2%	Real Int Rate 3%	4%	5%
0.00	2357	1571	1178	943	0.00	47.1	47.1	47.1	47.1
0.01	1571	1178	943	786	0.01	31.4	35.4	37.7	39.3
0.02	1178	943	786	673	0.02	23.6	28.3	31.4	33.7
0.03	943	786	673	589	0.03	18.9	23.6	26.9	29.5
0.04	786	673	589	524	0.04	15.7	20.2	23.6	26.2
0.05	673	589	524	471	0.05	13.5	17.7	20.9	23.6
0.06	589	524	471	429	0.06	11.8	15.7	18.9	21.4
0.07	524	471	429	393	0.07	10.5	14.1	17.1	19.6
0.08	471	429	393	363	0.08	9.4	12.9	15.7	18.1
0.09	429	393	363	337	0.09	8.6	11.8	14.5	16.8
0.10	393	363	337	314	0.10	7.9	10.9	13.5	15.7
0.11	363	337	314	295	0.11	7.3	10.1	12.6	14.7
0.12	337	314	295	277	0.12	6.7	9.4	11.8	13.9
0.13	314	295	277	262	0.13	6.3	8.8	11.1	13.1
0.14	295	277	262	248	0.14	5.9	8.3	10.5	12.4
0.15	277	262	248	236	0.15	5.5	7.9	9.9	11.8
0.16	262	248	236	224	0.16	5.2	7.4	9.4	11.2
0.17	248	236	224	214	0.17	5.0	7.1	9.0	10.7
0.18	236	224	214	205	0.18	4.7	6.7	8.6	10.2
0.19	224	214	205	196	0.19	4.5	6.4	8.2	9.8
0.20	214	205	196	189	0.20	4.3	6.1	7.9	9.4
0.21	205	196	189	181	0.21	4.1	5.9	7.5	9.1
0.22	196	189	181	175	0.22	3.9	5.7	7.3	8.7
0.23	189	181	175	168	0.23	3.8	5.4	7.0	8.4
0.24	181	175	168	163	0.24	3.6	5.2	6.7	8.1
0.25	175	168	163	157	0.25	3.5	5.1	6.5	7.9
0.26	168	163	157	152	0.26	3.4	4.9	6.3	7.6
0.27	163	157	152	147	0.27	3.3	4.7	6.1	7.4
0.28	157	152	147	143	0.28	3.1	4.6	5.9	7.1
0.29	152	147	143	139	0.29	3.0	4.4	5.7	6.9
0.30	147	143	139	135	0.30	2.9	4.3	5.5	6.7
0.31	143	139	135	131	0.31	2.9	4.2	5.4	6.5
0.32	139	135	131	127	0.32	2.8	4.0	5.2	6.4
0.33	135	131	127	124	0.33	2.7	3.9	5.1	6.2
0.34	131	127	124	121	0.34	2.6	3.8	5.0	6.0
0.35	127	124	121	118	0.35	2.5	3.7	4.8	5.9
0.36	124	121	118	115	0.36	2.5	3.6	4.7	5.7
0.37	121	118	115	112	0.37	2.4	3.5	4.6	5.6
0.38	118	115	112	110	0.38	2.4	3.4	4.5	5.5
0.39	115	112	110	107	0.39	2.3	3.4	4.4	5.4
0.40	112	110	107	105	0.40	2.2	3.3	4.3	5.2

Table 2

Consider in some more detail, first, the meaning of the present value calculations. Interest on the outstanding current debt is fixed in nominal terms; for the stock currently outstanding, then, interest payments are fixed in nominal terms (with a total of 47.1

million current Lempiras).² As mentioned before, what the real value of those fixed interest payments will be in the future depends on the future prevailing inflation rate: the higher the average future inflation rate, the faster the real value of those nominal payments will fall. As it is shown in the first column of Table 2, we take possible future average inflation rates ranging from zero to 40 per cent per year.

What would then be the current real level of such debt? Simply the present value of that future real stream of interest payments.³ For the computation of this present value, of course, a real "rate of discount" is needed. As the headings of the left side of Table 2 shows, we have taken the cases of real discount rates of 2, 3, 4 and 5 per cent per year as plausible numbers.^{4,5}

Notice that the above procedure is the equivalent of discounting the future fixed flow of interest payments at some nominal interest rate (which is the sum of an inflation rate expected to prevail in the future and a real interest rate). The advantage of our procedure is that we can make explicit the alternative assumptions about future inflation rates, on one side, and about the real interest rate, on the other.

Notice that the computed present values, if they are correct, would coincide with the market evaluation of the current stock of outstanding debt. Such present value and market evaluation will approximately coincide with the current nominal value whenever the sum of the future inflation rate and the real discount rate are the same as the nominal interest rate paid. Take, for example, the case of an 8 per cent per year average future inflation, and a real discount rate of 2 per cent per year. What the numbers of Table 2

² The value $(47.1/475.1) = .10$ is, then, an "average" of the nominal interest on the existing debt.

³ The present value, of course, is nothing else than the sum of every future payment, "brought back" to the present through discounting by an appropriate real interest rate.

⁴ Note that we are assuming all debt to have infinity maturity (i.e., as if were made up exclusively of perpetuities). Although the difference is small for a sufficiently long maturity (say, ten years), a more detailed analysis should take account of this.

⁵ This real "discount rate" should be interpreted as the real market rate at which government could borrow in the open market, domestic or international.

shows is that the real present value of the outstanding debt is 471 million, which is approximately the current value today (475.1 million Lempiras). This is so because $(8 + 2) = 10$ per cent, which is approximately the average nominal interest rate paid. Any future higher rate of inflation and/or real rate of discount would yield a present value smaller than the current amount, and viceversa.

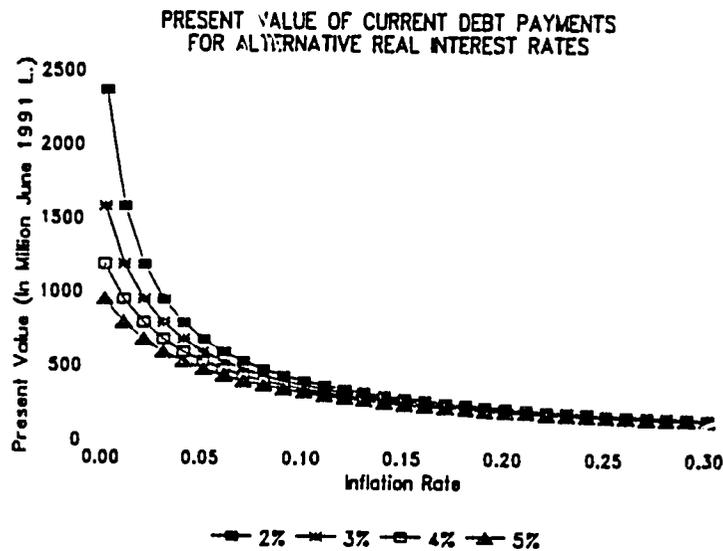


Figure 1

Figure 1 is a representation of the values in the left hand side of Table 2. Notice how quickly, as the future average inflation rate rises, the real present value falls. Notice also that for a 5 per cent future average inflation rate the difference among present values for alternative real discount rates becomes rather small, and practically negligible for inflation rates of 10 per cent and higher.

The second part of Table 2 contains the constant equivalents of the flow of real interest payments, again for alternative future average inflation rates and real discount rates. Of course, for any portion of the existing debt, constant in nominal terms, if

inflation is positive then the real flow of interest payments gradually decreases over time. What the r.h.s. of Table 2 shows is the "constant equivalent", of such payments, and this is shown for purposes of comparison.⁶ Notice that if the future average inflation rate is assumed to be zero, then this value equals the current interest payment (47.1 million Lempiras).

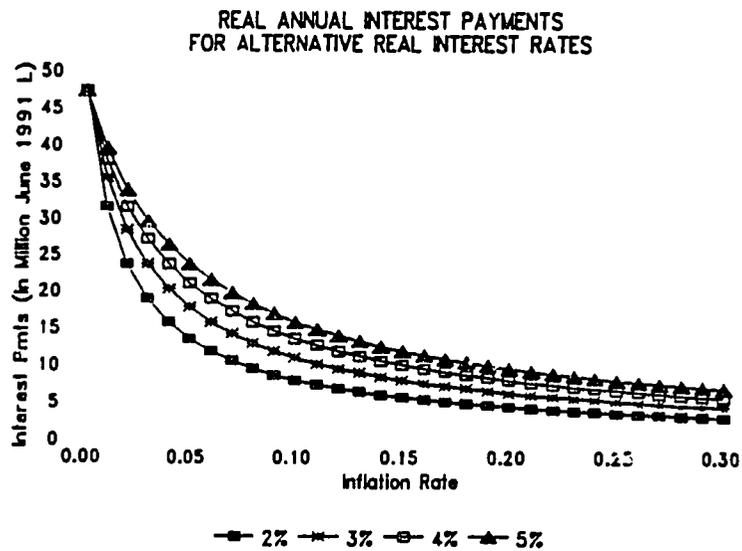


Figure 2

The graph in Figure 2 shows these "constant equivalent" payments. Notice that for future inflation rates in the same range as current rates (say, around 20 per cent per year), the "constant equivalent" real payment for a real discount rate of 3% is of approximately 4 million (more accurately, 4.3 million) current (June 1991) Lempiras. A fall to a permanent average inflation rate of 10 per cent per year raises the real payment

⁶ Of course, the present value of such "constant equivalent" is equal to the present value of the real payment decreasing over time at the rate of inflation.

to up to almost 11 million Lempiras, and a fall to a 5 per cent inflation rate would raise those payments to around 17.7 million Lempiras.

Of course, the substance of these calculation is the well known notion that unexpected inflation helps to "melt away" debt fixed in nominal terms, and the reverse. What we have indicated here is a plausible range for the particular numbers. Notice that these changes in the real value of nominal debt due to changes in the inflation rate are of a different nature than the so-called "inflation tax". The only thing these two concepts have in common is that government just happens to be the debtor, and as any other debtor in nominal terms, it will benefit from higher inflation and viceversa. Of course, this conclusion is only a factual statement about the effects of inflation on the financial government position as a nominal debt holder; it would be a great mistake to see this as an argument for higher rather than lower inflation, which has far more important negative effects in terms of resource allocation and even government's credibility.

B.- Revenues from Money Creation, and the Inflation Tax

In this Section we try to both quantify the level of the current and past "aggregate government" revenues from money creation, and construct some crude estimates of what it may be called "the cost of price stability", i.e., what would be the loss in real revenue from money creation for alternative falls in the rate of inflation. Of course, this could be also called, perhaps more accurately, "the stability gains" of going from money creation to genuine debt financing.

1.- CURRENT AND PAST REVENUES FROM MONEY CREATION

As presented it in the previous Chapter (and is further discussed in Appendix A), the total real flow of revenue from money creation is simply the increase in the nominal monetary base during a certain period (bank reserves plus currency in hands of the public), minus any interest paid on reserves, divided by the general price level during the period.

The first task is then to calculate the nominal monetary base, and the changes Table 3 shows the relevant aggregates starting in January 1985. Required reserves over total deposits are taken to be 32 per cent for 1985, 1986 and 1987, and 35 per cent from then on. Time deposits on savings and loans associations carry only a 15 per cent requirement in all years, but we did not take this proportionally small difference into account in this first approximation. We take the difference between required reserves and vault cash plus deposits in the central bank to be made up of bonds. For the latest numbers in 1991, the difference between this residual and the 4 per cent interest bonds in the information reported by the central bank is of the order of 10 per cent. The monetary base, of course, is the sum of total reserves plus cash in hands of the public. The change in the nominal base is reported in Table 3 for every month; the last column, which is the revenue from money creation, is the real value (deflated by the CPI)⁷ of changes in the nominal base minus the 4 per cent per year interest paid on bonds.

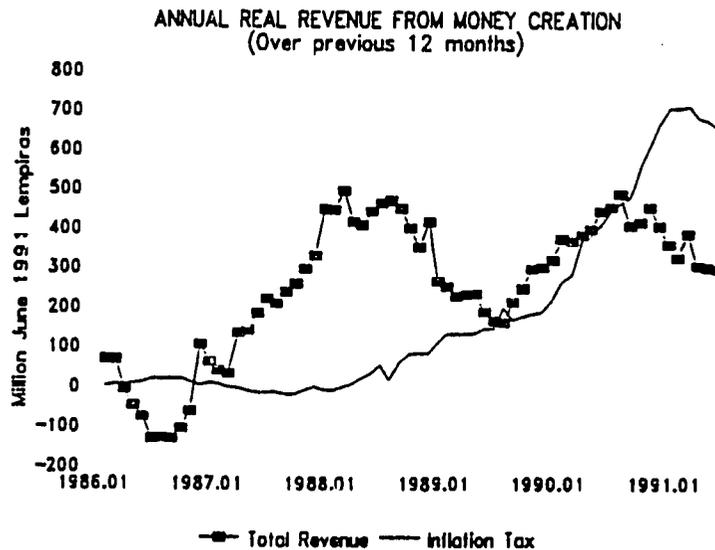


Figure 3

⁷ Since we are using the CPI for June 1991 to be the base year, then real values are in Lempiras of that date.

(In Million Lempiras)

	TOTAL DEPOSITS	REQU RES	DEPOS BCH	CASH	CASH & DEPOS TN BCH	BONDS	CASH PUBLIC	MONET BASE	CHANGE NOMINAL BASE	REAL VALUE CHANGE IN BAS MINUS INTERES
1986.01	1,637	524	111	46	157	367	808	936	1.30	0.31
1986.02	1,655	530	109	40	149	381	824	971	35.53	68.28
1986.03	1,674	536	94	63	157	379	879	972	0.41	-1.57
1986.04	1,662	532	100	45	145	387	863	936	-36.30	-74.00
1986.05	1,659	531	87	40	127	404	798	916	-19.86	-41.34
1986.06	1,673	535	75	43	118	417	757	902	-13.62	-28.90
1986.07	1,646	527	78	45	123	404	719	874	-28.08	-56.75
1986.08	1,658	531	86	38	124	406	675	877	2.70	3.10
1986.09	1,677	537	103	45	148	388	672	877	-0.04	-2.23
1986.10	1,674	536	96	39	135	400	659	892	14.88	26.56
1986.11	1,712	548	80	42	121	427	688	915	23.85	43.90
1986.12	1,829	585	109	59	169	417	711	1,003	87.74	167.58
1987.01	1,829	585	105	45	150	435	809	982	-21.20	-43.39
1987.02	1,836	587	97	44	141	447	766	1,007	24.62	44.92
1987.03	1,898	607	108	53	160	447	807	1,004	-2.93	-8.10
1987.04	1,930	618	80	46	127	491	763	1,019	15.10	26.55
1987.05	1,911	612	69	42	112	500	771	1,003	-15.85	-32.93
1987.06	1,978	633	64	49	113	519	752	1,011	8.48	13.81
1987.07	1,954	625	78	42	119	506	727	1,002	-9.62	-20.79
1987.08	1,967	629	89	48	138	492	717	998	-0.57	-9.23
1987.09	2,030	650	109	49	158	492	701	1,014	15.42	26.85
1987.10	2,029	649	99	40	138	511	692	1,040	26.32	47.38
1987.11	2,085	667	81	51	133	535	741	1,084	44.31	81.49
1987.12	2,220	710	99	58	157	554	789	1,193	108.98	202.27
1988.01	2,201	770	80	50	130	640	910	1,254	40.28	72.89
1988.02	2,259	791	79	58	137	653	873	1,258	24.39	42.76
1988.03	2,293	802	100	54	154	649	879	1,281	22.87	39.68
1988.04	2,290	801	88	49	137	665	896	1,255	-25.88	-51.30
1988.05	2,289	801	102	55	157	644	845	1,235	-19.55	-39.22
1988.06	2,379	833	140	55	195	637	804	1,263	27.33	47.17
1988.07	2,367	829	126	49	175	653	791	1,264	1.38	-0.61
1988.08	2,363	827	134	60	194	633	788	1,265	0.72	-1.78
1988.09	2,361	826	123	49	173	654	804	1,271	5.84	7.40
1988.10	2,364	827	128	57	185	643	801	1,271	0.52	-2.19
1988.11	2,378	832	139	60	199	633	790	1,291	20.09	32.44
1988.12	2,524	883	171	61	232	652	814	1,445	153.28	266.87
1989.01	2,507	878	166	66	231	646	990	1,403	-41.68	-76.26
1989.02	2,549	892	169	66	235	657	918	1,421	18.13	27.81
1989.03	2,547	891	156	66	223	669	913	1,433	11.77	16.74
1989.04	2,480	868	180	54	233	635	932	1,406	-26.62	-49.04
1989.05	2,521	882	168	63	231	652	922	1,386	-19.81	-37.07
1989.06	2,514	880	165	56	220	659	857	1,389	2.91	1.49
1989.07	2,510	878	162	64	225	653	856	1,378	-11.26	-21.99
1989.08	2,512	879	180	63	243	636	826	1,376	-1.84	-6.39
1989.09	2,609	913	183	57	240	673	816	1,416	39.36	60.72
1989.10	2,629	920	181	63	244	676	820	1,437	21.89	31.63
1989.11	2,696	943	200	70	270	674	831	1,491	53.75	81.94
1989.12	2,851	998	246	73	319	678	872	1,664	172.82	269.64
1990.01	2,839	993	185	74	260	734	1055	1,630	-34.27	-57.16
1990.02	2,911	1,019	203	76	279	739	987	1,686	56.24	80.54
1990.03	2,938	1,028	197	68	265	763	1005	1,697	10.82	11.98
1990.04	2,935	1,027	206	73	278	749	997	1,676	-20.44	-33.40
1990.05	2,941	1,029	181	76	256	773	930	1,663	-13.03	-22.51
1990.06	3,019	1,057	203	67	270	786	897	1,699	36.13	45.78
1990.07	3,051	1,068	193	75	268	800	888	1,694	-5.68	-11.75
1990.08	3,043	1,065	181	70	251	814	838	1,718	24.40	27.97
1990.09	3,045	1,066	185	69	254	812	862	1,706	-11.76	-19.47
1990.10	3,035	1,062	190	83	273	790	833	1,743	36.26	40.49
1990.11	3,142	1,100	168	78	246	854	840	1,847	104.62	119.75
1990.12	3,350	1,173	207	105	312	861	892	2,041	194.47	220.77
1991.01	3,312	1,159	194	100	294	866	1009	1,955	-86.60	-101.38
1991.02	3,380	1,183	190	104	294	889	887	2,002	47.75	46.55
1991.03	3,455	1,209	197	96	293	916	883	2,074	71.26	70.69
1991.04	3,370	1,179	215	92	307	873	919	1,968	-105.16	-113.08
1991.05	3,336	1,167	172	89	261	907	812	1,946	-22.13	-27.30
1991.06	3,468	1,214	197	85	281	932	793	1,995	48.54	43.65

Table 3

The graph in Figure 3 shows the behavior of these revenues. Given the usual variability of monthly changes in the nominal base, we have "accumulated" the monthly revenues reported in Table 3, and then find the change in that accumulated value, for every month, over the last 12 months. This yields, of course, an annual real revenue, which for the last month computed of June 1991 amounts to approximately 300 million Lempiras (of June 1991) per year.

The graph in Figure 3 also shows the "inflation tax", i.e., the product of the real base times the inflation rate, the latter being the annual (previous 12 months) rate. As explained in Chapter VII, the difference between total (or, rather, net) real revenues from money creation and the inflation tax is the change in the real base (See Appendix A). If the revenue is higher than the inflation tax, this means that the real base is growing, and viceversa. In the case of the magnitudes represented in Figure 3, which shows real revenues and the inflation tax during the previous 12 months, then, the relationship between these two magnitudes reflect changes in the real base with a lag. The first thing to notice is that for a long period (since early 1987 to the early part of 1990) the revenues have exceeded (or been equal to, in mid-1989) the inflation tax, what means that the real base was rising. Starting in mid-1990, the inflation tax has been consistently higher than revenues --i.e., the real base has been falling. This can be easily seen in the graph of Figure 4, which depicts the behavior of the real base since 1986. Notice, for example, in Figure 3, that it is in mid-1990 that the inflation tax starts exceeding revenues; this reflects, with the lag mentioned before, the effects of a falling real base that starts 6 months later, at the beginning of 1990.

A second thing to notice in Figure 3 is the consistency in the growth of the inflation tax between January of 1988 and January of 1991. From visual inspection it is obvious that the inflation tax during that period has being growing at an increasing rate.

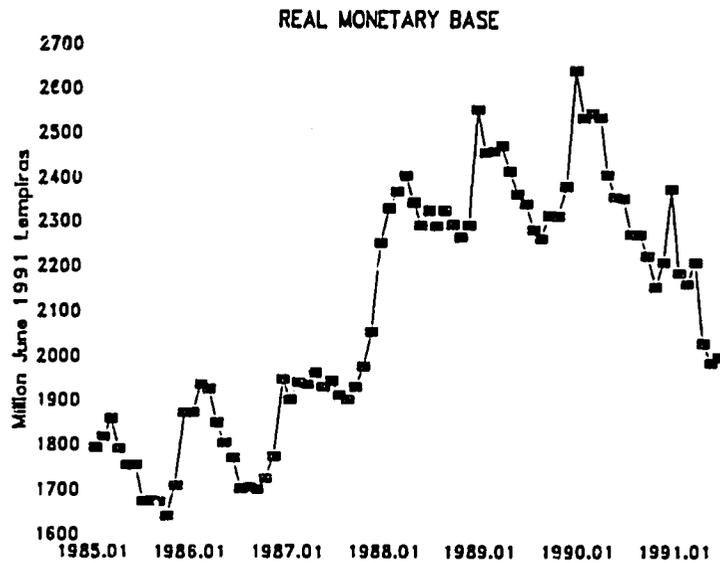


Figure 4

2.- IN SEARCH OF A STABLE RELATIONSHIP BETWEEN INFLATION AND THE REAL MONETARY BASE

What is relevant for current and future policy is, of course, a reliable estimate, at least for the long run, of a stable relationship between real monetary aggregates (specifically, the real monetary base) and the inflation rate. Since the "inflation tax" (which in the long run and in the absence of growth is equal to total revenues from money creation) is equal to the product of the inflation rate and the monetary base, such an estimate allows to assess the fiscal effects (lower revenues from money creation) of a lower long run inflation rate. Unfortunately, such an estimate is very difficult to obtain in general, and it is clearly beyond the scope of this report. Additionally, there are serious doubts about the robustness of such estimate in cases in which there an important change in policy medium and long term policy (what sometimes is called a "change in regime"). This is precisely the case Honduras, where current efforts are addressed to price stability; and important reductions in the deficit.

It is also particularly difficult to derive such an estimate in the case of Honduras,

which at least since 1986 shows a very peculiar pattern of the real monetary aggregates. Typically, for example, the real aggregate M1 (i.e., the sum of currency in the hands of the public and demand deposits) is seen (other things the same) as inversely related to the inflation rate. Since demand deposits do not pay interest, and neither does currency, then a higher inflation rate is a higher "cost of holding" M1. The graph in Figure 5 shows the behavior of real M1 (measured on the left hand side vertical axis, in terms of June 1991 Lempiras) and the annual inflation rate (over the previous 12 months), measured on the right hand side vertical axis. It is obvious that, in spite of ups and downs in real M1 (mostly due to seasonal factors), between the beginning of 1988 and the beginning of 1990 the trend is definitely of sustained growth, while for the same period the inflation rate was consistently growing.⁸ It is only since the beginning of 1990 that the "correct" relationship can be detected. The association of the inflation rate with the real base (and also with other real deposits) is not very different.

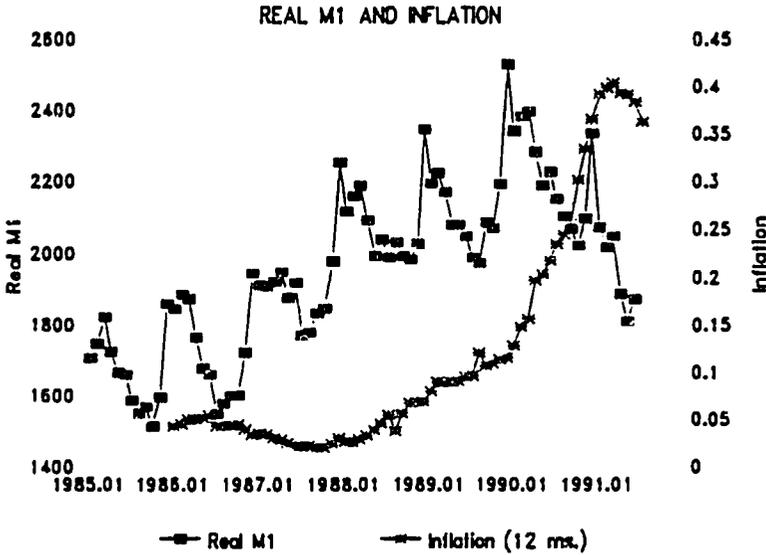


Figure 5

⁸ Growth of the economy (which would explain a consistent growth in real M1), does not help much in this case.

Because a tentative estimation, if taken cautiously and only as indicative, is better than no estimate at all, and because one is needed for policy design, we have nevertheless calculated a long-run relationship between the real monetary base and inflation. The technical details are relegated to Appendix B.⁹

The tentative relationship derived between the inflation rate and the long run real flow of the inflation tax (which is shown in the graph of Figure 6) indicates an "elasticity" of real long-run revenues with respect to the long-run inflation rate¹⁰ which is equal to one minus the product of the coefficient $\mu = .5358$ and the initial inflation rate. For example, in the neighborhood of, say, a 20 per cent inflation rate, such elasticity is equal to $\{1 - [.20 \mu]\} = \{1 - [.20 \times .5358]\} = \{1 - .10716\} = .8929$, i.e. around .9. This means that for each 1 per cent fall in long-run inflation (in this case 2 annual inflation points), long-run real revenues would fall by about .9 per cent. At the level of an inflation rate of 20 per cent per year, as shown in Figure 6, the estimated long-run real inflation tax is around 400 million Lempiras (of June 1991); therefore, a 2 percentage points reduction in inflation, from 20 to 18 per cent, would bring a permanent reduction of real revenues of a bit more than 7 million Lempiras per year. As it can be seen from the graph in Figure 6, a more substantial fall in the long run inflation rate (from, say, 20 per cent to 10 per cent) implies a fall in real revenues from 400 to 200 million Lempiras.

⁹ Here we need only mention that we have tried to find a stable relationship between the levels of M1 and prices, compute the implied inflation rate, and on this basis estimate the relationship between this inflation rate and real M1 for the last 17 observations, and from there on exploit the relationship between real M1 and the real monetary base.

¹⁰ I.e., the percentage change in real revenues for every percentage change in the inflation rate.

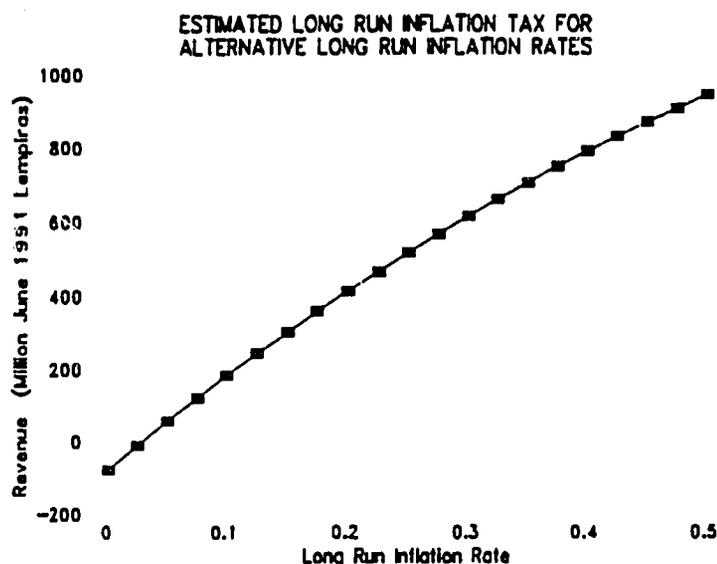


Figure 6

Several important things should be noticed and stressed with respect to these estimates and their implications.

First, the estimates and the relationship described in Figure 6 are long run relationships, for the case of an average constant inflation rate.

Second, the relationship described in Figure 6 assumes no growth, although it can easily be modified --essentially, a sustained 1 per cent growth per year having the same effect on revenues as a one percentage point higher inflation rate.

Third, notice that in the graph of Figure 6 a zero inflation rate corresponds to a negative inflation tax (and, therefore, a zero revenue from the inflation tax corresponds to a small positive inflation rate. This is due to the payments of interest on the bonds held by the banking system as part of their required reserves.

Fourth, as it was discussed in Chapter VII and is shown in Appendix B, the relationship presented in Figure 6 has a maximum given a sufficiently high inflation rate, after which further increases in inflation decrease the inflation tax. This maximum occurs at a level of the inflation rate equal to the inverse of the coefficient μ , which in this case

is at a rate $(1/\mu) = (1/.5358) = 1.86$, or 186 per cent per year.

One of the policy conclusions that can be derived from these numbers is, for example, that a permanent reduction of the long-run inflation rate from 20 to 10 per cent per year which would reduce the inflation tax revenues by 200 million Lempiras, would require an equal reduction in the net primary deficit from 737 million Lempiras (the number estimated for 1990) to 537 million Lempiras, unless genuine outstanding government debt would keep increasing. This would amount to a necessary reduction in the deficit from 6.3 per cent to 4.6 of GDP (i.e., by 1.7 percentage points of GDP) --a change that certainly is within reach.

A couple of additional points should be kept in mind when evaluating these results:

(i) First, these estimates should be taken only as indicative (and, perhaps more so, as an example of the general methodology to be followed in further work).

In particular, the estimates are extremely sensitive to changes in the sample period, possible lags, etcetera. They were obtained with very few observations, and during the recent one and a half years, in which real monetary aggregates were probably reacting with long lags to previous high increases in the inflation rate.

(ii) Second, being the measurements shown in Figure 6 valid for the long run, they do not take into account the once-and-for-all gains that take place during the passage from a higher to a lower permanent inflation rate. The graph in Figure 6, which relates the estimated real monetary base to the long-run inflation rate, suggests that, for example, a fall of the inflation rate from 20 to 10 per cent should bring, during the transition to the new equilibrium, a once-and-for-all revenue gain of around 150 million Lempiras.¹¹

¹¹ This happens, of course, because during the adjustment the real base will be growing, and the revenue from money creation will exceed the inflation tax.

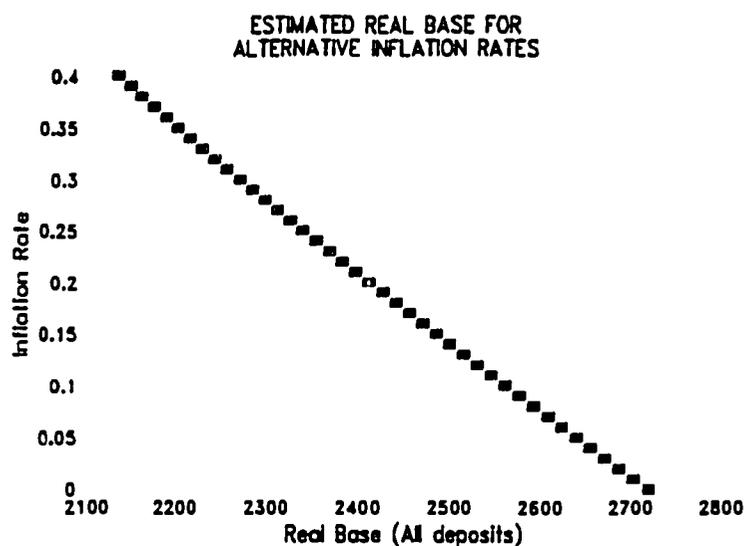


Figure 7

C.- The "Trade Off" between Debt and Money Creation Financing

The two previous Sections have analyzed the current "genuine" outstanding government debt, and the relationship between inflation and the revenues from money creation, and they set forward the basic elements for discussing the "trade-off" between financing via genuine government indebtedness and financing via money creation. In fact, after those basic elements have been clarified, the discussion becomes quite straightforward. There are two important points that need to be kept in mind, though.

First, when considering the passage of "inflationary" finance to genuine debt financing, account should be taken of the increase in the real value of interest payments on the outstanding debt, on which interest is fixed in nominal terms. This point was discussed in detail in Section A. For example, in considering a lowering of a long term rate of 20 per cent per year to 10 per cent per year (as we did in the previous Section), the numbers in Table 2 indicate that the "constant equivalent" of real interest payments on the currently outstanding debt (for the case, say, of a real discount rate of 3 per cent) would rise from 6.1 to 10.9 million of June 1991 Lempiras. I.e., there would be a

"permanent loss" of about 5 million Lempiras per year. This is another "financial cost" of lowering the inflation rate (although amounting only to 2.5 % of the loss in inflation revenues). Notice, though, that a further reduction of the long-run inflation rate from 10 to 5 per cent, would imply an additional permanent loss of 10 million real Lempiras per year.

The second point that should be kept in mind has to do with some of the questions discussed in Chapter VII, i.e., the growth of government's real debt overtime if real interest is financed by additional borrowing. If the long-run inflation rate is reduced by lowering the rate of money growth, and the primary deficit is not reduced commensurately then the government program is not going to be "consistent"¹², and the stabilization effort will be short-lived. The alternative of financing real interest by more additional borrowing for a limited time, unless this time is very brief, although attractive in the short run, can be dangerous. At the time at which the growth of real debt needs to be stopped, inflation would need to be high enough to finance the same primary deficit plus a higher flow of interest payments. This is, of course, very elementary arithmetic that everyone is aware of, but it is worth to mention a couple of numbers. Suppose, following our initial numerical example, that the long run inflation rate is reduced from 20 to 10 per cent, with a total loss of permanent revenues of the order of 205 million real Lempiras per year. Suppose that after a number of years additional borrowing will stop. This means that at such time the primary deficit will need to be reduced not only by the amount that was being borrowed every year (205 million real Lempiras), but also by the interest on the accumulated debt. A simple computation can show that at a real interest of 5 per cent, after 13 years the new total deficit (primary deficit, plus interest) would have doubled. At a real interest rate of 10 per cent it would take only 8 years for that to happen. The history of the international debt accumulated by some less developed countries during the eighties, with simultaneously high real interest rates, is a clear illustration of this simple arithmetic and the problems that can quickly develop due to the lack of consistency

¹² In the sense discussed in Chapter VII.

between monetary and debt policies.

D.- The "Privatization" of the Current Central Bank: Debt Holdings

The previous Sections have addressed the question of money creation versus genuine indebtedness "flow" financing, i.e., the effects of changing, from now on, the manner in which financing takes period after period. What can be called "privatization"¹³ of the central government debt currently held by the central bank is a very different policy question, but analytically closely related. Because the question is being discussed in Honduras, it needs to be addressed.

Currently, the Central Bank of Honduras holds a large proportion of the existing debt issued in the past by the central government and other government institutions-- a total of 1,451 million Lempiras. Of these, about 770 million are government bonds (at 2 and 4 per cent). The question is, what would be the effects if part of that "intra-government" debt would be privatized, i.e., placed in the private market at competitive interest rates? A closely related question is whether such a policy would be advisable.

Before discussing the effects, we should note that such current stock of central bank debt held is the result of past deficits financed via money creation and the inflation tax. Inflation already took place, and today the economy is probably worse off than it would have been otherwise, but government finances are in better shape than if such financing would have taken place via genuine market borrowing.

The consequences of such "privatization" are both monetary and fiscal. To understand those consequences it is first necessary to realize that any such sale is the equivalent of the "overall government" (central government plus the central bank) borrowing from the market --since, of course, non-forced sale of bonds will be at a heavy discount, with a resulting yield reflecting market interest rate conditions. The

¹³ We use the term "privatization" of the debt somewhat as the counterpart of the term "socialization of the debt" that has been applied many times to cases in which government has assumed private debt.

consequences will depend, among other things, on what is the final destination of such new borrowing.

Consider, first, the monetary consequences. If the central bank would follow a strict exchange rate rule (buying and selling foreign exchange to keep the exchange rate at its current level, for example), then the effect would, in theory, be the same as a borrowing operation for the purchase of foreign exchange. As the sale of government bonds takes place, interest rates would tend to increase, capital inflows would take place, and those capital flows would essentially be used to purchase the bonds. If the central bank would instead follow a pure floating exchange rate policy, the adjustment would need to take place via changes in prices and the nominal exchange rate. Initially, the quantity of money would be reduced, and if the central bank does not "sterilize" the change (i.e., if no further action is taken by the central bank, so money is taken out of the system), all prices (commodity prices and the nominal exchange rate) would need to fall. If there is any downward rigidity in commodity prices, the nominal exchange rate will fall, and this would, of course, bring a fall in the real exchange rate, with important resource allocation consequences. In either case, what we have here is a rather abrupt deflationary policy that is clearly not advisable.

The fiscal consequences very much depend on the final destination of the revenue from the sale of government bonds by the central bank. In all cases "total government" loses the real equivalent to the sale (which should be equal to the present value of the bonds determined by the market); these losses are given by the payment of interest to the market. Whether these losses are offset or not depends on the use of the "borrowed funds" by the central bank. If they are used to "buy foreign exchange" (as it would be largely the case for a fixed exchange rate rule), then such loss is compensated by the interest received on the additional reserves. If the part of the monetary base retired from the system is "destroyed" (i.e., put out of circulation), then the "total government" losses

are not offset, and there are important financial consequences.¹⁴ For example, if we assume that only 2% and 4% bonds are sold (a total of 765 million Lempiras), a nominal interest of around 30 million Lempiras would have to be paid (with its present value and "constant equivalent" real payment depending on the forthcoming inflation rate).¹⁵

Whether considering its monetary or fiscal consequences, an attempt to "privatize" all or part of the central government debt held by the central bank is an idea that should be strongly discouraged. As mentioned before, it is unfortunate that such debt exists, as it is the counterpart of past inflationary policies. But those policies have already produced their negative consequences, which cannot be undone. An intend to undo such policies would have negative consequences from all viewpoints. As a matter of fact, the current stock central government debt held by the central bank is of no economic relevance whatsoever. We need to stress once more, however, that a very different question is the flow of forthcoming government debt ending up at the central bank, which amounts to inflationary finance and should be reduced to a minimum.

¹⁴ Notice that in such case, as the nominal exchange rate and prices fall (if the latter do) there is then a once-and-for-all unexpected net gain for the private sector, accruing to holders of money.

¹⁵ It is relevant to mention here that auctions starting in July 1990 brought about discounts over face value that amounted to an effective yield in the range of 17 and 19 per cent per year. (Secretaría de Hacienda y Crédito Público, Memoria 1990, p.77).

IX.- DOMESTIC DEBT AND OPEN MARKET OPERATIONS

Open market operations, interpreted in a wide sense, are both the most efficient tool for the Central Bank to control monetary aggregates, and the natural vehicle for the Central Government¹ to borrow in the market. The implementation of mechanisms for both the Central Government and the Central Bank to sell and buy securities in the market is a point of high priority, for several reasons.

From the viewpoint of the Central Government, the switching from money creation financing to genuine debt financing implies that the Central Government needs a vehicle to introduce government debt in the market. Following a long standing tradition in Latin American countries, the Central Bank is usually considered (and often by law, as in the case of Honduras) to be the natural "financial agent" for the Central Government. In the case of Honduras, as in many other countries, what this has meant in the past is that much of Central Government debt never left the Central Bank, amounting to money creation financing.

From the viewpoint of the Central Bank, open market operations are a far better tool for changing liquidity conditions than manipulations of reserve requirements or the discount rate.

As it was stressed in the previous two chapters, open market operations by the Central Bank not only change short run liquidity conditions, but also the financial position of the government as a whole. The question of coordination at the global level so as to assure consistency between debt and monetary policies, then, arises naturally. We discuss this question in detail in the next Chapter. Here we consider some more specific economic and operational questions on the relationship between the Central Government

¹ In what follows we use the expression "Central Government", to refer to the Ministry of Finance (Ministerio de Hacienda y Crédito Público) and the agency that may correspond in each case (the Budget Office [Dirección de Presupuesto], the Public Credit Office [Dirección de Crédito Público], or the Treasury [Tesorería]).

and the Central Bank in matters concerning open market operations and domestic debt.²

Before considering some of these points, a general remark should be made with respect to the "existence of a market" for government (both Central Government and Central Bank) paper. It is of course true that institutional circumstances and less than competitive conditions sometimes are obstacles for the efficient functioning of markets. In the case of "a market for government paper", though, those obstacles are often more imaginary than real, the true problem being that "the market" does not exist because the Central Government tries to borrow at a less than prevailing market interest rates (i.e., tries to sell bonds at "too high" a price). A first condition for the functioning of "a market", then, is the recognition that operations need to take place on a voluntary basis, at whatever market determined interest rates are. It is a decision of the Central Government to borrow or not at those market rates.

A.- Some General Operational Aspects

The basic mechanical operational aspects of "open market" operations by both the Central Government and the Central Bank are not very different. The concrete "mechanical" aspects, of course, are very important, and if the Government of Honduras is determined to implement these operations, a limited amount of foreign technical assistance would probably be required. There are, nevertheless, two general implementation principles that apply to both Central Government and Central Bank operations.

² The question of the conduct of open market operations by the Central Bank for purposes of regulating monetary conditions are beyond the scope of this report and involves many complicated issues. An important consideration is whether the GOH opts for a system of exogenously determined ("prefixed") nominal exchange rate, or for a system of freely floating exchange rate. In the first case the Central Bank has very little control over the monetary base in the medium and long run, and almost none even in the short if free capital mobility is allowed. If the GOH decides instead to follow a system of free floating nominal exchange rates, then the Central Bank recovers its discretion over monetary aggregates, and needs to decide on the criteria for both setting up the appropriate targets (any of the monetary aggregates which is considered as being best related to prices) and instruments (normally the only monetary aggregate that the Central Bank can control directly, which is the monetary base).

First, operations should be performed in a true "open market", in which even private individuals can participate (perhaps through their financial agents). Such operations should be conducted directly by either the Central Government or the Central Bank, and not necessarily through a "Bolsa de Valores". The Bolsa de Valores, which has recently been organized in Honduras, can serve as a institutional home for the secondary market in government debt, but there is no reason why it should participate in the initial placement of debt.

Second, the mechanism for debt placement by the Central Government, or for purchases and sales of shorter term securities by the Central Bank, should take the form of "dutch auctions", what allows the institutions conducting the auctions to capture the buyers or sellers "surplus".

B.- Open Market Operations by the Central Government

The current procedure for the issuing of domestic debt has been reviewed in the first part of this report. Essentially, it consists of the Central Bank directly purchasing Central Government debt (Treasury Notes) during the fiscal year, and converting those notes into either long term ordinary bonds ("bonos corrientes") or shorter term Financial bonds (with an intermediate stage as "provisional bonds"). The outcome is that most instruments are never sold to the private sector, mostly as a result of the low interest paid attached to them, but part as a consequence of the procedure itself, which tends to make the Central Bank the "residual buyer".³ The ownership of government bonds by the Central Bank amounts, of course, to "inflationary finance". The GOH is trying to move as quickly as possible towards lower rates of monetary expansion, and as explained in detail in the previous two Chapters, this means an increasing reliance on the sale of government debt to the private market, at competitive interest rates.

The extent and the pace at which acquisition of government debt by the Central

³ The extent of "residual purchases" by the Central Bank is shown by the small proportion of government debt in the private sector, discussed in the previous Chapter.

Bank is diminished and replaced by genuine debt financing depends on the overall objectives of deficit and monetary policies (the coordination of which is the topic of Chapter X). What follows is a series of considerations and proposals conducive to facilitating the attainment of those objectives. The main thrust of the proposal is that the initial sale of government debt instruments should be in the private market, with the qualifications and *caveats* discussed below, so as to minimize the role of the Central Bank as "residual buyer". There are economic and institutional aspects to be considered.

1.- ECONOMIC ASPECTS

a.- The Interest Rate on Debt Held by the Central Bank

From an economic viewpoint, and for given monetary and subsidized private credit targets set by the Central Bank, interest paid on government debt held by the Bank is largely irrelevant, in the sense that it does not change the fiscal situation of "aggregate government".⁴ In the process of transforming inflationary finance into genuine debt finance, it is important to introduce a uniform set of debt issuing conditions irrespective of what proportion of the flow of new government debt is eventually purchased by the Central Bank at every period. In other words, government debt held by the Central Bank should pay the market interest rate. Although this does not mean, *per se*, a change in the extent of inflationary finance, it has several advantages. First, it provides the Central Government with a true estimate of the "opportunity cost" of deficit financing and makes policy more "transparent". Second, It starts establishing the general mode of operation

⁴ Consider two hypothetical situations in which the monetary target is an unchanged monetary base. In the first case, interest paid by the Central Government to the Central Bank is, say, one million Lempiras; in the second, there is no interest. In the first case, the Central Government borrows in the private market one million Lempiras which are taken out of circulation and paid to the Central Bank; the latter, in turn, in order to keep the monetary base constant, purchases government debt in the open market, and the situation is the same as in the second case, except that government debt held by the Central Bank has increased. Notice, though, that it could make a difference if the Central Bank, in the first case, would re-introduce monetary base by transferring resources to the private sector via subsidized credit, for example. In this case, there would exist a switch of the use of the "inflation tax" from a transfer to government to a transfer to the private sector.

that needs to prevail once a considerable part of government borrowing is placed in the private sector.

The question is which should be the "market" interest rate for the flow of debt absorbed at every period by the Central Bank. The ideal situation would be one in which the Central Government sells all of its debt instruments in the private open market and the Central Bank purchases part or the same amount of debt in the market. One should recognize, nevertheless, that at least initially such a change in procedure may be too abrupt. Besides, placement costs for the part of government borrowing that ends up at the Central Bank would be duplicated. A reasonable viable alternative is to require that, for every issue, a certain minimum proportion be placed in the private open market, and the resulting market rate be the one used (at least as a "reference" rate) for the part of the issue placed at the Central Bank.⁵ All of this assumes, of course, that government debt can be transferred (and even initially placed) at a discount or a premium over its face value, as it is the case with some of the bonds issued in 1987 and 1988.

An additional question is whether this *modus operandi* should take place annually, at the time of the transformation of Treasury Notes into Provisional Bonds and then into Regular Bonds (Bonos Corrientes), or continuously for every issue. We recommend the procedure to be followed on a continuous basis, with the Central Government issuing "Treasury bills" of short maturity (30 to 180 days) with which to attend to seasonal cash shortages.⁶

⁵ Notice that under reasonably well behaved markets the resulting market rate would be the same as if the whole issue is placed by the Central Government in the market while the Central Bank purchases its share from the market.

⁶ As in many other countries, such bills can then be one of the instruments (but of course not the only one) for open market operations by the Central Bank. Of course, the Central Government could still have access to short-term Central Bank advances.

b.- The Effects of Open Market Operations by Central Government on Monetary Conditions

One concern is what can be the effects of the placement of government debt in the private market on prevailing short run monetary conditions (liquidity, the term structure of interest rates, and so on). On this account, there would seem natural that some coordination should take place between the agency in charge of these operations and its counterpart at the Central Bank, concerning the timing, volumes and conditions of debt issues. Appealing as the argument is, we do not consider it persuasive. First, because as a matter of "division of labor" among government agencies, the Central Government should manage its debt portfolio so as to minimize the costs of borrowing. It is up to the Central Bank to use the instruments of monetary policy in order to influence short term monetary conditions. Second, because if there is any reasonable level of integration in capital markets, timing and other specifics of debt issue lose much of their significance.

2.- INSTITUTIONAL ASPECTS

a.- The Agency in Charge of Debt Operations

Currently, the "Dirección de Crédito Público" stipulates the timing and conditions of debt issues, subject to the appropriate regulations and bylaws, and it is the main single agency in charge of internal (and external) debt, as described in detail in Chapter II.C. The Credit and Securities Department of the Central Bank, which acts as the "residual purchaser" of government debt, is in charge of debt placement outside the Bank.

An important question is whether the Central Government should conduct its debt placement operations independently of the Central Bank. In principle, the answer is in the affirmative, but there are also arguments to the contrary based on current practice and questions of priority.

The general argument for the Central Government (in this case, the Dirección de Crédito Público) conducting its own open market operations has to do with a principle of separation of functions according to objectives. As mentioned before, the objective of the Central Government is to manage its debt portfolio so as to minimize costs of borrowing,

while the objective of the Central Bank is to regulate short-term monetary conditions. Even if the Dirección de Crédito Público determines specifications for every issue, it is still true that direct placement by this agency would eliminate steps and increase agility. An additional argument for direct handling of debt placement operations by Crédito Público is that it is not a good principle that the agency in charge of placement is at the same time one of the market participants. In other words, this separation would contribute to the objective of diminishing the role of the Central Bank as "residual buyer".

Nevertheless, there are also arguments for the Central Bank, through the Credit and Securities Department, to be at this point the agency in charge of government debt placement. First, current legislation (the chart of the Central Bank) makes the Central Bank the "financial agent" of the Central Government ("agente financiero del gobierno"). It is not clear whether this legal statute can be construed as an obstacle for the Central Government to perform its own operations; if this is the case, a change in the law may be required if those functions are to be transferred to the Ministry of Finance (Dirección de Crédito Público). Second, specific "know how" concerning the implementation of open market operations is at this point concentrated at the Central Bank's agency (the Credit and Securities Department) which, although in a limited way, has been traditionally in charge of debt placement. Third, the role of the Central Bank as the financial agent for the Central Government includes not only the placement of new debt, but (as is described in Part 1) also the operations of interest payments, redemption and amortization, *etcetera*. The transfer at this point of all those functions to the Ministry of Finance would amount to an important institutional change. It is not clear whether this should currently be a first priority.

All of these considerations point out to the transfer of issuing, placing in the market and administration (interest payments, amortization and redemption) functions to the Dirección de Crédito Público, as a first best, "no constraint" alternative. Given the current know-how, the legal framework and the institutional apparatus already in place, an acceptable second best is for the Central Bank, through the Credit and Securities Department, to continue in the role of financial agent, provided that

- **The role of the Central Bank be strictly as a financial agent or administrator acting in behalf of the Central Government, with the Dirección de Crédito Público not only dictating the specifics of every issue, but also the details of debt placement in the market (such as auctions cut-off rates).**
- **The role of the Central Bank as a "residual buyer" be quickly phased out in the manner indicated in X.1 above.**
- **"Fine tuning" of short-run monetary conditions be not the result of accommodation of borrowing operations by the Central Government (Dirección de Crédito Público), but exclusively be accomplished independently vial open market operations by the Central Bank.⁷**

⁷ **But see the arguments for the need of global coordination of the fiscal aspects, in Chapter X.**

X.- A BLUEPRINT FOR COORDINATION OF DEBT, DEFICIT AND MONETARY POLICIES PRELIMINARY WORK AND INSTITUTIONAL IMPLEMENTATION

Chapters VI and VIII have discussed the role of domestic debt in the global economy and the interrelationship between domestic debt and other policy variables, in particular monetary policy. The message of the analysis is the need for "coordination" of decisions pertaining to deficit, debt and monetary policies. This Chapter discusses the operational implications of that analysis and proposes the concrete institutional arrangements needed implement the minimum required degree of coordination.

The first section defines the specific scope of "coordination". The second section discusses the institutional set-up, at the level of both decision making and advising, and the last section presents in some detail the specific analytical and statistical framework that should be used for coordination.

A.- The Scope and the Rationale for "Coordination"

It is a commonplace that debt and monetary policies are "closely interrelated", and that they should be "coordinated". A concrete proposal for coordination, though, should define very precisely which are the most important interrelations that should determine the scope of coordination. Once it has been determined that two or more policies should be "coordinated", an additional point to be clarified is whether coordination should be the outcome of either a mutual accommodation of all those policies, or the accommodation of some of them to the others. In other words, which of those policies, if any, will "dominate".¹

¹ One could at some point argue, for example, that the important interrelationship is the one arising from the immediate effects on financial markets specifics (say, the term structure of interest rates) of open market operations performed by the central bank while controlling liquidity and the treasury while selling government bonds. If this is the case, then, coordination would translate into specific maturities and other particulars of the debt instruments used by one and the other. But notice that we have argued (Chapter IX.2) that in that case debt placement by the Central Government should "dominate", in the sense that coordination should be entirely the result of short-run open market operations performed by the Central Bank.

Chapters VII and VIII discussed in detail the connection between debt, deficit and monetary policies within the framework of the overall government budget constraint. The framework helped to make evident that a dominant interrelationship between those policies is that all of them have "fiscal" consequences. It also helps to define the scope of "coordination".

As explained in Chapter VII, at every period a given primary deficit (the difference between government expenditures and taxes) can be financed by either borrowing from the private sector at competitive interest rates or by monetary expansion (i.e., "borrowing" from the central bank). Over time, since the central government cannot borrow from the market without limit, at some point either the primary deficit or monetary policy needs to accommodate. To be "consistent" (i.e., sustainable over time) a monetary program seeking to reduce monetary expansion (and hence the inflation rate) require therefore a careful monitoring of the evolution over time of both the primary deficit and the stock of outstanding government debt. If there is lack of consistency, the outcome is usually an accommodation of monetary policy, what often means the return to a higher rate of monetary growth and inflation than before the enactment of the program.

To be sure, the reality of the government budget constraint, which as an identity needs to be fulfilled at every period, will force any program to be "consistent" at every period. What coordination seeks to avoid is a situation in which stabilization (low monetary growth) needs to be halted because interest on the outstanding debt, plus government expenditures, cannot be financed by conventional taxes. This is important because with every aborted stabilization effort government credibility erodes, with successive efforts becoming increasingly difficult.

The scope and the fundamental purpose of coordination, then, is to assure that projections of deficit, debt and monetary targets be mutually consistent over time in the sense that they will not violate the overall budget constraint in the foreseeable future. We call this specific coordination, "consistency coordination" (CC), for lack of a more elegant

term.² Expressed in different words, what CC seeks is an anticipated resolution of future conflicts between monetary policy and the total deficit of the central government. Because capital markets are not perfect and there are transaction costs in borrowing and lending, proper CC requires not only consistency over relatively long periods of time, but also concerning the timing of sources and uses of funds.

Appropriate CC of deficit, debt and monetary policies, of course, does not *per se* guarantee any given outcome, except that the outcome will be consistent. A program can call for a high primary deficit and a high monetary expansion, for example, can be appropriately coordinated and perfectly consistent, and will still be highly inflationary. Which the outcome is will depend on the objectives set by the fiscal authority (which controls the primary deficit and debt policy) and by the central bank (which controls monetary expansion), and on which ultimately prevails.

B.- The Institutional Arrangement

This section discusses the two related but separate questions of CC at the decision level and the advisory level.

1.- CONSISTENCY COORDINATION AT THE DECISION LEVEL

CC and mutual accommodation of fiscal policy (debt and deficit policies) and monetary policy needs to take place at a decision level at which the ultimate responsible for those policies participate. Those ultimately responsible are the Minister of Finance and the President of the Central Bank.³

There are strong arguments for the Central Bank Board ("Directorio") to be the official body at which coordination and "accommodation" decisions are taken. First, both

² "Fiscal" coordination would also be an appropriate name, but it can be confused with the term "fiscal policy", that usually refers to the manipulation of expenditures and taxes.

³ The expression "ultimately responsible" needs of course to be qualified. The Ministry of Finance, for example, follows a mandate of Congress, through the laws that every year determine the budget, and those laws and decrees that impose limits on debt issue.

the Minister of Finance and the President of the Central Bank are members of the Board. Second, experience shows that in countries where CC has been formally centered at another agencies (such as a "Ministry of Planning"), whatever effective CC occurs ends up taking place informally between the Finance Ministry and the Central Bank. Third, The Board of the Central Bank is the place where CC at the highest decision level takes place today. The innovation suggested in this report is not so much concerning which is ultimate decision agency, but with respect to the advisory support of such agency, which we discuss next. A well defined specific group providing information and advice is not only necessary for the Board to take well informed decisions, but would also contribute to a greater awareness by the Board of the need for consistency coordination.

2.- TECHNICAL AND ADVISORY SUPPORT FOR CONSISTENCY COORDINATION

Currently, the Credit and Securities Department at the Central Bank is in charge of advising the "General Management" of the Bank on a large variety of questions, among them questions of consistency coordination.⁴ We are proposing in this report that an economic *ad hoc* group be established at the Central Bank of Honduras with the specific purpose of providing advice to the Board on matters of coordination of fiscal and monetary policies. For purposes of quick reference, in what follows we call this group "Advisory Group" (AG). The specifics of this proposal, which we discuss in detail in what follows, are the following:

- The AG would report to the Board, possibly in the person of the president of the Central Bank or his chief of staff.
- The AG would be exclusively in charge of monitoring the "consistency" of objectives of monetary policy with projections of money creation financing requirements of the central government. It would provide advice to the Board concerning not only the formulation of objectives, but also, on a continuous basis, on the attainment or departures from those objectives.

See Section II.C.2.a. for a detailed description of functions assigned to the Credit and Securities Department. Many of these functions are spelled out in the Chart of the Central Bank.

- For accomplishing its objectives, the AG needs to perform two related by different functions: (i) To build and maintain an appropriate data base, and (ii) Perform the relevant analysis and projections. These points are discussed more specifically in Section C.

The first question is why the AG should be housed at the Central Bank. The answer is threefold. First, and most obvious, because it would be advising the Board of the Central Bank. Second, because of current and future prospects for manpower procurement. Traditionally, the Central Bank is where the highest concentration of best trained economists is, and this is also the case in Honduras. The Central Bank has also the highest level of autonomy and agility necessary to hire and train individuals abroad as needs arise. Third, because the Central Bank is the generator of monetary statistics, and the primary recipient of statistical information on debt and budget accounts.

The second question is why a new, *ad hoc* group. As mentioned before, the Credit and Securities Department is currently in charge of those advising functions. There is also the alternative of having the Research Department (Departamento de Estudios Económicos) being in charge of the task. As in most other countries, the Department not only gathers a good group of technicians, but also collects most of the relevant statistical information. The problem with either of these two alternatives, as we see it, is that both these Departments (and in particular the Credit and Securities Department) are already in charge of a multitude of both advising and operational functions, including the use of some macroeconomic models in the case of the Research Department. The technical staff would not be easily identifiable and its role would be diluted as "being in charge of just one more model".

A better approach, in our opinion, is to have an *ad hoc* group attached to the office of the president of the Central Bank, who is in turn the president of the Board. This would serve the double purpose of easily identifying the specific function of the group and increase awareness of the importance of the job, as well as forcing the work of consolidation and grouping of data according to appropriate economic criteria. The Credit and Securities Department would still be in charge of advising the Portfolio Commission ("Comisión de Cartera") and the Board in matters concerning the conduct of short-term

monetary policy (i.e., open market operations by the Central Bank).

The third question is what should be the human resource composition of the AG, which of course should be dictated by the nature of the work. The work of the AG (even in the part concerning building and maintaining a relevant data base⁵) is essentially analytical, and it would initially require the presence of a relatively small (in the order of five or six) group of economists trained at least at the M.A. level, with a couple of them trained at the Ph.D. level, assisted by a similar number of assistants. If the recommendation in this proposal is followed, a certain amount of additional technical assistance would be required for the setting up of the framework, the selection of personnel and a detailed discussion of the channels of communication and information flow between the AG and other agencies. A better idea of the manpower requirements emerges from the discussion of the concrete tasks discussed in the next Section.

C.- The Scope of Work of the Advisory Group

This Section discusses in some detail the work and the functioning of the proposed AG. An appropriate way to motivate the discussion is to start with the specific analytical framework the AG should use, proceeding from there to a discussion of the information (statistical) needs and to the relationship of the AG with other agencies, inside and outside the Central Bank.

1.- THE FRAMEWORK FOR THE ANALYSIS

The point of departure of the framework is the identity for the "aggregate government" budget constraint discussed in detail in Chapter VII, in which each component should be disaggregated up to the point (but not beyond) at which the relevant sub-components can be treated as reasonably homogenous from an economic point of view.

A possible objection to even the idea of building a "model" of this sort is that there

⁵ An important task for the AG is to translate monetary and fiscal accounts from bureaucratic accounting to economic "jargon", and to regroup categories according to appropriate economic criteria.

is no limit to the level of disaggregation, and that such a model would strictly require forecasts of almost anything happening in the economy. Take, for example, the projections for the primary deficit, which should rest on projections of the central government's expenditures on the one side, and of revenues from all kinds of taxes, on the other. The latter, in turn, depend on projections of the tax base, and therefore on income, and so on. The response to this objection is twofold. First, that this is the kind of calculation that is done today in a far more unstructured and informal way. Second, that what is required here is only an approximate idea of very aggregate magnitudes. Third, that an important component of the work by the AG would be to gather and group information into meaningful economic categories, as a manner to both improve predictions on possible future conflicts of objectives, and to raise awareness about the current and future fiscal consequences of various decisions. At worst --and this would already be an accomplishment that would justify the investment-- what can emerge out of this framework is a menu of "what if" alternatives for various possible scenarios.⁶

The basic idea of the framework can be visualized as using a matrix in which the rows are the components of aggregate budget constraint and the columns are "periods" (months, quarters or years), starting from the current period and reaching a medium time horizon (two to four years), long enough to be useful but short enough for the estimates to be reasonably robust. The elementary "mechanics" of the use of the framework consists essentially in starting with a projection of all payments and receipts by the Central Government and the Central Bank, and a calculation of the resulting needs of monetary (base) expansion and, hence, the resulting inflation rate. Or, conversely, starting with a desired rate of monetary growth, and calculating the constraints imposed on the aggregate of expenditures and revenues by Central Government and the Central Bank.

Chart 1 helps to give an initial rough idea of the most aggregate magnitudes. The Chart shows the economy as divided into three sectors: the Central Government, the Central Bank and the Private Sector (the latter including the private banking sector),

⁶ I.e., "sensitivity analysis".

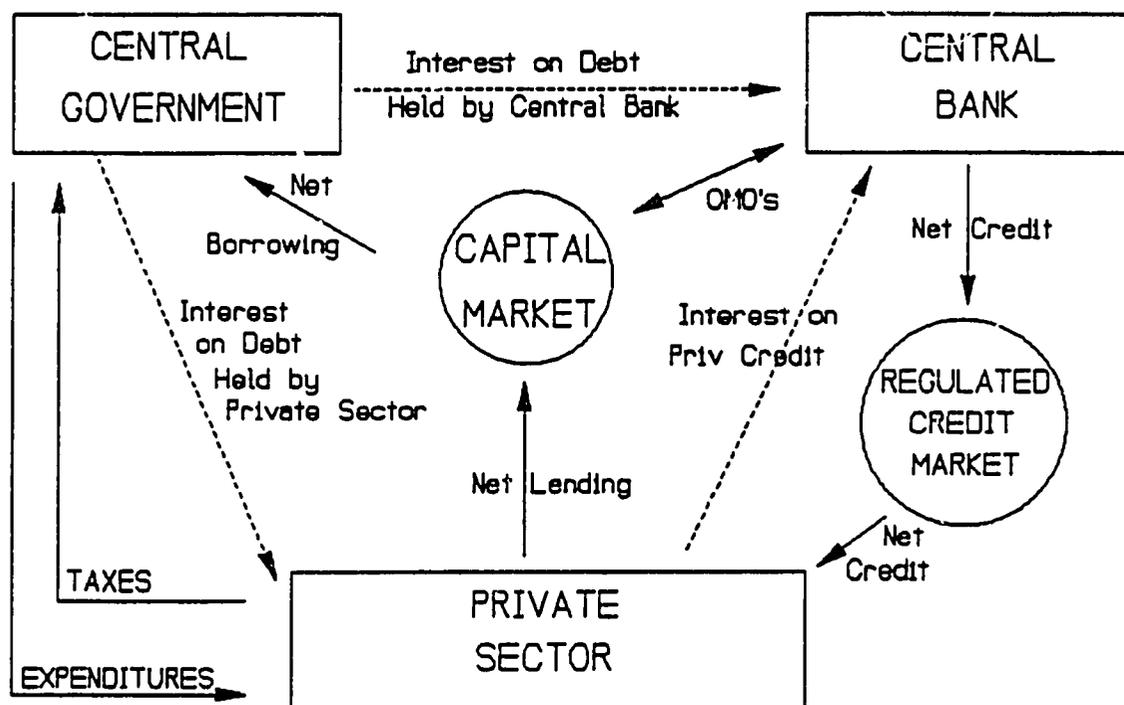


Chart 1

interacting via the open capital market and what is called here the "Regulated Credit Market". The connection among the sectors are of course flows (i.e., measured as magnitudes per unit of time, like a quarter, or a year). Full line arrows (except those for taxes and Central Government expenditures) denote changes in net assets; dotted arrows denote payment of interest.

It is easy to verify that each of the flows described in the Chart correspond to one or another of the items in the aggregate government budget constraint discussed in Chapter VII. There are some points that should be noted. First, that in order to avoid clutter the external sector (from which either the Central Government or the Central Bank can borrow and needs to pay interest) as been omitted. Second, that the "Regulated Credit Market" refers to all credit extended by the Central Bank to the private sector (including the banking system); it is called "Regulated" because in many cases it involves a subsidy in the form of lower (than the market) interest rates. Financing of subsidized credit via creation of money, as it occurs in this regulated market, amounts to " earmark" part of the proceeds from the inflation tax: the single step of issuing monetary base to provide for the subsidy is the simultaneous imposition of the inflation tax, and the distribution of the proceeds to the subsidized sectors. Third, that credit extended to provincial and local governments, in this global aggregation, is meant to be included in the Private Sector. Fourth, that net borrowing from the Central Government from the private sector is shown as a direct connection, without going through the Central Bank; this is compatible with the Central Bank performing placement operations in behalf of the Central Government, and all other functions as the "financial agent" of the Central Government.⁷ Fifth, that although here we show the Central Government and the Central Bank as different entities, the final purpose is to aggregate both, because ultimately either fiscal policy (debt management and the primary deficit) or monetary policy, or both, will eventually accommodate to assure consistency.⁸

The thrust of the analytical work is to provide reasonable estimates and projections of these aggregate flows given the objectives of both primary deficit policy (i.e., the difference between Central Government expenditures and taxes) and monetary

⁷ See the discussion of this point in Chapter IX.

⁸ Notice the difference between this framework (in which the Central Government and the Central Bank are eventually consolidated, and in which the commercial banking system is treated as part of the private sector) and the usual presentation of monetary accounts, in which the Central Bank is separated from Central Government, and consolidated with the commercial banking sector.

policy (i.e., the rate of monetary expansion and the resulting inflation rate), and therefore of the implied changes in the flows of borrowing and lending. An important estimation in the analysis of trade-offs among inflationary finance (i.e., purchase of government debt by the Central Bank) and genuine debt finance, as the one done in Chapter VIII, is the estimation of the demand for money (or, more precisely, of the monetary base).

As mentioned before, one of the problems of the building and using of this framework is that, if it carried up to "its last consequences" it would eventually require an estimation of "everything" happening in the economy --certainly a futile task. Its advantage, on the other side, is that it is open ended, in the sense that if it is started by the most aggregate estimates, it can be operational in the relatively short period, with further and further refinements (disaggregation) taking place over time, as far and at the pace at which resources (human and material) allow. In other words, the proposal is to build up the framework (and the supporting data compilation) "from the top down", and not the other way around. We believe that the compilation of data and its allocation to broad categories, *per se*, would already yield benefits in terms of transparency and an appropriate assessment of the fiscal consequences of various policies.

2.- INFORMATION AND DATA

a.- Activities: Building and Maintenance

Activity of the AG concerning data will consist essentially in gathered information already generated or collected by other agencies (from both the Central Bank and the Ministry of Finance) and regrouping it into the meaningful economic categories included in the aggregate budget constraint. In the very short run most of the activity needs to be addressed to the building of the data bank; as time goes by, activity will gradually shift towards maintaining it.

The strategy during the building stage needs to be one of successive approximations, with a "cycle" that goes through the stages of data formulation, use in the model, perception of needs, new data generation, new use, and so on. In other words, the strategy consists in starting by the most aggregate magnitudes (projections

of expenditures and taxes generated by Budget office, projections of interest payments on domestic privately held debt and foreign debt, generated by the Public Credit office, and so on), feed such information into the framework and compute the residual need for inflationary finance, perceive the need for more disaggregation, go back to less aggregated data, and repeat the procedure. In this manner we assure that data gathering and regrouping is strictly addressed to its final use, and that practical results (albeit only grossly approximated) can be obtained in short time.

Notice that maintenance starts from the very beginning, and that in a strict sense building does not need to end, since the framework is open-ended. What happens over time is that the proportion of effort of building to maintenance keeps decreasing over time.

b.- Data Sources and Grouping

The main categories and global groupings emerges clearly from the discussion in Chapter VII and Chart 1 sketched at the beginning of this Chapter. Notice that except for the case of Central Government expenditures and revenues (and therefore, the primary deficit which is the difference between the two), the bulk of other items involves flows comprising changes in the stock of assets and interest payments. The basis for the calculation of these flows, then, is the data on the stocks, which in most cases (for a given interest rate on the stock of positive or negative assets) is sufficient for the projection of the flow of interest payments.

The sources of data follow, in most cases, the grouping of the main categories. At the most aggregate level, they are:

- Central Government Domestic and International Debt: There is an excellent data bank on Central Government debt (both internal and international) maintained by the Public Credit office at the Ministry of Finance. Not only the quality of the data is very good, but so is the competence, the interest and the eagerness of the personnel in charge. Direct contact between the AG and the staff at Public Credit can result in a monthly update in

the form of computer file media with no problems.

- Central Bank Assets in the Private Sector (including the commercial banking system):

This category includes not only debt by commercial banks and financial institutions, but also from provincial and local governments, decentralized agencies and firms in the private sector to whom subsidized credit is provided. Here, the natural source is the Credit and Securities Department at the Bank. In fact, information gathering in this category basically involves a regrouping of the items contained in the monthly balances already being generated.

- Primary Deficit: The Budget Department (Dirección General de Presupuesto) at the Finance Ministry is in charge of monitoring of tax receipts and expenditures of the Central Government and decentralized institutions, as well as preparing projections on those items. This is the appropriate agency for providing information on primary deficit data, although the AG might find it advisable to contact the Tax Office (Dirección General de Tributación) for more specific information.

XI.- A SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

The following is a short summary of the main conclusions and the recommendations emerging from Part 2

(i) The calculation on the existing stock of outstanding "genuine" debt in hands of the private sector indicates that domestic debt is not of a magnitude sufficient to be an urgent restriction on policy. A large portion of it is held by either the Central Bank (an "agency" of government), or by commercial banks as part of their required reserves.

(ii) Chapter VIII presents a very preliminary calculation (that at this point should be taken only as suggestive) of the response of revenues from money creation to changes in the inflation rate, and the consequences for genuine debt accumulation (and hence future interest payments) if deficit financing requirements do not change. If these calculations are approximately correct, long-run, sustainable monetary stability and a low inflation rate, which are and should be important priorities of policy, will require a quick diminution of the primary deficit.

(iii) Sales of the current existing stock of central government debt presently held by the central bank should be strongly discouraged. Such a stock is the result of past inflationary policies that already have had consequences which cannot be undone, and any sale of such stock would have important monetary and fiscal negative results.

(iv) Independently of the pace and extent to which the flow of future Central Government debt placement is switched from the Central Bank to the private market, the following four principles should be followed from the outset:

- The initial placement of new debt should be made at the private market, with the Central acting as one more buyer, rather than as the "residual" buyer.
- As a matter of policy transparency, discipline and institutional build-up, new debt issues should pay the competitive market interest rate, independently of whether it is purchased by the market or by the Central Bank.
- Independently of whether the Central Bank continues or not acting as the "Central Government financial agent" in the placement of newly issued debt, all specifics of

debt issue (timing, characteristics, cut-off rates, *et cetera* should be specified by the corresponding agency of the Ministry of Finance (the Public Credit Department), with the portfolio management criteria of minimizing costs of borrowing. Open market operations by the Central Bank should accommodate to bring about whatever short-term monetary conditions the Central Bank seems appropriate to influence.

- As a necessary condition for the previous three points, all debt issue should allow for placement and trading at a discount over face values.

(v) Coordination of the "fiscal aspects" (what we have called "consistency coordination") of debt, deficit and monetary policies at the highest decision level is a must, and it is proposed that it takes place at the Board of Directors of the central bank, with the support of a technical staff attached to the board. The current composition of the Board includes the top officials that ultimately supervise each of those policies.

(vi) Chapter X contains a series of suggestions concerning further work along the lines followed in this report, part of which should be ultimately part of a framework (a simple "model") maintained by the technical staff attached to the Board of Directors of the central bank.