CIGLOB
CENTRO INTERNACIONAL DE GLOBALIZACIÓN Y DESARROLLO

International Center for Globalization and Development

Documento de Trabajo
Working Paper N°37

MACRO FISCAL PROGRAMMING

Mario A. Gutiérrez

March 2019

www.ciglob.org

Contact us / Contáctenos:
contact@ciglob.org

Santiago – Chile

MACRO FISCAL PROGRAMMING

Mario A. Gutiérrez
IMF Macroeconomic Advisor
March 2019

A. The Short and the Medium Term.

The main objectives of macroeconomic policy are price stability, economic growth, and employment. Other social objectives can be added depending on a particular country situation such as reduction of poverty, achieving a more equitable income distribution, and improvements in infrastructure, health, and education. The achievement of the selected objectives is subject to budget and capacity constraints which force the assignment of priorities to the various objectives in a time perspective. Budget constraints applying at the country level (current account balance, inflationary pressures, or access to foreign borrowing) and at the government level (budget balance, implementation capacity, or access to credit by the government). Capacity constraints relate to the limits for expanding the provision of output and services required to achieve some selected objectives (for ex. expansion of education or public investment constraints).

Price stability and balance of payment objectives sustainability are at the center of short run Financial Programs (IMF Stabilization programs style). To achieve these objectives typical instruments are the level of domestic credit, interest rates, exchange rates, tax rates, and the level of government spending. Policies aimed for the Short Term are often called Demand Management or Stabilization Policies. Policies aimed at the Medium Term give more attention to Supply policies and aim at raising investment, saving, and economic growth, and are at the center of the World Bank programs style.

B. Short-Term Financial Programming (IMF).

A Financial Program is a consistent set of policy measures designed to achieve a sustainable balance of payments and price stability (low and predictable inflation). It is a tool to help achieve internal equilibrium (price stability) and external equilibrium (sustainable current account deficit or surplus). Policies in the monetary, balance of payments, and fiscal areas are crucial to achieve the balance of payments and inflation goals. This is because a financial programming relies on the interactions between the monetary accounts and the balance of payment accounts. The fiscal accounts play in many cases a central role in the evolution of the monetary and balance of payment accounts: the government deficit may add pressures on domestic credit and inflation, which impact the balance of payments (demand for imports and international reserves) and put pressures on the exchange rate.

Financial Programming is different to a Plan as the Plan set objectives and targets as a micro level, interfering with the operation of markets. In a Financial Programming a consistent macro framework is set but not interference with the operations of markets in the allocation of resources across different economic activities.

- Functional Relationships used in Financial Programming.

In a Financial Programming it is necessary to choose a simple but comprehensive and flexible scheme of economic relationships that ensures consistency of the program. Using partial equilibrium or general equilibrium models would not prove useful as main objectives and targets are linked to economic policies that induce structural changes in the type of interrelations among the monetary, fiscal, external (balance of payments) and the real sector. Flexibility allows the incorporation of functional relationships linking some key variables that are projected (for ex. imports made function of real GDP growth and the real exchange rate). The incorporation of functional relationships will depend on the situation specific to a particular country related to: availability and reliability of statistics, dynamic of policies and structural changes (which may change the functional links among variables), institutional capabilities concerning training and resources available, and type of communications and data sharing among the government agencies responsible for the compilation of the monetary, external, fiscal, and national accounts statistics.

- Objectives, Targets, and Instruments.

In a Financial Program it is required to distinguish between Objectives (or final goals) for ex. reduce inflation, and Intermediate Targets that help to assess the degree of achievement of the objectives for ex. setting a target for the expansion of domestic credit. The targets are intermediate measures for monitoring the extent to which the final objectives are being achieved.

In the achievement of goals and targets the policy makers need to use Instruments linked to the targets. For ex. cutting the expansion of domestic credit may require raising interest rates to curb the demand of credit by the private sector or limit the fiscal deficit. The exchange rate may also become an instrument for ex. for helping to contain inflation (Objective). In some cases and Instrument could also become a Target for ex. reducing domestic inflation could require cutting domestic credit (Instrument) but a ceiling on the expansion of domestic credit could also be set as a Target as it relates to the achievement of the final objective (reducing inflation).

C. The Flow of Funds: Macroeconomic Accounting Framework in Short Term Financial Programming (IMF).

The economy is divided into four aggregate analytical sectors (used in Financial Programming): Private sector, Non-Financial Public sector, Banking sector, and External sector. For each sector we distinguish between the sources and uses of funds:

Sources (right side): sources to finance the acquisition of financial assets.
Uses (left side): net acquisition of financial assets (including money).

The net source of funds for the non banking sector is equal to the excess of the current account balances (saving) over the acquisition of physical assets (investment).

The banking sector issue domestic and external liabilities (sources) that are used to acquire domestic and external financial assets (uses)

1. Private Sector:

Private Sector	
Uses	Sources
dMd	Sp
- dDp	- Ip
- dFp	

Sources: Sp - Ip: Private Saving (national disposable income – private consumption)-Private Investment.
Uses: dMd - Dp - dFp: Change in the demand for money – Change in the private sector's domestic and foreign demand for credit.

2. Non-Financial Public Sector:

Non-Financial Public Sector	
Uses	Sources
- dFg	Sg
- dDg	- Ig

Sources: Sg - Ig: Non-Financial Public Sector Savings (current revenue – current expenditure) – Public Sector Investment.
Uses: -dFg - dDg: Change in the non-financial public sector's net foreign borrowing - Change in the non-financial public sector's domestic demand for credit.

3. Banking Sector:

Banking Sector	
Uses	Sources
dR	dM
+ dD	+ dFb

Sources: dM - dFb: Change in the supply of money + Change in the financial sector's foreign borrowing.
Uses: dR + dD: Change in net international Reserves + Change in total domestic credit (=dDp + dDg).

4. External Sector:

External Sector	
Uses	Sources
dF	Sx
- dR	

Sources: Sx: External saving = - balance in the current account of the balance of payments.
Uses: dF – dR: Change in the aggregate foreign borrowing of the country – change in net international reserves.

Adding the sources and uses of funds for the four sectors and considering an ex-post identity between the changes in the demand and supply for money we get:

(1) (Sp + Sg + Sx) = (Ip + Ig) (total saving = total investment)

Consolidating only the three domestic sectors gives us the balance of payments:

(Sg + Sp) – (Ip + Ig) = - Sx = dR – dFp – dFg - dFb

(2) Sn (national saving) – I (domestic investment) = - Sx = dR – dF

An excess of national saving over domestic investment is reflected in a surplus in the current account of the balance of payments (negative foreign saving), which is also reflected in an accumulation of international reserves and decline of foreign borrowing (capital account of the balance of payments).

Remark: Sx is called foreign savings because it is the excess of saving over investment that rest of the world is transferring to finance the deficit of the current account (via a surplus in the capital account). If the level of foreign savings is negative (current account surplus) it is our economy that is transferring the excess of savings over investment to the rest of the world (via a deficit in the capital account.

The flow of funds scheme helps to visualize the links that exist between the changes in savings and investment and changes in the financial variables (M, D, and F) and changes in the capital account of the balance of payments (including changes in foreign reserves).

Savings and investment variables derived through the National Accounts System:

$Y = Cp + Ip + G + X – Z$

The current account balance is the difference between national income and domestic spending:

$Yn – (Cp + Ip + G) = X – Z + NIx + NTRx$

$Yn = Cp + Ip + (Cg + Ig) + X – Z + NIx + NTRx$

$Ynd + T = Cp + Ip + (Cg + Ig) + X – Z + NIx + NTRx$

Total Saving = Total Investment

$(Yd – Cp) + (T – Cg) + (Z – X – NIx – NTRx) = Ip + Ig$

$Sp + Sg + Sx = I$

Where,

Y = GDP
C, Cp, Cg = total consumption, private consumption, government consumption

I, Ip, Ig = total investment, private investment, government investment
G = total government spending
X = exports of goods and services
Z = imports of goods and services
T = taxes
NIx = net income from abroad
NTRx = net transfers from abroad
S, Sp, Sg, Sx = total saving, private saving, government saving, external saving.

- **Financial Programming Basic Relationships**

From the Banking Sector sources and uses of funds (also called Monetary Survey) and introducing the exchange rate (E) to translate foreign flows and stocks into local currency:

(3) $dM = EdR – EdFb + dD$

(4) $EdR = dM –dD + EdFb$

The work of financial programming centers on the relations between money (dM), domestic credit (dD), and foreign borrowing by the banking sector (dFb) on one side the balance of payments (dR) on the other side.

The model assumes continuous flow equilibrium in the money market (changes in money supply equals changes in money demand):

(5) $dMs = dMd$

Increments in International Reserves reflect expansion in the supply (and demand) of money (expansion in the monetary that translate in expansion in the rest of monetary aggregates: M1, M2, M3), contractions of domestic credit, and increases in foreign borrowing by the banking sector (central bank + commercial banks). Changes in domestic prices are related to the changes in the supply of money trough a type of quantitative money equation of the form:

(6) $dMd = (1/v)\ dY$

(6)’ $dMd = (1/v)\ (Po\ dy+yo\ dP)$

Then,

(7) $dP = [dMd – (1/v)\ Po\ dy]/yo = [EdR – EdFb + dD – (1/v)\ Po\ dy]/yo$

Equation (7) tells that the domestic inflation reflects the excess in the rate of money creation over the rate of growth of real GDP.

We observe from equation (7) that if dP = 0 and the economy is near full potential (dy = 0) and dFb = 0 then all increases is domestic credit are reflected in an identical decline in international reserves (dD = =dR). This is the case of a small very open economy with a fixed exchange rate.

In country with fixed exchange rates an increase of international reserves could be induced by a contraction of domestic credit. This is because the quantity of money (M) is whatever is demanded by people, which in turn is determined by GDP growth and inflation. In practice, a contraction of credit induces some reductions in inflation and undesirable contractions of economic growth. This type of program relies on “expenditure reductions” as cut in domestic credit implies cuts in spending by the government and the private sector.

- **The Role of the Exchange Rate**

The aggregate change in the price level (dP) can be disaggregated into three main components: the change in the price of non-tradable goods and services (PNT), the change in the price of tradable goods and services (PT), and the change in the exchange rate (E):

(8) $dP = a\, dPNT + (1-a)\, dPT$

Where,

$dPT = (dE + dPT^*)$

From (7) and (8) we obtain the change in the price on non-tradable goods and services:

(9) $dPNT = [EdR – EdFb + dD – (1/v)\, Po\, dy]/a\, yo - [(1-a)/a]\, (dE + dPT^*)$

In order to alleviate the magnitude of the contraction impact on growth and at the same time facilitate improvements in the balance of payments the exchange rate is used to induce “expenditure switching”. An increase in the exchange rate switches aggregate demand away from imports and into domestically produced goods and services. In equation (9) we can see that an increase in the exchange rate is equivalent to a reduction in the price of non-tradable goods and services, i.e, non-tradable goods and services become cheaper in relative terms. In the extreme case of fixed exchange rate (dE = 0) and zero external inflation (dPT* = 0) the increases in the stock of money (dM = EdR –dFb +

dD) would push up the price of non-tradable goods and services, which means the exchange rate (PNT/EPT) appreciates making the export sector less competitive.

The exchange rate is used in some cases as a main instrument to reduce inflation. In some cases the rate is fixed or a crawling peg system is adopted to bring down inflationary expectations. In this case it is crucial a monetary policy and wages policy consistent with the use of the exchange rate as a tool to reduce dPNT and hereby inflation. An excessive monetary expansion or wages indexed to past inflation would make difficult to curb the rate of increase in PNT and inflation, making exchange rate policy unsustainable.

- **Example of Short Term Financial Programming:**

Problem: A country with fixed exchange rate. The exchange rate is set at an official value (not determined by market forces). The central bank has to supply local currency at the official exchange rate and a parallel exchange rate exist determined by market forces. The government balance is deteriorating. Access to foreign financing is restricted. Inflation is rising.

Diagnostic: It is found that the main source of inflation and balance of payments deterioration is an excessive monetization in the country. The government deficit has been growing and being monetarized by the central bank. Excessive growth of domestic credit to the public sector. This expansion of credit is fueling inflation (inflation is growing) and deterioration of the current account of the balance of payments.

Financial program: IMF short-term
Objective: Reduce pressures on inflation and the balance of payments.
Targets: Set a ceiling for domestic credit to the public sector.
Instruments: Reduction of the fiscal deficit and/or allow the exchange rate to depreciate in order to gradually unify the official and parallel market rate and improve the current account balance (mainly through a contraction of imports) and/or an increase of interest rates (to help reduce demand for credit).

D. Medium Term Programs (The World Bank).

In medium term programs economic growth, investment and savings (national and foreign) are at the center of these programs. Medium term policies include establishing incentives for domestic savings and investment. Medium Term Instruments include investment in infrastructure and human capital (health and education), improving the efficiency of the financial system, improving the operation of domestic markets (deregulation and competition policies), and opening the economy to international trade and promotion of exports. Polices aimed for the Medium Term are often called supply-side or structural policies. Raising economic growth on a sustainable basis requires more time than reducing inflation through demand management because the structural policies that are required take time to be designed and implemented.

At the same time, the Medium-Term objectives are generally influenced by Short Term objectives. Changes in exchange rates, interest rates, and controls on the expansion of domestic credit and government budget may interfere with the timing for achieving some Medium-Term objectives of raising investment and economic growth. On the other side, achieving price stability (Short Run objective) becomes also a basic element to stimulate private investment, which is crucial in a Medium-Term program.

Designing a Macro Economic Programming with a Medium-Term perspective is complicated for the reasons explained above: conflicts usually arise between the short and medium term objectives, targets, and instruments. For this reason the design of a Financial Programming that takes account of the medium term requires policy and political compromises that involve assigning priorities to the objectives from a time perspective. Functional relationships become more important for medium term projections because of the dynamic relationships between investment, savings, and economic growth.

E. The use of the Incremental Capital-Output (ICOR) ratio for Medium term economic programs.

The World Bank traditional Revised Minimum Standards Model (RMSM) focuses on medium term growth and its financing through national and external savings (two-gaps model. It is based on a simple relationship between investment and growth called the incremental-capital output ratio (ICOR). The incremental capital output ratio (ICOR) in period t is defined as the ratio between investment in the previous period t-1 and the change in output between period t and t-1. The ICOR is a measure of the efficiency of investment in generating GDP growth (the inverse of the ICOR measures the productivity of capital). The ICOR is calculated using investment and GDP data at constant prices:

(10) $ICOR_t = I_{t-1}/(y_t – y_{t-1})$

Dividing both sides by y_{t-1} we get an equation for real GDP growth:

(11) $(y_t – y_{t-1})/y_{t-1} = [(I_{t-1}/y_{t-1})/ICOR$

Equation (11) tells that real GDP growth is reflecting the rate of investment and the efficiency of investment.

There are two key issues to consider when calculating the ICOR for medium term economic programming:

a. GDP growth could originate from factors other than investment in new capital such as growth in productivity, production capacity utilization, and

b. The annual data on the ICOR changes as the lag between investment and GDP changes depends on the structure of investment and many factors such as investment sentiment and the sectoral investment structure.

Therefore, to obtain a reliable relationship the measurement of ICOR it is advisable to compute the ICOR using data for several years. In addition, the period used should be as "normal" as possible.

A pragmatic solution to this problem is to derive ICOR on the basis of several periods:

ICOR = Average annual share of Investment in GDP/ Average annual growth rate of GDP

- **Example of use of the ICOR in medium-term economic programming:**

A country has an investment rate of 12 percent of GDP and an ICOR of 4, GDP growth would be 3 percent per year. If the population is growing less than 4 percent, GDP per capita will fall. The objective would be in this case to design policies aimed at raising the rate of investment and increasing the productivity of investment (reducing the ICOR).

- **Foreign Financing Constraint**

The simple IMF financial programming real GDP growth is exogenous as the focus is on financial flows to target inflation and the Balance of Payments (dR). In the World Bank inflation is exogenous as the focus is on investment and savings to target real GDP growth. The so called RMSM-X growth, inflation, and the balance of payments are determined simultaneously by merging the IMF and World Bank RMSM models.

In the RMSM-X model the financing of investment becomes a crucial issue for medium-term growth as part of investment is financed with external savings, which amounts to the size of the current account balance with opposite sign: a positive amount of external savings implies a current account deficit. A current account deficit needs to be financed with capital inflows and/or international reserves.

From equation (1) we obtain:

(12) $I = Sn - dR + dF$

Combining (11) and (12) :

(13) $(yt - yt\text{-}1)/yt\text{-}1 = [(Snt\text{-}1 - dRt\text{-}1 + dFt\text{-}1)/yt\text{-}1]/ICOR$

Equation (13) tells that the financing of GDP growth would be limited by the size of national savings (Sn), the extent to which international reserves can be depleted, and the availability of foreign resources (dF). As national savings is made up of private and government savings policies and improve the competitiveness of the financial system become essential to promote private savings. Policies to promote a more efficient public sector are also crucial to stimulate government savings.

As investment is financed with national + external savings structural policies would aim at promoting additional national savings (private and public) and increasing the availability of external finance (external savings) such as expanding the export capacity and improving the climate for foreign investment. Policies aimed at increasing the efficiency of investment would also be relevant such as reducing rigidities in the labor and capital markets, improving the efficiency of public investment, and improving human capital though education and health reforms.

Appendix

Structure of a Financial Programming Model Data Base, Exogenous and Endogenous variables, Data sources, and Potential Data Issues.

TABLE 1: FINANCIAL PROGRAMMING
STRUCTURE OF FINANCIAL PROGRAMMING DATA BASE

	SECTORAL BREAKDOWN FOR FINANCIAL PROGRAMMING	MACROECONOMIC ACCOUNTS INTERRELATIONSHIPS
A5	**NATIONAL ACCOUNTS**	
A6	Total GDPmp (by econ setors)	=A8
A7		
A8	Total GDPmp (by expenditure)	=A5+A11+A16-A17
A9	Total Consumption	
A10	Private Consumption	
A11	Government Consumption	Fiscal Accounts: A28 + A29
A12	Total Investment	
A13	Fixed Capital Formation	
A14	Private Investment	
A15	Public Investment	Fiscal Accounts: A35 + A47
A16	Inventory Canges	
A17	Exports of gs and ss	Balance of Payments: A63 + adj cif/fob +adj exch rate
A18	Imports of gs and ss	Blance of Payments: A64 + adj cif/fob + adj exch rate
A19		
A20	**FISCAL ACCOUNTS (consolidated NFPS)**	
A21	General Government (central + local governments)	
A22	Total revenue	
A23	Tax Revenue (including social security contributions)	
A24	Non-Tax revenue	
A25	Capital revenue + grants	
A26	Total Expenditure	
A27	Current Expenditure	
A28	Wages and salaries	
A29	Purchase of gs and ss	
A30	Transfers and subsidies (including social secutiry payments)	
A31	Interst payments	
A32	on domestic debt	
A33	on external debt	Balance of Payments: from A66
A34	Capital Expenditure	
A35		National Accounts: A15
A36	Capital transfers and net lnding	
A37		
A38	Primary balance general government cash basis	
A39	Total balance general government cash basis	
A40	Financing general government (gener. Gov. borrowing requirements)	
A41	Domestic	Monetary Accounts: A91
A42	Foreign	Balance of Payments: A76
A43		
A44	Non-Financial State Enterprises (NFSEs)	
A45	Operating surplus	
A46	Capital expenditure	
A47	Investment	National Accounts: A15
A48	Other capita expenditure	
A49	Total balance NFSEs	
A50	Financing NFSEs (NFSEs borrowing requirements)	
A51	Domestic	Monetary Accounts: A92
A52	Foreign	Balance of Payments: A76
A53		
A54	Consolidated primary balance NFPS cash basis	
A55	Consolidated overall valance NFPS cash basis	
A56	Financing NFPS (NFPS borrowing requirements)	Monetary Accounts: A92
A57	Domestic	Balance of Payments: A76
A58	Foreign	

A59		
A60	**BALANCE OF PAYMENTS (EXTERNAL ACCOUNTS)**	
A61	Current account	
A62	Trade account	
A63	Exports of gs and ss fob	National Accounts: A17 + adj cif/fob +adj exch rate
A64	Imports of gs and ss fob	National Accounts: A17 + adj cif/fob +adj exch rate
A65	Income	
A66	Investment income	
A67	Compensation of employees (workers remmitances)	
A68	Current transferes	
A69	Capital and Financial Account	
A70	Capital account	
A71	Capital transfers	
A72	Net Purchase of non-produced nonfinancial assets	
A73	Financial account	
A74	Foreign Direct investment, net	
A75	Portfolio investment, net	
A76	Other investment (net borrowing from abroad)	Monetary accounts: A87
A77	Errors and Ommisions	
A78	Overall balance	
A79	Change in Net Foreign Assets	
A80	Change in net international reserves (at central bank)	Monetary Accounts: A86
A81	Change in other foreign assets, net	
A82		
A83	**MONETARY ACCONTS (MONETARY SURVEY)**	
A84	Net Foreign Assets	
A85	Net Foreign Assets central bank	
A86	Net International Reserves	Balance of Payments + adj exch rate: A80
A87	Medium & Long tern foreign liabilities	Balance of Payments + adj exch rate: A76
A88	Net Foreign assets commecial banks	Balance of Payments + adj exch rate: A76
A89	Net Domestic Assets	
A90	Net credit to the NFPS	
A91	net credit to the general government	Fiscal accounts: A41
A92	net credit to the NFSEs	Fiscal accounts: A51
A93	Net credit to private sector	
A94	Other items net	
A95	Broad Money	
A96	Narrow money (M1)	
A97	Currency in circulation	
A98	Demand deposits	
A99	Quasi-money	
A100	Time and saving deposits	
A101	Foreign currency deposits	
A102	Money market instruments	

TABLE 2: FINANCIAL PROGRAMMING
SHORT TERM (IMF)

		IMF FINANCIAL PROGRAMMING Short term (1-2 years ahead)
A5	**NATIONAL ACCOUNTS**	
A6	Total GDPmp (by econ setors)	Exogenous (trend + judgement)
A7		
A8	Total GDPmp (by expenditure)	
A9	Total Consumption	
A10	Private Consumption	Exogenous (trend + judgement)
A11	Government Consumption	Endogenous (from targeted budget)
A12	Total Investment	
A13	Fixed Capital Formation	
A14	Private Investment	Exogenous (trend + program instruments + judgement)
A15	Public Investment	Endogenous (from targeted budget)
A16	Inventory Canges	Endogenous (residual + judgement)
A17	Exports of gs and ss	Exogenous (trend + main exports projections)
A18	Imports of gs and ss	Endogenous (trend + program instruments + judgement)
A19		
A20	**FISCAL ACCOUNTS (consolidated NFPS)**	
A21	General Governent (central + local governments)	
A22	Total revenue	
A23	Tax Revenue (including social security contributions)	Endogenous (elasticity to tax base)
A24	Non-Tax revenue	Exogenous
A25	Capital revenue + grants	Exogenous
A26	Total Expenditure	
A27	Current Expenditure	
A28	Wages and salaries	Endogenous (trend + program instruments)
A29	Purchase of gs and ss	Endogenous (trend + program instruments)
A30	Transfers and subsidies (including social secutiry payments)	Endogenous (trend + program instruments)
A31	Interst payments	
A32	on domestic debt	Endogenous (scheduled payments + program isntruments)
A33	on external debt	Endogenous (scheduled payments + program isntruments)
A34	Capital Expenditure	
A35	Investment	Endogenous (trend + program instruments)
A36	Capital transfers and net lnding	Exogenous
A37		
A38	Primary balance general government cash basis	
A39	Total balance general government cash basis	
A40	Financing general government (gener. Gov. borrowing requirements)	
A41	Domestic	Endogenous (gov balance "above the line" + targeted domestic financing)
A42	Foreign	Endogenous/Exogenous (depending on foreign borrowing constraints)
A43		
A44	Non-Financial State Enterprises (NFSEs)	
A45	Operating surplus	Endogenous (trend + program instruments)
A46	Capital expenditure	
A47	Investment	Endogenous (trend + program instruments)
A48	Other capita expenditure	Exogenous
A49	Total balance NFSEs	
A50	Financing NFSEs (NFSEs borrowing requirements)	
A51	Domestic	Endogenous (balance "above the line" + targeted domestic financing)
A52	Foreign	Endogenous/Exogenous (depending on foreign borrowing constraints)
A53		
A54	Consolidated primary balance NFPS cash basis	
A55	Consolidated overall valance NFPS cash basis	
A56	Financing NFPS (NFPS borrowing requirements)	
A57	Domestic	Endogenous (balance "above the line" + targeted domestic financing)
A58	Foreign	Endogenous/Exogenous (depending on foreign borrowing constraints)
A59		
A60	**BALANCE OF PAYMENTS (EXTERNAL ACCOUNTS)**	
A61	Current account	
A62	Trade account	
A63	Exports of gs and ss fob	Exogenous (projecting main export items volumes and prices)
A64	Imports of gs and ss fob	Exogenous/Endogenous (depending if imports are or not a program instrument)
A65	Income	
A66	Investment income	Exogenous (mainly from projected interest paymn on foreign debt)
A67	Compensation of employees (workers remmitances)	Exogenous (trends + judgement)
A68	Current transferes	Exogenous
A69	Capital and Financial Account	Exogenous
A70	Capital account	Exogenous
A71	Capital transfers	Exogenous
A72	Net Purchase of non-produced nonfinancial assets	Exogenous
A73	Financial account	

A59		
A60	**BALANCE OF PAYMENTS (EXTERNAL ACCOUNTS)**	
A61	Current account	
A62	Trade account	
A63	Exports of gs and ss fob	Exogenous (projecting main export items volumes and prices)
A64	Imports of gs and ss fob	Exogenous/Endogenous (depending if imports are or not a program instrument)
A65	Income	
A66	Investment income	Exogenous (mainly from projected interest paymn on foreign debt)
A67	Compensation of employees (workers remmitances)	Exogenous (trends + judgement)
A68	Current transferes	Exogenous
A69	Capital and Financial Account	Exogenous
A70	Capital account	Exogenous
A71	Capital transfers	Exogenous
A72	Net Purchase of non-produced nonfinancial assets	Exogenous
A73	Financial account	
A74	Direct investment net	Exogenous
A75	Portfolio investment net	Exogenous
A76	Other investment (net borrowing from abroad)	Exogenous/Endogenous (depending on foreign borrowing constraints)
A77	Errors and Ommisions	Assumed zero for projected program
A78	Overall balance	Endogenous
A79	Change in Net Foreign Assets	Endogenous
A80	Change in net international reserves (at central bank)	Endogenous
A81	Change in other foreign assets, net	Endogenous
A82		
A83	**MONETARY ACCONTS (MONETARY SURVEY)**	
A84	Net Foreign Assets	Endogenous (from the balance of payments projection)
A85	Net Foreign Assets central bank	Endogenous (from the balance of payments projection)
A86	Net International Reserves	Endogenous (from the balance of payments projection)
A87	Medium & Long tern foreign liabilities	Endogenous (from the balance of payments projection)
A88	Net Foreign assets commecial banks	Endogenous (from the balance of payments projection)
A89	Net Domestic Assets	Exogenous/ Endogenous (depending if domestic assets are targeted or not)
A90	Net credit to the NFPS	Endogenous (from fiscal accounts projections)
A91	net credit to the general government	Endogenous (from fiscal accounts projections)
A92	net credit to the NFSEs	Endogenous (from fiscal accounts projections)
A93	Net credit to private sector	Endogenous (residual from A89 - A93)
A94	Other items net	Exogenous (banking sector balance sheets)
A95	Broad Money	Exogenous/Endogenous (depending if foreign assets or not)
A96	Narrow money (M1)	Endogenous (money multiplier)
A97	Currency in circulation	Endogenous (money multiplier)
A98	Demand deposits	Endogenous (money multiplier)
A99	Quasi-money	Endogenous (money multiplier)
A100	Time and saving deposits	Endogenous (money multiplier)
A101	Foreign currency deposits	Endogenous (money multiplier)
A102	Money market instruments	Endogenous (money multiplier)

TABLE 3: MACROECONOMIC PROGRAMMING
MEDIUM TERM (WORLD BANK)

		WORLD BANK ECONOMIC PROGRAMMING **Medium Term (3-10 years ahead)**
A5	**NATIONAL ACCOUNTS**	
A6	Total GDPmp (by econ setors)	Endogenous (from production funcion)
A7		
A8	Total GDPmp (by expenditure)	
A9	Total Consumption	
A10	Private Consumption	Endogeneous (consumption function)
A11	Government Consumption	Endogenous (structural policies)
A12	Total Investment	
A13	Fixed Capital Formation	
A14	Private Investment	Endogenous (targeted growth requirements +structural policies)
A15	Public Investment	Endogenous (targeted growth requirements +structural polciies)
A16	Inventory Canges	Endogenous (residual + judgement)
A17	Exports of gs and ss	Endogenous (real exch rate + structural changes)
A18	Imports of gs and ss	Endogenous (targeted growth requiremets +structural changes)
A19		
A20	**FISCAL ACCOUNTS (consolidated NFPS)**	
A21	General Governent (central + local governments)	
A22	Total revenue	
A23	Tax Revenue (including social security contributions)	Endogenous (elasticity to tax base + tax reforms)
A24	Non-Tax revenue	Exogenous
A25	Capital revenue + grants	Exogenous
A26	Total Expenditure	
A27	Current Expenditure	
A28	Wages and salaries	Endogeneous (growth of employment and productivity)
A29	Purchase of gs and ss	Endogenous (linked to growth of government +struct changes)
A30	Transfers and subsidies (including social secutiry payments)	Exogenous (structural changes)
A31	Interst payments	
A32	on domestic debt	Endogeous (growth of domestic debt and interest rates)
A33	on external debt	Endogeous (growth of foreign gov debt and external interest rates)
A34	Capital Expenditure	
A35	Investment	Endogenous (targeted growth requirements +structural polciies)
A36	Capital transfers and net lnding	Exogenous
A37		
A38	Primary balance general government cash basis	
A39	Total balance general government cash basis	
A40	Financing general government (gener. Gov. borrowing requirements)	
A41	Domestic	Endogenous (from projected growth of domestic debt)
A42	Foreign	Endogenous (from projected growth of external debt)
A43		
A44	Non-Financial State Enterprises (NFSEs)	
A45	Operating surplus	Endogenous (from projected operations + structural changes)
A46	Capital expenditure	
A47	Investment	Endogenous (targeted growth requiremets +structural changes)
A48	Other capita expenditure	Exogenous
A49	Total balance NFSEs	
A50	Financing NFSEs (NFSEs borrowing requirements)	
A51	Domestic	Endogenous (from projected growth of domestic debt)
A52	Foreign	Endogenous (from projected growth of external debt)
A53		
A54	Consolidated primary balance NFPS cash basis	
A55	Consolidated overall valance NFPS cash basis	
A56	Financing NFPS (NFPS borrowing requirements)	
A57	Domestic	Endogenous (from projected growth of domestic debt)
A58	Foreign	Endogenous (from projected growth of external debt)
A59		
A60	**BALANCE OF PAYMENTS (EXTERNAL ACCOUNTS)**	
A61	Current account	
A62	Trade account	
A63	Exports of gs and ss fob	Endogenous (real exch rate + structural changes)
A64	Imports of gs and ss fob	Endogenous (targeted growth requiremets +structural changes)
A65	Income	
A66	Investment income	Endogenous (from projected growth foreign debt)
A67	Compensation of employees (workers remmitances)	Exogenous (trends + judgement)
A68	Current transferes	Exogenous
A69	Capital and Financial Account	Exogenous
A70	Capital account	Exogenous
A71	Capital transfers	Exogenous
A72	Net Purchase of non-produced nonfinancial assets	Exogenous
A73	Financial account	

A59		
A60	**BALANCE OF PAYMENTS (EXTERNAL ACCOUNTS)**	
A61	Current account	
A62	Trade account	
A63	Exports of gs and ss fob	Endogenous (real exch rate + structural changes)
A64	Imports of gs and ss fob	Endogenous (targeted growth requiremets +structural changes)
A65	Income	
A66	Investment income	Endogenous (from projected growth foreign debt)
A67	Compensation of employees (workers remmitances)	Exogenous (trends + judgement)
A68	Current transferes	Exogenous
A69	Capital and Financial Account	Exogenous
A70	Capital account	Exogenous
A71	Capital transfers	Exogenous
A72	Net Purchase of non-produced nonfinancial assets	Exogenous
A73	Financial account	
A74	Direct investment net	Endogenous (foreign invest.requirements for projected growth)
A75	Portfolio investment net	Exogenous
A76	Other investment (net borrowing from abroad)	Endogenous (from projected growth foreign debt)
A77	Errors and Ommisions	Assumed zero for projected program
A78	Overall balance	Endogenous
A79	Change in Net Foreign Assets	Endogenous
A80	Change in net international reserves (at central bank)	Endogenous
A81	Change in other foreign assets, net	Endogenous
A82		
A83	**MONETARY ACCONTS (MONETARY SURVEY)**	
A84	Net Foreign Assets	Endogenous (from the balance of payments projection)
A85	Net Foreign Assets central bank	Endogenous (from the balance of payments projection)
A86	Net International Reserves	Endogenous (from the balance of payments projection)
A87	Medium & Long tem foreign liabilities	Endogenous (from the balance of payments projection)
A88	Net Foreign assets commecial banks	Endogenous (from the balance of payments projection)
A89	Net Domestic Assets	
A90	Net credit to the NFPS	
A91	net credit to the general government	
A92	net credit to the NFSEs	
A93	Net credit to private sector	
A94	Other items net	
A95	Broad Money	Endogenous (from demand for money estimates)
A96	Narrow money (M1)	Endogenous (from demand for money estimates)
A97	Currency in circulation	Endogenous (from demand for money estimates)
A98	Demand deposits	Endogenous (from demand for money estimates)
A99	Quasi-money	Endogenous (from demand for money estimates)
A100	Time and saving deposits	Endogenous (from demand for money estimates)
A101	Foreign currency deposits	Endogenous (from demand for money estimates)
A102	Money market instruments	Endogenous (from demand for money estimates)

TABLE 4: FINANCIAL AND MACROECONOMIC PROGRAMMING DATA SOURCES

		DATA SOURCES
A5	**NATIONAL ACCOUNTS**	
A6	Total GDPmp (by econ setors)	National accounts statistics
A7		
A8	Total GDPmp (by expenditure)	
A9	Total Consumption	
A10	Private Consumption	National accounts statistics
A11	Government Consumption	Government finance statistics
A12	Total Investment	
A13	Fixed Capital Formation	
A14	Private Investment	National accounts statistics
A15	Public Investment	Government finance statistics
A16	Inventory Canges	
A17	Exports of gs and ss	Balance of payments statistics
A18	Imports of gs and ss	Balance of payments statistics
A19		
A20	**FISCAL ACCOUNTS (consolidated NFPS)**	
A21	General Governent (central + local governments)	
A22	Total revenue	
A23	Tax Revenue (including social security contributions)	Government Finance Statistics (tax revenue statisitcs)
A24	Non-Tax revenue	Government Finance Statistics (government budget)
A25	Capital revenue + grants	Government Finance Statistics (government budget)
A26	Total Expenditure	
A27	Current Expenditure	
A28	Wages and salaries	Government Finance Statistics (government budget)
A29	Purchase of gs and ss	Government Finance Statistics (government budget)
A30	Transfers and subsidies (including social secutiry payments)	Government Finance Statistics (government budget)
A31	Interst payments	
A32	on domestic debt	Government Finance Statistics (public debt statistics)
A33	on external debt	Government Finance Statistics (public debt +external debt statistics)
A34	Capital Expenditure	
A35	Investment	Government Finance Statistics (government budget)
A36	Capital transfers and net lnding	Government Finance Statistics (government budget)
A37		
A38	Primary balance general government cash basis	
A39	Total balance general government cash basis	
A40	Financing general government (gener. Gov. borrowing requirements)	
A41	Domestic	Government Finance Statistics (government budget + domestic debt statistics)
A42	Foreign	Government Finance Statistics (government budget + external debt statistics)
A43		
A44	Non-Financial State Enterprises (NFSEs)	
A45	Operating surplus	State enterprises statistics
A46	Capital expenditure	
A47	Investment	State enterprises statistics
A48	Other capita expenditure	State enterprises statistics
A49	Total balance NFSEs	
A50	Financing NFSEs (NFSEs borrowing requirements)	
A51	Domestic	State enterprises statistics
A52	Foreign	State enterprises statistics
A53		
A54	Consolidated primary balance NFPS cash basis	
A55	Consolidated overall valance NFPS cash basis	
A56	Financing NFPS (NFPS borrowing requirements)	
A57	Domestic	
A58	Foreign	
A59		
A60	**BALANCE OF PAYMENTS (EXTERNAL ACCOUNTS)**	
A61	Current account	
A62	Trade account	
A63	Exports of gs and ss fob	Balance of payments statistics
A64	Imports of gs and ss fob	Balance of payments statistics
A65	Income	
A66	Investment income	Balance of payments statistics
A67	Compensation of employees (workers remmitances)	Balance of payments statistics
A68	Current transferes	Balance of payments statistics
A69	Capital and Financial Account	
A70	Capital account	
A71	Capital transfers	Balance of payments statistics
A72	Net Purchase of non-produced nonfinancial assets	Balance of payments statistics
A73	Financial account	

A59		
A60	**BALANCE OF PAYMENTS (EXTERNAL ACCOUNTS)**	
A61	Current account	
A62	Trade account	
A63	Exports of gs and ss fob	Balance of payments statistics
A64	Imports of gs and ss fob	Balance of payments statistics
A65	Income	
A66	Investment income	Balance of payments statistics
A67	Compensation of employees (workers remmitances)	Balance of payments statistics
A68	Current transferes	Balance of payments statistics
A69	Capital and Financial Account	
A70	Capital account	
A71	Capital transfers	Balance of payments statistics
A72	Net Purchase of non-produced nonfinancial assets	Balance of payments statistics
A73	Financial account	
A74	Direct investment net	Balance of payments statistics
A75	Portfolio investment net	Balance of payments statistics
A76	Other investment (net borrowing from abroad)	Balance of payments statistics
A77	Errors and Ommisions	
A78	Overall balance	
A79	Change in Net Foreign Assets	
A80	Change in net international reserves (at central bank)	International reserve statistics
A81	Change in other foreign assets, net	National responsible authority
A82		
A83	**MONETARY ACCONTS (MONETARY SURVEY)**	
A84	Net Foreign Assets	
A85	Net Foreign Assets central bank	
A86	Net International Reserves	External debt statistics +exc rate adj
A87	Medium & Long tern foreign liabilities	External debt statistics +exc rate adj
A88	Net Foreign assets commecial banks	Banking sector statistics
A89	Net Domestic Assets	
A90	Net credit to the NFPS	
A91	net credit to the general government	Government Finance Statistics (government budget)
A92	net credit to the NFSEs	Monetary statistics + banking sector statistics
A93	Net credit to private sector	Monetary statistics + banking sector statistics
A94	Other items net	Monetary statistics + banking sector statistics
A95	Broad Money	
A96	Narrow money (M1)	
A97	Currency in circulation	Monetary statistics + banking sector statistics
A98	Demand deposits	Monetary statistics + banking sector statistics
A99	Quasi-money	
A100	Time and saving deposits	Monetary statistics + banking sector statistics
A101	Foreign currency deposits	Monetary statistics + banking sector statistics
A102	Money market instruments	Monetary statistics + banking sector statistics