

Bacha, Edmar L.

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THE DESIGN OF IMF CONDITIONALITY:

A REFORM PROPOSAL

Edmar Lisboa Bacha

THE DESIGN OF IMF CONDITIONALITY: A REFORM PROPOSAL

by

Edmar L. Bacha

Pontificia Universidade Catolica do Rio de Janeiro

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1. INTRODUCTION [1]

The International Monetary Fund stabilization programs are based on a set of accounting identities which assert, first, that a current account deficit is necessarily associated with an excess of domestic demand over national income; and, second, that such an excess is supported by an equivalent difference between credit supply variations and money demand changes. Domestic demand contraction through a credit squeeze therefore has always been the hallmark of Fund programs.

These notes initiate with a synthetic description of the "financial exercises" underlying Fund programs. Informal but frequent Fund staff departures from these exercises are explored next. After a critique of the contractionary biases embedded in current analytical procedures, proposals are offered which will

hopefully overcome these negative characteristics and provide future Fund stabilization programs with a growth content [2].

2. FINANCIAL EXERCISES

Fund conditionality is normally set on domestic bank credit and on public sector borrowing requirements. The performance criteria on domestic bank credit is derived from a very simple macroeconomic framework. It starts with the simplified balance sheet identity for the domestic banking system, expressing the changes in the money stock (dM_s) as the sum of the changes in international reserves (dR) and domestic credit (dD):

$$(1) \quad dM_s = dR + dD$$

The second building block is the assumption that the changes in money demand (dM_d) are a stable function of nominal income variations (dY):

$$(2) \quad dM_d = dY/v$$

where v is the income velocity of money, assumed to be constant over time.

The final relation presumes that a situation of continuous equilibrium prevails in the money market, between the changes in the demand and supply for money:

$$(3) \quad dM_s = dM_d$$

Replacing (1) and (2) in (3), there follows:

$$(4) \quad dR = dM_d - dD = dY/v - dD$$

This says that the change in international reserves will be negative whenever the change in domestic credit exceeds the change in money demand, as determined by the variations in nominal income.

To complete the model, the critical assumption is added that changes in nominal income are independent of domestic credit variations [3]. From this, it follows that reductions in domestic credit will be reflected one-to-one in increases in international reserves. There remains only the establishment of target values for international reserves variations and nominal income changes to set the performance criteria for changes in domestic bank credit, in accordance to equation (4).

To establish the connection between domestic credit and aggregate domestic demand, a further set of accounting identities needs to be taken into account. First, the balance of payments in current account (CA) is written as the difference between nominal income (Y) and domestic absorption (A):

$$(5) \quad CA = Y - A$$

The current account must balance with changes in international reserves and in net foreign indebtedness (dF):

$$(6) \quad CA = dR - dF$$

Replacing dR by the intermediate expression in (4), CA by the expression in (5), and regrouping terms, equation (6) can be written as:

$$(7) \quad A - Y = [dD + dF] - dMd$$

This says that to an excess of absorption over income there must necessarily correspond an equivalent excess of domestic-plus-foreign credit changes over money demand variations. Assuming dF to be exogenous or else submitted to a limiting performance criteria, the conclusion of the previous exercise is strengthened by equation (7): a limit on domestic credit variations appears as the only possibility of making domestic absorption conform to the exogenously set national income level.

The establishment by the Fund of performance criteria on the budget deficit requires relating total credit flows to the borrowing requirements of the public sector. First, split domestic credit into the change in credit channelled to the private sector (dDp) and the corresponding change in credit going to the government (dDg):

$$(8) \quad dD = dD_p + dD_g$$

The same thing is done for foreign credit:

$$(9) \quad dF = dF_p + dF_g$$

Next, the government budget constraint is introduced, asserting that any difference between total government expenditures (G) and total government revenues (T) must be financed by increases either in net borrowing from abroad (dFg), in net borrowing from the domestic banking system (dDg), or in net indebtedness to the non-bank domestic private sector (dB):

$$(10) \quad G - T = dF_g + dD_g + dB$$

Equation (10) specifies that a limit has to be set on the borrowing requirements of the government in order to control the size of its budget deficit. Ignoring dB for the sake of the argument, there are two alternative reasons for setting a limit on government borrowing. One is to establish a subsidiary criteria to facilitate the observance of both the total domestic credit limits and the foreign borrowing limits. Other is to avoid a 'crowding out' of the private sector, which would result from the observance of the total credit limits, while the government finances remained unadjusted.

In this context, the following question emerges: in inflationary situations in which the government internal debt is

important, which is the relevant concept of budget deficit that needs to be controlled? There are two alternatives: the nominal budget deficit, which underlies the total nominal borrowing requirements, and the "operational deficit," which excludes the inflationary component of interest payments on the public debt. To see what is involved, let us go back to the government budget constraint, first splitting government spending into "operational spending" (G^*) and the inflation-correction of public sector debt (pB), where p is the rate of inflation and B the outstanding debt [4]:

$$(10A) \quad G = G^* + pB$$

Next, split the additional nominal holdings of public sector debt by the private sector into the real addition (dB^*) and the compensation for the inflation erosion of previously held public sector debt (pB):

$$(10B) \quad dB = dB^* + pB$$

Replacing (10A) and (10B) in (10), we arrive at:

$$(10C) \quad dG^* + pB - T = dDg + dFg + dB^* + pB$$

If the non-bank public willingness to add to their real holdings of government debt (dB^*) is independent of the inflation rate, then it follows from (10C) that an increase in the

inflation rate (p) adds the same amount (pB) both to the nominal government deficit and to the non-bank public willingly held nominal additions of government bonds. Hence, no pressure at all would be exerted by this increase in the nominal government deficit on the credit extended to it either by the banking sector or the foreign creditors. In concrete situations, inflation may indeed affect the non-bank public willingness to add to their real holdings of public sector debt, but the direction of change could go either way. At the level of abstraction with which the IMF financial exercises are conducted, the simple assumption is obviously one of neutrality. With this proviso, the previous identities require that the relevant concept of government deficit to be monitored, in a program to control the overall expansion of domestic credit, is the "operational deficit" and not the nominal deficit.

3. NOMINAL INCOME VARIATIONS

The arithmetics of the "financial exercises" in the previous paragraphs take nominal income as a datum, not influenced either directly or indirectly by changes in domestic credit. However, the macroeconomic framework of Fund programs is broader than the logic of the "financial exercises". Nominal income changes subdivide into real income variations and domestic price changes. Real income maybe affected by domestic credit changes through two alternative channels. First, working capital provided by the banking system may be an essential ingredient of

the production process. Hence, a general credit contraction may squeeze output as well as aggregate demand. Second, a reduction of domestic demand provoked by a credit crunch may lead not to reduced imports or increased exports, but rather to lower domestic production. To avoid the contractionary impact of domestic credit reductions, Fund programs typically include two types of measures. First, targeted values for domestic credit for the private sector are specified, according to a "demand for credit" relationship such as:

$$(11) \quad dD_p = (D_p/Y) \cdot dY$$

where D_p/Y , the observed ratio to income of bank credit to the private sector, is taken as a norm for the necessary expansion of "productive" credit lines. This implies that the burden of adjustment to the credit contraction will fall on the public sector, on the assumption that the government is not a source of production but only of absorption. Second, to avoid the negative impact of domestic demand contraction on domestic production, an exchange rate devaluation is typically specified as a prerequisite of Fund programs. The devaluation should increase the relative price of imports and improve the profitability of exports to the extent necessary to guarantee the required balance of payments adjustment, through reduced imports and increased exports, at a given income level. The theory is that the demand contraction provoked by the credit limits, together with the "demand switching" induced by the exchange rate devaluation,

would succeed in adjusting the balance of payments while maintaining the economy in full operation.

Domestic inflation is also a datum in the "financial exercises." It typically appears as a target of Fund programs, from which the anticipated variations of nominal income are derived, once some historical norm is adopted for expected real income variations. The logic of the "financial exercises" requires the rate of inflation to be determined independently of domestic credit variations - as it would be the case in a small open economy, for which the "law of one price" is a good approximation of reality. Most developing countries are far from this ideal case, and for them the Fund staff preferred inflation theory is that which links the domestic price level to the money supply. Hence, in the practice of Fund programs (although not in the logic of the "financial exercises"), the credit contraction is designed to have two beneficial effects: one on international reserves, other on inflation. Although the transmission mechanisms are not spelled out, credit limits are determined with an eye on the balance of payments, another on inflation. This perspective is built into the "financial exercises" through the specification of a much lower target rate of inflation than that currently observed in the program country. This means that targeted nominal income variations and derived money demand changes are also specified very tightly. Hence, a much lower credit limit obtains than would be the case under the assumption of a constant inflation rate. The tightness of Fund criteria is thus associated with the belief of its staff in that - with the

events of the previous paragraph - only good things would result from a domestic credit restriction: either an improved balance of payments or a reduced inflation rate.

4. TOWARDS A NEW DESIGN

The design of Fund programs can be criticized on account both of the incompleteness of the "financial exercises" and of the implicit theorizing surrounding its practical implementation. The "financial exercises" lack a growth perspective and involve a partial and yet unspecified view of "demand switching", inflation determination, and the role of credit in production. Arguably, this is what give Fund programs their characteristic anti-growth bias.

In order to provide Fund programs with a growth perspective, it is suggested that a set of "growth exercises" be performed previously to the "financial exercises". From these, the amount of foreign credit will be determined, as necessary to support a growth-oriented stabilization program. The "financial exercises" themselves should be performed under explicit assumptions about the effects of exchange rate variations both on the balance of payments and inflation, and of the credit restrictions on international reserves, the inflation rate, and output levels.

4.1. Growth Exercises

In the World Bank tradition, the "growth exercises" might be

based on the two-gap approach, a simplified version of which is as follows [5]. To calculate the "savings gap", the growth rate of real income (dY/Y) is related to the investment rate (I/Y), using the incremental capital-output ratio (k):

$$(12) \quad dY/Y = (1/k) \cdot I/Y$$

Fixed investment (I) is equal to the sum of domestic (S) and foreign savings, with the latter being equal to the difference between foreign credit changes (dF) and international reserves accumulation (dR):

$$(13) \quad I = S + dF - dR$$

Replacing (13) in (12) and reshuffling terms:

$$(14) \quad dF = Y \cdot [k \cdot dY/Y - S/Y] + dR$$

This equation establishes the "savings gap" requirement of foreign credit to sustain a given GDP growth rate, due account being taken of the domestic savings rate and the targeted international reserves accumulation.

The foreign credit requirement or SUR growth rate can be calculated as follows, according to the "foreign exchange gap" approach. First, ignoring the second term for simplicity, the current account is considered as the difference between total flow of exports and total flow of imports, and the required SUR rate of surplus

and the current account balance is given by:

$$(14) \quad CA = (X - M) - \dot{R} - \dot{F}$$

and, capital flows reports are written as:

$$(15) \quad \dot{F} = \lambda(ZR/\bar{R}) + \lambda(dI/\bar{I})$$

where $\lambda(dI/\bar{I})$ is the capital goods import content of investment and use is made of equation (12).

Observing that the current account must balance the difference between international reserves accumulation and foreign credit variations, the following expression is derived from (14), (15) and (16):

$$(17) \quad dR = \lambda[(ZR/\bar{R}) + (dI/\bar{I}) + dy/Y - \lambda/\bar{D} + \bar{C}R$$

Equation (17) establishes the "foreign exchange gap" relation between targeted GDP growth and foreign credit needs, due account being taken of import requirements and export propensities, as well as targeted international reserves accumulation.

Through equations (14) and (17) the "growth exercises" yield two alternative estimates of the foreign credit needed to sustain a targeted GDP growth rate. The suggestion is that the highest of these estimates be used as an additional variable in growth-oriented IMF programs. The values for dR estimated by

and on 17 would enter the Fund's "financial exercises" as the external counterpart for the domestic stabilization efforts required in these exercises. In a context of "reciprocal conditionality", these values would indeed constitute a performance criteria for foreign creditors, the violation of which would entitle the program country to an automatic increase in its drawings either from the IMF or the World Bank, if not to an automatic capitalization of the interest due on its outstanding external debt.

4.2. Revising the Financial Exercises

A complementary proposal is that the "financial exercises" be conducted under explicit assumptions both on the balance of payments effect of exchange rate changes and on the effect of the credit restrictions on inflation. At issue are both the precision of the exercises and the realism of the Fund staff implicit hypotheses about these effects.

If an explicit measure is available of the impact on the current account of an exchange rate devaluation, an immediate check could be made, using equations (5) and (7), on whether the combination of "demand switching" and "demand contraction" proposed by the Fund is indeed consistent with the attainment of targeted income levels. The realism of the "price elasticity hypotheses" underlying Fund programs could also be scrutinized, once these are explicitly incorporated into the "financial exercises". The presumption in developing countries is that the

Fund staff tend to be overly optimistic with respect to such price elasticities, hence tending to propose demand contraction measures which cannot be justified by the demand switching realistically to be expected in the short-run, from feasible relative price changes. Another presumption in developing countries is that the Fund largely underestimate the potential inflationary impact of proposed exchange rate devaluations.

The "financial exercises" should also be expanded to incorporate an explicit theory of inflation determination. In particular, estimates should be provided of the anticipated effect of domestic credit changes on inflation rates. In this form, program countries would be able to know to what extent the credit limits refer, on one hand, to balance of payments objectives and, on the other hand, to desinflation targets. This would allow an evaluation not only of the desinflationary objectives of the program, but also of the realism of the Fund staff hypotheses about the nature of the relationship between money supply and price level variations. The presumption in developing countries is that the Fund staff tend to be overly optimistic with respect to the effectiveness of monetary restriction on inflation rates, consequently proposing too strict credit limits, which have a negative impact on domestic output levels [6].

The introduction of the "growth exercises" and the recommended changes in the "financial exercises" are major analytical tasks. The suggestion is that an international group of experts be appointed to accompany the efforts of the IMF

Research Department in redesigning the analytics of Fund stabilization programs.

4.3 Domestic credit ranges

The above qualifications to the "financial exercises" make it clear that it is not only "good" things which will result from strict credit controls. An overdose may lead to output contraction, which is detrimental both to the balance of payments and the desinflation objectives of the program. A consequence of this posture is that, side by side with the upper credit limits, future performance criteria should also establish lower limits for credit expansion, as based on a realistic assessment of inflation perspectives. The upper limit could be surpassed only at the risk of the balance of payments objectives of the program, whereas the lower limit on credit expansion would set a floor under which the program real income objectives would tend to be frustrated.

5. SUMMARY

To summarize, the proposed reforms on the design of Fund programs are as follows:

(i) Previously to the "financial exercises", a set of "growth exercises" should be performed, to establish the foreign credit requirements of a growth-oriented stabilization program. These requirements would constitute a performance criteria for

creditor countries and banks, thus introducing the concept of "reciprocal conditionality" in Fund programs:

(ii) The "financial exercises" should be expanded in two directions. First, the current account should be written as an explicit function of the exchange rate. Second, an explicit hypothesis should be provided for price level determination. At present, both topics are subject to implicit theorizing by the Fund staff, and this should become an integral part of the "financial exercises" to permit a critical evaluation.

(iii) Performance criteria should be set with both an upper and a lower limit for domestic credit expansion, in recognition of the fact that an unduly restrictive credit stance is detrimental to the output targets of a sound stabilization program.

FOOTNOTES

1. These notes are based on a background paper for a report of the Group of 24 on The Role of the IMF. With the usual caveats, I am indebted for comments to A. Buira, A. Kafka, A. Sengupta, L. Taylor, and J. Williamson. The views expressed here are those of the author and do not necessarily reflect those of the UNCTAD Secretariat, UNDP or the G-24.
2. The proposals of this paper are oriented towards a "hands-on" approach to Fund conditionality. For a "hands-off" perspective, see E. Bacha, "El papel futuro del Fondo Monetario Internacional en America Latina: temas y proposiciones," en SELA, El FMI, el Banco Mundial y la Crisis Latinoamericana. Siglo XXI, 1986.
3. Important qualifications to this assumption are discussed in Section 3 below.
4. For simplicity, the following argument ignores the inflation correction on the outstanding values of both domestic and foreign credit to the government.
5. For more details, see E. Bacha, "Economic growth with limited supplies of foreign exchange," in M. Syrquin, L. Taylor and L. Westphal (eds.), Economic Structure and Performance - Essays in Honor of Hollis B. Chenery. New York: Academic Press, 1984.
6. A recent econometric analysis by Peter Kenen documents that the Fund staff consistently underestimate the inflation rate and overestimate the real GDP growth rate of developing countries. Cf. P. Kenen, "International money and macroeconomics: an agenda for research". Paper prepared for the Second Biennial Conference of Research Institutes. Washington, DC: Institute for International Economics, September 26, 1986.

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