

Presented to the 9<sup>th</sup> International Post Keynesian Conference,  
September 15-18, 2006, Kansas City

## **REASSESSING FISCAL POLICY: A VIEW FROM THE SOUTH**

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Caracas, September 2006

**Abstract:** Fiscal Policy measures have become central to developing-country reform programs. Active and expansionary fiscal policies have been said to cost excessive expansion of aggregate demand leading to current account deficits and inflation, as well as absorbing domestic saving and displacing private investment, thereby inhibiting output stabilization and employment recovery. Moreover, chronic fiscal deficits are supposed to be associated with high and explosive debt/GDP ratios, which undermine the general welfare of future generations. This anti-Keynesian orthodox approach envisages a prominent role for reductions in fiscal deficits. The purpose of this paper is to assess the theoretical adequacy of the orthodox approach in the context of developing countries. We explore the functioning of the diverse mechanisms that supports fiscal retrenchment and clarify some common misunderstandings. We find that none of the conventional arguments against fiscal activism is wholly convincing. At the heart of the debate lies the question of assumptions, economic structure, and causation mechanisms. We find that orthodox stories regarding the macroeconomic effects of fiscal policy very often do not go beyond the simple monetarist assumptions or seek to verify the implications against the existing experience and empirical data in developing countries.

**JEL Code:** H1, H6, H10

**Key Words:** Fiscal Policy, Budget Deficit, Inflation, External Imbalances, Sustainability.

## 1. Introduction.

A major shift within macroeconomic policy discussions has occurred over the last past decades. The pre-eminence of fiscal policy has been disappearing and substituted by monetary policy. Indeed, monetary policy has gained considerably in importance in academic circles in developed countries (DCs) through the so called “New Consensus” in macroeconomics where fiscal policy is rarely evaluated. It seems that developments in macroeconomics over the past several decades are widely believed to have shown the ineffectiveness of discretionary fiscal policy. Moreover, the claim that active expansionary fiscal policies pursued in the 1970s and 1980s (in particular fiscal deficits and increasing debt) were responsible for poor economic performance in DCs was echoed in most developing countries where the stabilization and adjustment policies recommended by the IMF and World Bank claimed for fiscal retrenchment. Thus, expansionary fiscal policy and budget imbalances have been at the forefront of macroeconomic adjustment in the 1980s and 1990s both in developed as well as in developed countries.

Proponents of this sort of New Monetarism have produced a number of arguments against the use of discretionary fiscal policy and long-term budget deficits. Arguments and proposals have been widely accepted even by economist and policy-makers in the Third World. Fiscal deficits have been blamed in good part for the assortment of macroeconomic ills that beset developing countries in the 1980s and 1990s: monetization and changes in overall national saving leading to the balance-of-payments problems and high inflation, and over-indebtedness promoting poor investment and growth. Moreover, this predominant view on fiscal policy sees rapid accumulation of domestic debt —associated with chronic fiscal imbalances— impeding control of the fiscal deficit itself, which brings the sustainability problem into the picture. The general conclusion of this predominant but simplify anti-Keynesian view is that budget deficits must be avoided because in addition to the severe macroeconomic ills they also lead to higher debt, which jeopardizes the standards of living of future generations.

Against this economic backdrop an attempt is made here to assess the theoretical adequacy of the orthodox approach to fiscal policy using the recent experience of developing countries as a main reference. The article begins with some accounting conventions, and goes on to present mainstream theories and more plausible alternatives. We find competing interpretations in almost every dimension of fiscal policy. This leads us to conclude that the

very understanding of the existence of these competing interpretations is hardly possible if we limit our view to only some singular assumptions and causation mechanisms. Hence, at the heart of the debate lies the question of the perceived nature of the economy, its institutional structure and the resulting theoretical framework at hand. Moreover, to some extent we will try to support analytical arguments by concentrating our attention on the existing empirical evidence. In general we find a strong empirical backing for our arguments.

The remainder of this paper is organized as follows. Section 2 deals with issues concerning relationships between fiscal deficits and the external sector. We argue that a conceptually complete discussion of the relationship between budget deficits and the external balance would have to cover not only the presumed mechanism through which fiscal imbalances translates into external imbalances, but also the possible reversion of the causal link. We provide several arguments that have received some attention in the context of developing economies but that have not as yet been formulated in a comprehensive way. Section 3 addresses the relationship between public sector deficits and inflation, one of the important and controversial issues in the academic literature as well as in economic policy field. In this case the place to look for insights is supposed to be in the developed country literature on “inflationary finance” approach. We show that the unidirectional causation from deficits to inflation that derives from this orthodox approach is contingent to a set of very limiting assumptions rarely uncovered. Moreover, there is very little in the orthodox approach to illuminate the fundamental question about what produces the fiscal deficit. In section 4 we discuss the fundamental role of fiscal policy as an output and employment stabilizing tool. We recognize the crucial importance of countercyclical fiscal policy for developing countries, and distinguish between discretionary fiscal policy and changes in taxes and spending due to the automatic stabilizers. We show the limitations of the latter and favor the use of the former. Despite the wide belief that undermines the effectiveness of fiscal policy in stimulating economic activity in developing countries, we argue the opposite and show that if the economy operates with excess capacity, money-financed public investment expenditure may generate crowding-in rather than crowding-out. The empirical evidence is overwhelming in that respect. Regarding the issue of the appropriate fiscal target, we argue that though the measurement of the ‘correct’ budget deficits has attracted considerable recent attention in developed nations, measuring the fiscal balance that should be used to judge the fiscal policy stance poses a much more difficult challenge in developing countries due to the numerous unexpected disturbances

in the macroeconomic environment that deviate the fiscal balance from targets. We believe that the present orthodoxy that states the importance of budget deficit targets does not have any merit at all. Finally, in section 5 we briefly review the framework that lies behind traditional fiscal sustainability analysis. We use the accounting approach on the government fiscal constraint and show that it has some important limitations and deficiencies when applied to developing countries. We highlight the fact that the overriding aim of using sustainability targets to correct the size of the primary balance (to avoid default) may be a wrong idea since government spending cuts may be self-defeating.

## 2. Fiscal Deficits and the External Sector

One thorny problem in public finance analysis is to address issues concerning relationships between fiscal deficits and the external sector. Especially, an unresolved problem in many developed countries is whether fiscal policies affect external balance. On the theoretical level, two approaches are known in developed countries to explore links between external and fiscal deficits: the Ricardian explanation and the so-called Keynesian proposition. The Ricardian equivalence theorem predicts that external and fiscal deficits are not linked. The Keynesian proposition, against the Ricardian equivalence, claims that there is a positive relationship between the two deficits and that causality goes from fiscal deficits to external deficits. This latter view led to the twin-deficit story in the 1980s in the U.S. and to the fixation, of some commentators, on the low personal saving rate (Blecker, 1999).

The different aspects of these propositions can be explained within a national accounting framework in which injections equals leakages in terms of the circular flow of income, namely

$$(X - IM - J) = (S_p - I_p) + (S_g - I_g) \quad (1)$$

where  $S_p$ ,  $I_p$ ,  $S_g$ ,  $I_g$ ,  $X$ ,  $IM$  and  $J$  stand for private saving, private investment, public saving, public investment, exports, imports and net factor services to abroad respectively. Public saving depends on fiscal revenue,  $T$ , current expenditure,  $G$  and interest payments,  $r_t B_{t-1}$ , so we have

$$(X - IM - J) = (S_p - I_p) + (T - G - r_t B_{t-1} - I_g) \quad (2)$$

The Ricardian equivalence theorem is based on the idea that, for a given path of global government spending ( $G + r_t B_{t-1} + I_g$ ), the future prospects of taxation to pay for a bond financed budget deficit reduces consumer expenditure today. This is because rational forward-looking agents believe that a deficit finance cut in current lump-sum taxes,  $T_t$ , leads to higher taxes that have the same present value that the initial cut (Barro, 1989). Tax cuts will have no effect on national saving, since changes in private saving will offset changes in government saving. Assuming that this idea is true, then national saving will not change, and fiscal deficits are expected to have no impact on external surpluses. Let us assume a special case in which all financial balances are equal to zero, that is  $S_p - I_p = 0$ ,  $T - G + I_g + r_t B_{t-1} = 0$ , and  $X - IM - J = 0$ , then if the Ricardian equivalence holds a sudden tax cut will imply that  $T < G + r_t B_{t-1} + I_g \Rightarrow S_p > I_p \Rightarrow X - IM - J = 0$ , where  $-\Delta T = \Delta S_p$ .

The Keynesian proposition, known as the twin deficits hypothesis, is based on the idea that if the public sector is negatively saving due to an expansionary fiscal policy, that is,  $T < G_t + I_t + r_t B_{t-1}$ , then aggregate national savings will fall. Increasing government borrowing to cover the rising budget deficit leads to higher interest rates, which, in a world of free capital mobility and flexible exchange rate system, attracts foreign capital and generates an exchange rate appreciation. This appreciation in turn will make exports less attractive and imports more attractive leading to a current account deficit ( $X < IM + J$ ). From such proposition the conclusion that might then be reached is that domestic demand and specifically government spending needs to contract to improve the current account.

It is important to point out that the perceived twin deficit problem lies at the heart of traditional IMF stabilization packages widely applied in developing countries (Taylor, 1998). A variant of this proposition reasons only on the basis of the national accounting identity which says that the difference between domestic absorption and national income is equal to the current account deficit. Let us recall that  $S_p = Y - C - T$  and that the sum of  $C + I_p + G_t + I_g + r_t B_{t-1}$  can be represented by  $A$ . This term  $A$  stands for the absorption of goods by the public of a country's economy. Thus, expression (2) becomes:

$$(X - IM - J) = (Y - A) \quad (3)$$

Though causation must never be inferred from identities, it is unfortunate, however, from the way the expression is read, that the impression is given that it is plans to spend in excess of plans to produce that is the causal explanation of current account deficits. Specifically, as long as  $(S_p - I_p)$  is stable, changes in fiscal deficits, specifically in the non-financial fiscal deficit  $G + I_g - T$ , will be closely associated with movements in the current account deficit. From this viewpoint, the budget deficit presents an active character. An increase in the budget deficit (an absorption) when the government is credit-constrained in external and domestic markets has to be financed by money creation. If the price level is driven up by the monetary expansion (which does not always happen), then the real exchange rate will appreciate, imports are likely to rise and exports to fall, leading to an external imbalance.

Though both the Ricardian and Keynesian approach have been in fact used as visualizations of the relationship that may exist between the fiscal and external deficits, there is more to the conventional posture than this when the matter is extended to the context of developing countries.

Traditionally, when a developing country is said to have a problem of external imbalance ends up requesting a line of credit, or some kind of external loan, from the IMF. Since countries cannot present collateral, conditionality substitutes for this to provide the assurance that policy changes will be undertaken to generate the resources for repayment. Policy changes concentrate in fiscal adjustment since the Fund keeps the idea that external deficits are a sure sign of excess domestic demand, to be cured by credit squeeze and fiscal retrenchment.<sup>1</sup> Very often, the theory here associates itself with a long-held institutional commitment to the ingenious analytical short-cuts derived from the monetary approach to the balance of payments and its underlying neoclassical assumptions.

A straightforward way to illustrate the workings of the underlying model is to start from the government budget constraint.

$$(G + r_t B_{t-1} + I_g - T) = (C_t - C_{t-1}) + (B_t - B_{t-1}) \quad (4)$$

Here the subscript  $t$  indexes time,  $B_t$  is the stock of public debt held by the public at the end of period  $t$ , and  $C_t$  is the stock of government debt held by the central bank at the end of period  $t$ .

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<sup>1</sup> Indeed, as remarked by Camara and Vernengo (2004), fiscal policy was the first item in Williamson's decalogue of the Washington Consensus.

From the balance sheet T of the Central Bank we may write the change in the monetary base as

$$(M_t - M_{t-1}) = (C_t - C_{t-1}) + e(R_t^* - R_{t-1}^*) \quad (5)$$

where  $R_t^*$  stands for the foreign currency value of international reserves, and  $e$  is the nominal exchange rate. Combining (4) and (5) we get

$$(G + r_t B_{t-1} + I_g - T) = (M_t - M_{t-1}) - e(R_t^* - R_{t-1}^*) + (B_t - B_{t-1}) \quad (6)$$

If the amount of debt held by the public has reached a given level in which the supply of domestic and external credit to the government becomes inelastic, then  $B_t - B_{t-1} = 0$  and (6) reduces to

$$(G + r_t B_{t-1} + I_g - T) = (M_t - M_{t-1}) - e(R_t^* - R_{t-1}^*) \quad (7)$$

Thus a positive deficit will imply either a change in the money stock or/and a change in the international reserves position.

Let us now add to the model the following monetary block

$$M_t v = p y \quad (8)$$

$$p = e p^* \quad (9)$$

$$i = i^* + \hat{e}^e \quad (10)$$

$$v = v(i) \quad (11)$$

$$M_{dt} = M_{st} = M_t \quad (12)$$

where  $v$  is the income velocity of money,  $p$  is the domestic price level,  $p^*$  is the foreign price level,  $i$  is the domestic interest rate,  $i^*$  is the foreign interest rate, and  $M_{st}$  and  $M_{dt}$  are the money supply and demand terms. In essence we have added to the model main structure the equation of exchange, the law of one price, an expression for the interest-parity theorem, a behavioral expression for the income velocity of money, and the equilibrium condition in the money market. Substituting (9), (10), (11) and (12) into (8) we have

$$M_t v(i^* + e^e) = e p^* y \quad (13)$$

Similarly,

$$M_{t-1} v_{t-1}(i_{t-1}^* + e_{t-1}^e) = e_{t-1} p_{t-1}^* y_{t-1} \quad (14)$$

Now, in a credible fixed exchange rate system  $e_t = e_{t-1}$  and the expected growth of the exchange rate is zero, so that  $\dot{e}^e = 0$ . From the small open economy assumption and free capital mobility,  $i^*$  is exogenous, so we can assume that it is fixed. All these transform the interest-parity theorem into  $i = i^*$ . Additionally the assumption of an independently determined real income level is consistent with the neoclassical assumption in which real income is a function of the real wage or else fixed at full employment. Putting all these assumptions together we got  $M_t = M_{t-1}$  and expression (7) reduces to

$$(G + r_t B_{t-1} + I_g - T) = -e(R_t^* - R_{t-1}^*) \quad (15)$$

Then, a fiscal deficit that is financed by borrowing from the central bank leads to a fall in central bank's international reserves without any final change in the stock of money. The monetary approach transforms into the "fiscal approach to the balance of payments".

Though the fiscal deficit is the factor which determines the external imbalance we should observe the functioning of this mechanism. Given an independent and stable money demand function, any expansion of the money supply brings about a situation in which the public is loaded with excess money balances. This stock disequilibrium explains why economic agents try to adjust their money holdings to restore their desired level. They buy foreign assets and this means an increase in the balance-of-payments deficit. Alternatively, if a real balance effect is taken into account, this spurs an increase in expenditure which, given the full employment of domestic resources, results in increased consumption of foreign goods and a consequent trade deficit.

There are a number of inadequacies in all these conceptual approaches to the relationship between the fiscal deficits and the external balance. Let us start with a brief assessment of the Ricardian equivalence as applied to a developing economy. *Prima facie*, the Ricardian requires a number of assumptions that might not appear to be satisfied in developing countries. The Ricardian equivalence proposition has been derived in the context of full

employment or assuming, at least, a given level of real income, being as such essentially irrelevant in the context of economies that exhibit idle resources.<sup>2</sup> Further, particularly in the hard conditions of developing countries, the time horizon over which people take decisions may be relatively short, invalidating the underlying infinite horizon assumption that permeates the Ricardian equivalence world. Other points worth to mention are that taxes in developing countries are never lump-sum, future taxes and incomes are uncertain and people rarely have perfect foresight.

However, as Giorgioni and Holden (2003) have argued the absence of perfect capital markets in developing countries is probably the most quoted reason for the Ricardian equivalence not to hold. The fact of the matter is that consumers are expected to be liquidity constrained (or credit rationed) and sometimes governments need to provide liquidity services by borrowing from the rich (unconstrained consumers, be they locals or foreigners) and lending to the poor. In reality, as Jansen (2002) argues, if financial markets are far from perfect, households can discount future tax payments with a discount rate that is higher the interest rate than the interest the government has to pay on bonds. The present value of the future tax payments is thus less than the current tax cut and the tax cut can have real effects. Blanchard (1985) provides a useful framework in which finite lives are a source of this.

Empirical work on the Ricardian equivalence proposition in developing countries produces evidence that is rather weak. Though Haque (1988), Dalamagas (1992) as well as Giorgioni and Holden (2003) find some tentative support for the Ricardian proposition for cross country studies with different samples, most studies either detect a very weak negative relationship between public and private savings or directly reject the equivalence proposition owing to the prevalence of liquidity constraints in developing countries (see Haque and Montiel 1989, Corbo and Schmidt-Hebbel 1991, Edwards 1995, Khalid 1996). Some of these studies find that increased public savings may instead promote total volume of savings in developing countries. Further, in a quite interesting study Lopez, Schmidt-Hebbel and Serven (2000) conduct a large-panel data set that includes both industrial and developing countries, whose results reject full Ricardian equivalence in all the samples, but also suggest that the existence of liquidity constrained individuals is larger in developing than in industrial countries.

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<sup>2</sup> Arestis and Sawyer (2004) point out that the proposition assumes that the economy is initially in a situation where ex ante investment and savings are equal at full employment. In this context the level of aggregate demand is invariant to the budget deficit position.

In the same line, Muradoglu and Taskin (1996), using household data from the U.N. System of National Accounts, report that the determinants of household savings behavior for industrial countries are not valid for developing countries and vice versa, which immediately questions any direct application of the Ricardian equivalence proposition from the former group to the latter. Other country studies like Ghatak and Ghatak (1996) and Mahambare and Balasubramanian (2000) for India provide evidence to support the hypothesis that proposition does not hold.

Does all this criticism of the Ricardian equivalence proposition mean that one can rely on the orthodox Keynesian proposition to keep the deficit from getting out of hand in order to avoid an external imbalance? The answer is no. The national accounts are useful framework for an empirical analysis of macroeconomic performance, but sometimes they are misleading devices to pursue economic analysis and definitively of little use for issues concerning causation.

Consider for instance equation (1) which is merely an accounting identity. An identity does not prove anything about the direction of causality. The saving shortfall or excess demand argument pointed out by orthodox Keynesianism falsely presume that causality has to flow from the saving variable on the left-hand side of the identity to the current account balance on the right. But evidently, there are numerous other possibilities.

It may happen, for instance, that the foreign account is balanced ( $X - IM - J = 0$ ) while the deficit has to match the borrowing of the private sector. Expression (2) reduces to

$$(S_p - I_p) = (G + I_g + r_t B_{t-1} - T) \quad (16)$$

This case will apply to some approximation in countries where the role of the foreign balance is small as compared with that of other sectors, or when all countries are taken together forming a closed system. However, even in this case the issue of causality is still open.<sup>3</sup>

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<sup>3</sup> Again recent empirical studies based on Error Correction Mechanisms, Vector Autoregressive Models and Causality Tests such Islam (1998), Mansouri (1998), Anoruo and Ramchander (1998) and Kouasi, Mougoué, and Kymn (2004) contradict the twin deficit hypothesis which claims that there is a unidirectional causality going from fiscal to external deficits in developing countries. Kouasi, Mougoué, and Kymn (2004) suggest that economies that are relatively more open and in which trade plays a relatively more important role are probably more likely to have their domestic developments dictated by the foreign balance to a certain extent.

The orthodox Keynesian causation is faced with insurmountable problems when the budget balance is likely to play a passive role. This is the case highlighted by Steindl (1982) and share by Latin American structuralists.<sup>4</sup> Accordingly, the budget deficit is not regarded as an active element incurred on purposed by the government, but a residual derived from the interplay of lending and borrowing of the various sectors in the economy. Of course, which of these sectors plays an active role and which plays a passive role depends on institutional circumstances.

For analytical reasons we may follow Steindl (1982) and reformulate expression (1) as

$$(X - IM - J) = (S_h - I_h) + (S_c - I_c) + (T - G - I_g - r_t B_{t-1}) \quad (17)$$

i.e. the private sector surplus ( $S_p - I_p$ ) must equal ex-post the savings deficit or surplus of households ( $h$ ) and enterprises ( $c$ ). Under this revised accounting definitions truly Keynesian implications can be stated. Accordingly, a secular increase in the savings rate of households will depress private consumption (increasing  $S_h$ ) and therefore leads to a decline in output and business profits which, in turn, decreases the collection of taxes,  $T$ , and increases the deficit of the public sector. Note in this story, that an increase in household savings is more troublesome than business savings since they do not stimulate investment. Alternatively, if corporate investment  $I_c$  is largely independent of saving, then a fall in it can reduce aggregate demand, income and household consumption, generating a fall in government saving. Though both cases are examples of the pure passive role that the budget deficit may play, the relevance of these chains of causations for developing countries may be open to questions.<sup>5</sup>

Latin American Structuralist economists have pointed out a bunch of reasons why fiscal deficits may respond to, rather than cause, changes in the current and capital account.

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<sup>4</sup> Steindl (1982) points out that for manifold reasons the fiscal policy stance is difficult to determine. Budget policy has a discretionary impact on tax rates and certain elements of public spending ("active character of public budgets"), but the general government financial balance is, however, also determined by the volume of GDP, which in turn is a function of the interaction of the borrowing and savings patterns of the different sectors of the economy ("passive character of public budgets"). High or low budget deficits therefore do not directly point towards expansionary or restrictive fiscal policy.

<sup>5</sup> Indeed, when Steindl (1979) stressed the rise in personal savings -due to an increase in the standard of living- as a possible determinant of low growth, he was thinking in terms of developed countries. Eatwell and Taylor (1998) stress that high levels of investment by the private sector, encouraged by a public sector commitment to growth and employment, in turn resulted in healthy fiscal balances during the 1960s, but again they seem to have industrial countries in mind.

The fact of the matter is that developing countries are subject to various exogenous that make the pursuit of “sound” fiscal policy, very difficult. External shocks may originate from unexpected changes in export earnings, changes in major import prices, changes in the cost of foreign borrowing, changes in the availability of foreign credit, changes in the level of foreign grants, foreign workers’ remittances, foreign investment, capital outflows by nationals and so on. The factors just mentioned affect not just the incomes of countries but also their fiscal variables. They may improve or worsen the fiscal situation and, by doing so, they may or may not bring about adjustments or policy responses. It is important to point out that, in developing countries, the impact of external shocks on the fiscal variables is much more direct or automatic than in developed economies. The reason is the close link that exists in developing countries between the budget and the foreign sector. Tanzi (1986) points out that about 50 percent of the tax revenues of developing countries may be directly related to the foreign sector. It is not only foreign trade taxes that may be high (as a proportion of total revenue) but the proportion of domestic sales and VAT taxes collected from imports may be high as well. Furthermore, heavy reliance of corporate income taxes on exports of mineral products may explain the strong link between the foreign and the fiscal sector.

Analytically, we may have a case of a country in which tax receipts originate, on the one hand, in direct taxes on residents’ income,  $tY$ , and direct income taxes on exports of a material raw or mineral good,  $t\alpha X$ , and on the other hand, in indirect taxes on both the domestic good, and the imported good,  $\phi IM$ . Where  $t$  is the average tax rate,  $\alpha$  is the share of commodities on total exports, and  $\phi$  stands for the combined rate of average customs duties and indirect taxes paid on the imports. Furthermore assume now that the debt service has a domestic and an international component, that is,  $rBD_{t-1}$  and  $r^*BF_{t-1}$ , where  $BD_{t-1}$  represents the stock of domestic public debt securities and  $BF_{t-1}$  represents the stock of foreign debt securities issued at the international interest rate  $r^*$  and measured in domestic currency. The national account identity (2) can be written now as:

$$(X - IM - r_t^* BF_{t-1}) = (S_p - I_p) + (tY + t\alpha X + \phi IM - G - r_t BD_{t-1} - r_t^* BF_{t-1} - I_g) \quad (18)$$

and the balance of payments of the public sector ( $BPPS$ ) as

$$BPPS = (t\alpha X + \phi IM - r_t^* BF_{t-1}) \quad (19)$$

Clearly, it is perfectly possible that a fiscal deficit may be caused in the first instance by an autonomous fall in exports, an autonomous fall in imports, or an autonomous rise in the international interest rate, quite independent of government decisions to spend. Though the link between a current account deficit and fiscal deficit is not straightforward, what happens very often is that commodity exporters and highly indebted countries face an inherent instability from fluctuating export prices and foreign interest rates that deteriorate the current account and translates into higher budget deficit.

Consider, for instance, a scenario in which the foreign interest rate depends on the debt service coverage ratio, that is

$$r^* = f\left(\frac{r^* BF_{t-1}}{X}\right); \frac{dr^*}{d(r^* BF / X)} < 0 \quad (20)$$

Then, a fall in export prices affects foreign exchange earnings,  $X$ , and public revenues coming from commodity taxes,  $t\alpha X$ , but also deteriorates the debt service coverage ratio which in turn raises foreign interest rates and the foreign debt service,  $r^* BF_{t-1}$ . Hence, in this case, the public deficit increases *pari passu* with the fall in export earnings.

Leading authors such as Bresser Pereira (1990), Bacha (1992) and Damil, Frenkel and Rapetti (2005) have argued that from the early 1980s *grasso modo* foreign-determined variations in net financial flows, specifically in total interest paid on the foreign debt, have been a main factor explaining the increase in fiscal deficits in several Latin American countries. Bresser Pereira (1990) indicates that, contrary to conventional wisdom, an economy —as was the case of Brazil in the early nineteen eighties— may achieve a current account balance, but due to the magnitude of foreign debt payments, the public deficit may remain high.<sup>6</sup> He claims that there is an adjustment process that is implicit in this solution that is perverse and self-defeating in several ways. When the burden originated in the external debt is high, the current account balance is achieved by a reduction of imports, output and private consumption. However, since the foreign banks decide not to increase their exposure in highly indebted countries, the

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<sup>6</sup> An important jump in the public sector proportion in country' foreign debt stated to occur in the late nineteen seventies in many developing countries, but in the early nineteen eighties after the explosion of the debt crises, the public sector ended up absorbing a considerable proportion of the private foreign debt, with the pressure and approval of the international banks.

financing of the public deficit caused by interest to be paid on a high external debt had to be done by increasing domestic indebtedness. This debt is absorbed by an already consumption-constrained private sector. Eventually, the increase of domestic debt flotation to the public could be achieved only by increasing the interest rate and/or reducing maturities; and the increased of the interest rate aggravates the public deficit. In these circumstances, it no longer follows that  $X - IM - J = 0 \Rightarrow T = G + r_t B_{t-1} + I_g$ . The current account balance is achieved by a reduction of absorption,  $S_p > I_p$  which is perfectly consistent with  $T < G + r_t B_{t-1} + r^*_t B F_{t-1} + I_g$ .

Damil, Frenkel and Rapetti (2005) provides empirical evidence that shows that the basic factor that explains the increase in the fiscal deficit in the 1998-2001 Argentinean crises was the increase in the country-risk premium after the Asian, the Russian and the Brazilian crises. These events found an economy with a considerable appreciated currency, a significant and growing current account deficit and a visible lack of instruments to deal with these problems, given the rigidities of the adapted convertibility rule.<sup>7</sup> The impact of the Russian and Brazilian crises in 1998 resulted in a fatal jump in the country-risk premiums, and access to foreign funds became more and more problematic. They show how the average interest rate of the total public debt went from 5.8% in 1996 to 9.4% in 2001 and an explosive trend in the public debt interest account drove the interest payments/tax collection ratio from 12.2 in 1998 to 23.4 in 2001. Restrictive fiscal policy reinforced the recessionary trend, thus feeding the negative expectations that prevented the so much expected fall in country risk premium. Finally, the economy collapsed leaving a heavy burden of external financial obligations.

Taylor (1998) argues, very convincingly, that in the cases of the Mexican financial crises of 1994 as well as the East Asian crises of 1997-1998, the macro-imbalances are better described “as private sectors (both domestic and foreign) acting to make high short-term

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<sup>7</sup> Frenkel (1983) provides a formalization and Taylor (1998) and Damil, Frenkel, and Rapetti (2005) provide glosses, emphasizing the cyclical dynamic associated with the exchange rate anchoring and financial liberalization exercises. Accordingly, the exchange rate fixation encourages private capital inflows induced by the difference between international and domestic interest rates. A residual inflation causes the real exchange rate to appreciate. Private local players take positions in the relevant assets, borrowing abroad to do so. The current account worsens as a result of increasing net imports and the expansion in demand, and the external financial needs rise. Short-term debt accumulates increasing the vulnerability of the economy to external financial shocks. Falling reserves announce a discrete devaluation, a regime shift which potentially inflicts a capital loss on external investors holding liabilities of the home country denominated in local currency. Eventually, players unwind their positions before the downswing begins, precipitating the crises.

profits when policy and history provide the preconditions and the public sector acquiesces ” (p. 48). Jansen (2002) points out that, in the case of Thailand, fiscal imbalances have nothing to do with the crises. He remarks that fiscal discipline had been excellent in the past and outstanding debt had been very small. Careful examination indicates that external liberalization exercises coupled with lax financial regulation at home and a fixed exchange rate draw substantial capital inflows, generate exchange rate appreciation and results in huge current account deficits. Thus, financial inflows generated macroeconomic changes (in all these economies) which played a fundamental role in driving investors’ expectations. Public deficits had at most secondary significance in generating the crises.

There is no doubt then that attention has to be drawn to the needs to take full account of capital flows in the national accounting identity. Accordingly we will have

$$(X - IM - J) = (\Delta R - CF - \Delta BF) = (S_p - I_p) + (T - G - r_t B_{t-1} - I_g) \quad (21)$$

where  $\Delta R$  represents changes in the level of international reserves,  $CF$  the changes in the short-term asset position of non-residents, and  $\Delta BF$  other changes in long term public external debt. Thus if short-term liabilities  $CF$  rise ex-ante and other capital account items ( $R$  and  $BF$ ) are given, then one of the right hand side variables must adjust. Specifically, higher capital inflows should be match by a higher current account deficit. The relevant story in the developing economies of Latin America and East Asia is that private consumption and investment increases with the increase in short-term inflows ( $dI_p/dCF > 0$  and  $dS_p/dCF < 0$ ) and as a result net imports increase as well. In a fixed exchange rate regime, overvaluation of the exchange rate may prevent export promotion and reinforce the import boom. Therefore, we may have a situation in which the current account deficit is brought about by the sudden changes in the capital inflows that are match by a decreasing private savings gap.

Some alternatives open indicate that there may be several channels through which short-term capital flows can have an effect on the budget deficit. FitzGerald (2000) have pointed out that foreign capital flows can have a direct impact on the government ability to maintain or increase the planned public sector borrowing requirement (at reasonable rates of interest) conditioning the size of the deficit, especially when other sources of financing are absent. The aftermath of the 1982 debt crisis implied, in fact, an example of a massive regime change in the form of foreign resource constraints faced suddenly by most developing countries.

Additionally, variations in the exchange rate caused by capital flows may have an effect on the budget, although the direction and scale depends upon the currency composition of government revenues and expenditure.<sup>8</sup> Moreover, fluctuations in the domestic interest rate accompanying capital flows can impact on the cost of the debt service.

Current account factors or sudden turnarounds of international capital flows may improve or worsen the fiscal situation and, by doing so, they may bring about policy responses. Experience and empirical evidence indicates that policy responses in developing countries can be perverse in the face of an adverse external shock. At the heart of the story analysts find that access to international markets often vanishes in the face of an adverse external shock (Gavin, Hausmann, Peroti and Talvi, 1996). If the government cannot acquire more domestic debt and if it is inadmissible or impossible to increase inflation tax receipts then, we may talk of a situation in which both the external and fiscal constraints are dominant (Eyzaguirre 1989). The economy faces problems of financing the public sector and the balance of payments.

The presence of both an external and a fiscal constraint is not a question of mere academic speculation; rather, after external shocks -such as the 1982 debt crises- the presence of both constraints was the most common economic policy problem in many Latin American countries. Under these circumstances, the basic objectives of orthodox adjustments were, externally, to produce an equilibrium in the current account, and, internally, to reduce the budget deficit. Both objectives were supposed to be achieved simultaneously by reducing absorption, specifically, government spending. It is interesting to note that the reduction of the fiscal deficit was achieved perversely through the reduction of public sector investment, since the reduction of current public expenditure or an increased in taxes is always very difficult in political terms.<sup>9</sup> For the developing countries involved the situation was a virtual trap. As

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<sup>8</sup> In highly indebted countries the main effect would be through the cost of external debt service, so capital inflows causing appreciation improve the budget balance. In the case of primary exporters where revenues are dollar-based such appreciation may even cause a deterioration of the fiscal balance.

<sup>9</sup> The United Nations Commission for Trade and Development (1989, p.90-91) reports that fiscal adjustment during the 1980s involved mainly spending cuts rather than revenue increases, and "the burden fell primarily on capital spending, which was more than halved in a number of countries." Bresser-Pereira (1990, p. 507) notes that the public sector adjustment of the early 1980s in Brazil "was achieved perversely through the reduction of public sector investment." But this idea that governments in LDCs often cut capital spending in order to achieve fiscal adjustment is not just anecdotal. In fact, by analyzing the impact of the external debt crisis on the Latin America and African region, and the subsequent fiscal adjustment Easterly (1999) took 15 intensively adjusting countries and found that all of them reduced public investment steadily during 1980-1994. Hicks (1991) reports this behavior in a sample that covers 15 LDCs and 11 Latin American countries, using data from the

argued by several economists of structuralist inspiration, this type of adjustment was useless austerity since the fall of public investment produces a recessive adjustment, and aggregate saving declines as income drops (see Fanelli, Frenkel and Winograd 1987, Eizaguirre 1989, Bacha 1990 and 1992, Taylor 1991a and 1994, and Vera 2005).<sup>10</sup> What is the mechanism that produces this trap?

Consider, for the sake of simplicity, a highly indebted economy where all foreign debt in the economy is owed by the government, so that all foreign capital inflows are to finance the government budget, which is the only source of public finance. The government budget constraint would look like

$$(G + r^* BF_{t-1} + I_g - T) = (BF_t - BF_{t-1}) \quad (22)$$

If changes in policy instruments that affect  $G$  and  $T$  are neutralized by the reaction of political forces outside the control of the policymakers these variables will be given and a dominant fiscal constraint would imply that the term  $(BF_t - BF_{t-1})$  is fixed and the variable that is adjusted is government investment. We have

$$I_g = (BF_t - BF_{t-1}) - G - r^* BF_{t-1} + T ;$$

and 
$$\frac{dI_g}{d(BF_t - BF_{t-1})} = 1 \quad (23)$$

The national income identity, asserting the equality between income and spending in an open economy is given by:

$$Y = C(Y - T) + I_p + G + I_g + X - IM \quad (24)$$

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IMF's government finance statistics databank for the period 1979-85. The study shows that for highly indebted countries the sector that appears to have suffered the most is the infrastructure sector. Harris and Kusi (1992) reach similar conclusions for a selected group of African countries and Mansouri (1998) presents some econometric support for the case Morocco.

<sup>10</sup> The simple three gap model of growth along the lines suggested first by Fanelli *et al.* (1987) and subsequently developed by several structuralist economists, emphasizes precisely the fact that in highly indebted economies fiscal policy and medium term growth prospects are constrained by the country's restrictive access to foreign capital markets.

where private sector consumption,  $C(Y - T)$ , depends on disposable income. Next, assume the crowding-in hypothesis that drives post-industrialization in many developing countries in which private investment depends on government investment (in infrastructure, services and basic industries), in such a way that, as a maximum, its value is

$$I_p = \delta I_g, \delta > 0 \quad (25)$$

Then, replacing (25) in (24), we get:

$$Y = C(Y - T) + (1 + \delta)I_g + G + X - IM \quad (26)$$

Taking differentials we have

$$\Delta Y = c\Delta Y + (1 + \delta)\Delta I_g \quad (27)$$

where  $c$  represents the marginal propensity to consume. Substituting (23) into (27) the most obvious implication of a fall in external financing brought on by a debt or financial crises is the associated adjustment in public investment as well as the resulting fall in national income. That is:

$$\frac{\Delta Y}{\Delta(BF_t - BF_{t-1})} = \frac{(1 + \delta)}{(1 - c)} > 0 \quad (28)$$

Assuming finally that private savings can be residually specified as a function of disposable income, so  $S_p = Y - c(Y - T)$ , it follows that

$$\Delta S_p = \Delta Y - c\Delta Y \quad (29)$$

Taking into account (28) this change in private savings can be expressed as follows:

$$\Delta S_p = \frac{(1 + \delta)}{(1 - c)} \Delta(BF_t - BF_{t-1}) - c \frac{(1 + \delta)}{(1 - c)} \Delta(BF_t - BF_{t-1}) \quad (30)$$

or

$$\Delta S_p = (1 + \delta)\Delta(BF_t - BF_{t-1}) \quad (31)$$

Consequently, the reduction or the cessation of external financing produces also a contraction of private saving.

In terms of the more general national accounting identity we may consider the interactions between the savings gaps when the economy described above is subjected to an external shock. Consider, for the sake of simplicity, that  $\Delta R = 0$ ,  $CF = 0$ . Moreover, let us assume further that all government debt service has only an international component, that is,  $rB_{t-1} = r^*BF_{t-1} = J$ . Equation (21) is then rewritten as

$$(S_p - I_p) + (T - G - I_g) = (X - IM) = (J - \Delta BF)$$

or

$$(S_p - I_p) + (T - G - I_g) = (J - \Delta BF) \quad (32)$$

Bacha (1992) refers to the term  $(J - \Delta B)$  as net financial transfers (which is equal to the trade balance). Thus, if the fiscal constraint is dominant, when an increase in  $J$  or a fall in  $\Delta B$  occurs (a variation in net financial transfers), accommodation to the resulting disequilibrium is initially done, by reducing public investment and then, in a Keynesian fashion, by reducing the level output, private investment and savings. Notice that  $\Delta I_p = \delta \Delta I_g$ . Also, depending on the value of  $\delta$ , private investment may or may not fall in proportion than is greater than the fall in public investment. If for instance  $\delta > 1$ , it follows that  $\Delta I_g < \Delta I_p < \Delta S_p$ . Causality has not only been reversed in the analysis but the one-to-one link between the trade balance and the budget deficit no longer exist.<sup>11</sup>

It is clear that the relationship between the fiscal deficits and the external balance in developing countries takes a wide variety of forms that go far beyond the Ricardian equivalence principle or the simple twin deficit causality. An attempt has been made here to furnish a more coherent examination of existing alternatives interpretations. But before moving to the next section, it is worth saying a few words about the inadequacies of the monetary approach as applied to developing countries.

In the theory that underlies IMF-supported stabilization programs, the decision variable which influences credit creation by the central bank or the excess demand in the system is the fiscal deficit. Thus, the idea that curbs on government spending provide a mechanism to correct for

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<sup>11</sup> This may explain why Balassa (1988) finds a high correlation between budget deficits and trade deficits in the industrial but not the developing countries.

balance of payments disequilibria is employed very frequently. From this perspective, an essential feature of an open economy with a manageable exchange rate system is that money supply depends on the policies of the government (and also on the trends in the balance of payments). The simplest version of the orthodox monetarist position that underlies the orthodox programs considers that the demand for money in such a system is given and stable. This means that full employment prevails in the economy, and that the small country assumption as well as the uncovered interest parity is satisfied (as in equation 13). Expansionary fiscal policy is powerless beyond the full employment position and spurs an increase in imports or a reallocation of excess money that results in an external imbalance. Implicitly, it is also assumed that both money demand and national income are determined independently of the amount of credit creation.

Applied work in macroeconomics for developing countries would recommend skepticism with respect to the general applicability of the aforementioned assumptions, to say the least.<sup>12</sup> But for the purposes of evaluating the IMF recurrent anxiety on the control of fiscal deficits it seems convenient to evaluate whether changes in the fiscal deficit and domestic credit changes international reserves only.

Rabin and Yeager (1982) present a simple model showing that the link between imbalances in the money market and imbalances in the balance of payments does not hold when nontradeable goods appear in the analysis and disequilibrium in this market prevails. They claim that the monetary approach overlooks the distinction between goods, services, and securities that are internationally traded and those that are purely domestic and not traded, including factors of production. Thus, an excess demand for or supply of money holdings need not be matched by a corresponding imbalance in the market for internationally traded goods, services, and securities, but by an imbalance in the market for nontradeables.

Chandrasekhar (1995) goes even further and argues that the equilibrium that suggests an inverse relation between fiscal deficit and the change in external assets of the central bank is not the only one compatible with money market equilibrium. The reason is that the demand for money is not a given. To illustrate this we can use identity (6) depicting the intersection of the government budget constraint and balance sheet of the central bank, namely

$$(G + r_t B_{t-1} + I_g - T) = (M_t - M_{t-1}) - e(R_t^* - R_{t-1}^*) + (B_t - B_{t-1}) \quad (6)$$

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<sup>12</sup> Vera (2001) provides an extensive summary of the intrinsic theoretical weaknesses and inconsistencies, erroneous premises and assumptions, and empirical difficulties that plague the IMF orthodox framework.

Hence,  $e\Delta R = (T - G - I_g - r_t B_{t-1}) + \Delta M + \Delta B$

It should be clear that a reduction in the fiscal deficit would be accompanied by a reduction in the borrowing of the government, either from the central bank or from the public. If the monetarist assumptions with regard to full employment output and interest rate determination do not hold, this could affect the demand for money in two ways: first, the reduction in government expenditure could adversely affect the level of real income; and second, a cut in the government's borrowing from the public could reduce the rate of interest. The two mechanisms have contrary effects on the demand for money.<sup>13</sup> If the interest rate elasticity of the demand for money were low, the net effect would be a decline in the demand for money. This implies that, if money market equilibrium holds ( $\Delta M_{dt} = \Delta M_{st} = \Delta M_t$ ), money supply would be lower than it would have been without the cut in the fiscal deficit. In addition, lower interest rates would raise domestic credit to the public. Both these effects, by reducing the second term on the right-hand side of (6), could more than neutralize the increase in the first term, consequent to the fiscal deficit cut, and therefore result in a negative variation in net foreign assets,  $e\Delta R$ . This illustration merely suggest that the IMF-supported programs focus on one among many possible equilibria, and that pure determinism from the budget deficit to changes in international reserves is fraught with problems. Balance of payments deficits will easily coexist with varying degrees of income and domestic capacity utilization. Adding a domestic demand contraction is not only bad economics but also ruinous to national prosperity.

### **3. Fiscal Deficits and Inflation**

For long time, economists and policymakers have worried about the relationship between government budget deficits and inflation. The orthodox view has been that the main culprit behind the inflationary process is the creation of high-powered money (and thus seigniorage) to help finance fiscal imbalances. But as we mentioned before, the fiscal and monetary framework from which orthodox stabilizations programs are derived in developing countries seem to be based on the idea that budget deficits are a sure cause of external imbalances at least in the short-run. The problem is that the story in which prices are determined by money supply is not consistent with the aforementioned orthodox framework. Faced with this situation, there are two alternatives strategies to follow. One is to close the

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<sup>13</sup> The former reduces the demand for money and the latter tends to increase it.

economy and derive from a steady-state growing economy a long-run relationship between budget deficit and inflation. In this case the law of one price will not play any important role in the determination of domestic prices. The other is to extent the analysis to an open economy so as to allow exchange rate adjustments. If the central bank also monetizes fiscal expansions, no monetary anchors are left to tie down the price level and in such circumstances the public finance approach to inflation becomes relevant for the explanation of short-run inflation.

To derive the relation between fiscal deficits and inflation in a closed economy, start from expression (6) for the government budget constraint assuming that  $e\Delta R^* = \Delta B = 0$ :

$$(G + r_t B_{t-1} + I_g - T) = (M_t - M_{t-1}) \quad (6a)$$

Let us say that the overall budget deficit is given by  $D = (T - G - I_g - r_t B_{t-1})$  and rewrite equation (6a) as

$$D = \frac{\Delta M_t}{M_{t-1}} M_{t-1} \quad (33)$$

In a steady-state growing economy we have

$$\frac{\Delta M_t}{M_{t-1}} = \frac{\Delta Y_t}{Y_{t-1}} = [g_t + \pi_t (1 + g_t)] \quad (34)$$

where the nominal output growth,  $\Delta Y_t/Y_{t-1}$  is expressed in terms of the real output growth,  $g_t$ , and the inflation rate,  $\pi_t$ . Notice that a pure monetarist approach will assume further zero real output growth to obtain

$$\frac{\Delta M_t}{M_{t-1}} = \frac{\Delta Y_t}{Y_{t-1}} = \pi_t \quad (35)$$

Substituting equation (34) into (33) and solving for the inflation rate, we obtain the following long-run relation between inflation, scaled budget deficit,  $D$ , and real output growth

$$\pi_t = -\frac{g_t}{(1 + g_t)} + \frac{D}{M_{t-1}(1 + g_t)} \quad (36)$$

Equation (36) as it stands says that the relationship between the nominal budget deficit and inflation is linear. A model like this is extremely simple, but simple results serve to specify the assumptions that lie behind different prescriptions. For instance, a larger budget deficit that translates into a larger money stock does not need to lead to inflation if the long-run steady state effects of fiscal policy on growth are positive. In that case  $g_t = g(D)$ , with  $dg_t/dD > 0$  and the impact of an increase of  $D$  on  $\pi_t$  is ambiguous. Indeed, endogenous growth models developed in the last decade or so suggest that increasing budget deficits may be expected to increase long-run growth rates (see Gemnell 2001).<sup>14</sup> Moreover, Arestis and Sawyer (2004) have argued that the path of aggregate demand does itself influence the supply-side potential of the economy since it has an impact on the size of the capital stock. The growth rate of the economy may thereby be enhanced by expansionary government budget deficits. The relevance of this literature for the fiscal policy-growth relationship in developing countries is something that, of course, needs to be assessed.<sup>15</sup>

A best known formulation of this inflationary finance model explores the role of seigniorage. Seigniorage corresponds to the amount of real resources appropriated by the government by means of base money creation. It is supposed that seigniorage accounts for a higher share of government tax and non-tax revenue in developing countries compared to industrial countries.<sup>16</sup> However, given the attention devoted to seigniorage in the orthodox literature, it is surprising to find out how small it is as a source of revenue. Click (1998), for instance, finds for a data set of ninety countries that seigniorage on average amounts to 2.5 percent of GDP and finances around 10.5 percent of government spending. Easterly and Schmidt-Hebbel (1991) reports an average seigniorage of 2.1 percent of GDP for a group of 35 developing countries.

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<sup>14</sup> Fiscal policy in these models such as tax breaks for hi-tech industries, public investment, capital income taxes and public R&D, can have long-run effects to the extent that it affects factor accumulation or influences technical progress.

<sup>15</sup> Some preliminary evidence provided by Miller and Russek (1997) suggest that for developing countries, deficit-financed increases in public expenditure retard economic growth and tax financed increases lead to higher growth. Adam and Bevan (2003) examine the relation between fiscal deficits and growth for a panel of 45 countries and find that deficits may be growth-enhancing if financed by limited seigniorage; but they are likely to be growth-inhibiting if financed by domestic debt. They argue that two types of nonlinearity may emerge, one involving the size of the deficit and the other interactions between the deficit and the public debt stock.

<sup>16</sup> It is often argued that developing countries generally have a small taxable capacity and that they lack an adequate administration to assess and to collect taxes. So they may have to use the inflation tax as a means to finance government expenditure.

To see the role played by seigniorage we get back to expression (6a) and divide both sides by the price level,  $p$ , to get

$$\frac{(G + r_t B_{t-1} + I_g - T)}{p_t} = \frac{\Delta M}{p_t} = \frac{\Delta M}{M_t} \frac{M_t}{p_t} \quad (37)$$

Calling  $M/p = m$ , a simple rearrangement allow us to rewrite (37) as

$$\frac{D}{p_t} = \Delta m + \pi_t m \quad (38)$$

The first component represents the increase of the real value of money. The second term on the R.H.S. represents the amount of nominal balances that need to be accumulated just to keep the real value of the money stock constant (the inflation tax).<sup>17</sup>

Now, any notion that fiscal deficits, seigniorage and inflation display a simple relationship in developing countries conspicuously fails simple correlation coefficients (see Easterly and Schmidt-Hebbel, 1991). There are several reasons why the relationship fails. One is that countries make different choices on printing money to finance the deficit, partly because they differ in the extent to which other means of finance are available, partly because the tax base (the stock of outside money) is often rather low. Some high-deficit countries finance the deficit with cheap domestic finance, some have access to extensive concessional external finance and some effectively eliminates printing money as a means of financing. A second reason has to do with the fact that a surprising number of episodes of high seigniorage are due to increases in real money balances instead of accelerating inflation. Therefore, seigniorage may increase even when inflation is nil, due to increases in the demand for money, for instance. Indeed Rakshit (2001) notion of “legitimate” seigniorage in the context of an economy like India, refers precisely, though not exclusively, to a situation in which increasing monetization under less than full employment is associated with rising demand for real balances (at unchanged interest rate). Thirdly, money creation and inflation are nonlinearly related. This may happen in a situation in which inflation increases with monetization but simultaneously the demand for money (and the tax base  $m$ ) decreases.<sup>18</sup>

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<sup>17</sup> In a stationary state ( $\Delta m = 0$ ), seigniorage is equal to the inflation tax.

<sup>18</sup> In addition, we need to mention that Bruno and Fischer (1990) were among the first to observe that seigniorage models are characterized by multiple equilibria, meaning that different levels of inflation finance the same budget deficit.

This latter case may be seen considering expression (6a) and dividing both sides by real income,  $y$ ,

$$\frac{(G + r_t B_{t-1} + I_g - T)}{p_t y} = \frac{\Delta M}{p_t y} = \frac{\Delta M}{M_t} \frac{M_t}{p_t y} \quad (39)$$

From the equation of exchange (8) we know that the income-velocity of money,  $v = p_t y / M_t$ . Key issues involved in the analysis of the expression above are the fact that  $\Delta M / M_t = \pi / (1 + \pi)$ , and the assumption of a direct relationship between velocity and inflation. Hence  $v = v(\pi)$  such that  $v'(\cdot) > 0$ , and  $v(\pi) \rightarrow 0$  when  $\pi \rightarrow \infty$ . Replacing both assumptions in expression (39) we arrive at

$$\frac{(G + r_t B_{t-1} + I_g - T)}{p_t y} = \frac{\pi}{(1 + \pi)v(\pi)} \quad (40)$$

Not surprisingly, the relationship between the ratio of the budget deficit to nominal income and the rate of inflation is non-linear. Thus, depending on the specification of the money demand function (or velocity), steady-state seigniorage may follow a Laffer curve, where seigniorage first rises and then falls with higher inflation. If this is the case, then there exists a rate of inflation that maximizes steady-state seigniorage.

There are, however, several problems with this view of the optimal level of seigniorage as applied to developing countries. First, this theory assumes complete control over domestic inflation ignoring some difficulties posed by the endogeneity of the government's budget deficit. If inflation is the factor that may lead to higher growth of public spending or pressure groups suffer negative redistributive effects due to the inflation, then the determination of the optimal degree of seigniorage is not subject to discretionary actions. We shall go back to this point later. Second, in a small open economy such as the ones that characterize developing countries, very often central banks try to maintain their currencies in a fixed relation to one currency or a basket of major currencies, thereby giving up the right to determine their own rate of inflation and thus the amount of revenue collected by the inflation tax.

Empirical studies have rejected the optimal government finance approach outright. Edwards and Tabellini (1991), for instance, using data for 21 developing countries over 34 years, find little support for the optimal government finance framework, and instead posit that

inflation will be higher the more polarized the society and the greater the political conflict. Roubini (1991) rejects the optimal government finance framework in a sample of 90 developing countries but he uses a constant velocity assumption. Ashworth and Evans (1998) extent the analysis in Roubini (1991) by relaxing the constant velocity assumption and they find strong evidence rejecting optimal taxation principles to raise seigniorage.

The mathematical derivations of the inflationary finance model presented above are still based on a simple closed-economy model. In an open economy, inflationary finance would exist insofar as a flexible exchange rate system is assumed. This implies  $e_t \neq e_{t-1}$ . Formally the orthodox approach takes expression (37) and replaces  $\Delta M/M_t$  by  $\Delta p/p_t$  to get

$$\frac{D}{p_t} = \frac{\Delta M}{p_t} = \frac{\Delta M}{M_t} \frac{M_t}{p_t} = \frac{\Delta p}{p_t} \frac{M_t}{p_t} \quad (37)$$

By multiply the RHS of (37) by  $p_{t-1}/p_{t-1}$  the result is

$$\frac{D}{p_t} = \frac{\Delta p}{p_{t-1}} \frac{p_{t-1}}{p_t} \frac{M}{p_t} \quad (41)$$

and finally using the definition of inflation,  $\pi = (p_t - p_{t-1})/p_{t-1}$  and the fact that  $p_{t-1}/p_t = 1/(1 + \pi)$ , expression (41) is rewritten as

$$\frac{D}{p_t} = \frac{\pi}{(1 + \pi)} \left( \frac{M}{p_t} \right) \quad (42)$$

It follows from above that as the real budget deficit grows the rate of inflation increases. Simple as it is, equation (42) implicitly suggests that a deficit financed by money creation creates a situation in which agents find themselves holding excess money balances. They spend it on foreign goods and/or assets. As domestic residents sell their local currencies in exchange for foreign currencies, a nominal depreciation occurs. If the purchasing power parity holds then domestic prices will increase.

Apart from the need of a flexible exchange rate system, note that the inflationary finance story requires here  $\Delta M/M_t = \Delta p/p_t$ , but it is not difficult to see that this in turn requires zero output growth in the economy, a constant velocity of money and fully flexible prices.

One important and additional difficulty with the canonical inflationary finance approach arises from the fact that references to adverse shocks in the balance of payment are absolutely absent. In the orthodox approach the fiscal deficit would be the ultimate cause of the money

creation and inflation. The prior question about what produces the fiscal deficit, is left unanswered. The fact of the matter is that reliance on fiscal austerity alone does not address the core of the problem. Heterodox economists of different persuasions have emphasized over the years adverse external shocks such as war reparation payments in the early 20s or foreign debt services in the 80s as basic causes of the exchange rate devaluations and of inflation.<sup>19</sup> In the presence of distributive conflict, the fall of real wages following a real devaluation would be resisted through increases in nominal wages, and accommodated with greater inflation. In this context, money is passive in the sense that money supply is adjusted to the evolution of the exchange rate and prices in sustaining higher nominal income levels.

Based on the experiences of Brazil and Mexico during the 1970s and 1980s Cardoso (1991 and 1992) have brought support to the idea that inflation as much as the fiscal deficit are linked to balance of payments crises. She argues that as long as external credit was available, Latin American experiences fast growth and relatively low inflation. But countries deprived of foreign capital inflows soon needed to finance foreign interest payments, and trade surpluses and exchange rate adjustments had to produce the needed exchange resources.<sup>20</sup> Cardoso (1991 and 1992) explores the situation formally in an open economy where the government budget constraint is linked to the balance of payments, where the budget deficit is financed through domestic credit creation and external borrowing, and where all external borrowing is done by the public sector. We may follow her model specifications with some amendments. The government budget constraint, the expression for domestic credit creation, and the balance of payments (under the assumption that only the government borrows abroad) are respectively

$$(G + r^* BF_{t-1} + I_g - T) = (M_t - M_{t-1}) + e(BF_t^* - BF_{t-1}^*) \quad (4a)$$

$$(C_t - C_{t-1}) = (M_t - M_{t-1}) - e(R_t^* - R_{t-1}^*) \quad (5)$$

$$e(R_t^* - R_{t-1}^*) = (X - IM) - r^* BF_{t-1} + (BF_t - BF_{t-1}) \quad (43)$$

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<sup>19</sup> The reader is directed to Solimano (1990) and Camara and Vernengo (2001) who provide analysis of the alternative or challenging views to inflation that surged within the context of the European hyperinflation of the 1920s and 1940s, and in Latin America after the several high inflation episodes of the 1980s.

<sup>20</sup> Indeed Cardoso (1992) provides empirical evidence in which the hypotheses that trade surpluses have affected inflation in Brazil and Mexico is not rejected.

Substituting (43) and (5) in (4a), dividing the whole resulting expression by nominal income  $p_t y_t$  and using the definition of inflation  $\pi_t = (p_t/p_{t-1}) - 1$  we may obtain the following expression

$$\Delta h_t = (\mu + \varphi) - h_{t-1} \frac{\pi_t}{1 + \pi_t} \quad (44)$$

where  $h_t = \frac{M_t}{p_t y_t}$ ,  $\mu = \frac{G_t + I_{gt} - T_t}{p_t y_t}$ , and  $\varphi = \frac{X_t - IM_t}{p_t y_t}$

here,  $h$  stands for the ratio between the monetary base and nominal income,  $\mu$  is the share in output of the primary budget deficit and  $\varphi$  is the share in output of net exports. Now we assume that the nominal exchange rate moves in order to clear the money market all the time:

$$e_t = k(h_t); \quad de/dh < 0 \quad (45)$$

We also assume that in the goods market, inflation increases whenever the actual real exchange rate,  $e_t - \pi_t$ , is below the real exchange rate,  $q$ , that produces a target trade surplus  $\varphi^t$ :<sup>21</sup>

$$\pi_t = \pi_{t-1} + \gamma[q(\varphi) - (e_t - \pi_t)] \quad (46)$$

This equation implies both inflation inertia and a scope for net exports (and the real exchange rate) to affect inflation.

Combining (44) and (46), we can represent the model as in Figure 1. The schedule  $\Delta h_t = 0$  shows the budget constraint in steady state. The schedule  $\pi_t = \pi_{t-1}$  shows steady state inflation. The phase diagram shows that, for stability, the schedule  $\Delta h_t = 0$  must cut schedule  $\pi_t = \pi_{t-1}$  from below.

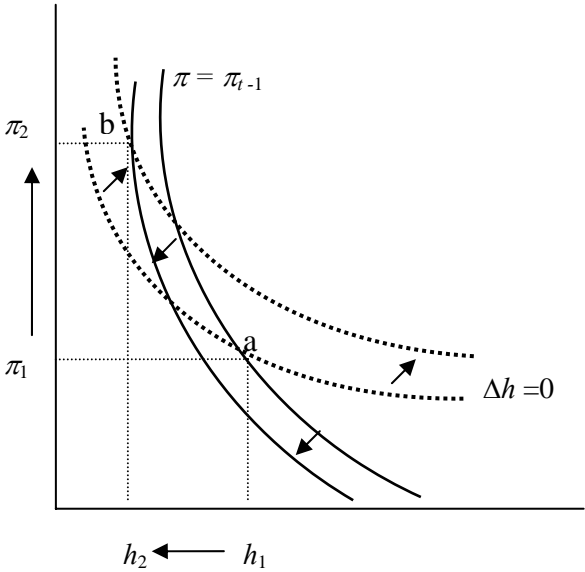
At point “a” the economy is in low inflation equilibrium. If the government uses large flows of external debt to finance interest payments and the primary fiscal deficit, a sudden

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<sup>21</sup> Cardoso (1992) specifies inflation in the goods market as a function of the deviation between the actual and the full employment interest rate. She presumes that in steady state a higher trade surplus requires a higher real interest rate to crowd out private spending. For reasons that will be considered below we reject the crowding out story in developing countries and we replace this sort of demand-pull mechanism by a cost-push one in which exchange rate adjustments influences inflation.

interruption of capital inflows may require a higher trade surplus  $\varphi$ . In order to produce the target trade surplus, the exchange rate,  $q$ , needs to be greatly depreciated in real terms. In this case, the exchange rate adjustment shifts the steady state budget constraint upwards. It also shifts the schedule  $\pi_t = \pi_{t-1}$  to the left. In a highly indebted developing country, the real devaluation results in more expensive intermediate imports and final goods and but also it increases the budget deficit measured in domestic currency.

Figure 1. An increase in the required trade surplus



Apart from finding that a balance of payments crisis, foreign payments obligations or external shocks, can lead to an immediate jump in the inflation rate and the fiscal deficit in developing countries, the analysis now will make clear that even when the correlation between the budget deficit and inflation is high, a fiscal deficit can be the result of the capacity of pressure groups to influence political outcomes as they jockey for political power and economic transfers.<sup>22</sup> The fact of the matter is that special interests force a link between inconsistent claims in the private sector and fiscal policy. Inconsistent claims are endemic in many developing countries and can eventually lead to social unrest. Elsewhere, as in Sri Lanka and Turkey in the 1970s, in Ghana for two decades after the early 1960s or in Perú in the late

<sup>22</sup> Taylor (1991b) points out that blaming political forcers for fiscal expansion is an old tradition in economics that goes back, among others, to the pioneer work of Schumpeter (1954).

1980s, political disruption reflected itself in large fiscal deficits as politicians grasped at whatever means were available to retain power.

If the government is weak or exhibits a populist stance, then each of the interest groups can influence fiscal authorities to set net transfers on the group's target item at some desire level. Thus, the unilateral but combined fiscal demands may lead to higher fiscal expenditures (or decrease taxes) stimulating output to the point at which capacity limits abound and generating an inflation externality resulting from the monetization of the deficit. This conflict inflation approach, where excess claims are tied to the government budget deficit and where a centralized decision maker determining an optimal deficit does not hold, is inspired in the experience of several developing economies. The link between inconsistent claims in the private sector and fiscal policy and has been stressed by several authors in the past but also formalized recently by Fraga and Werlang (1983), Velasco (1987), Heyman, Navajas and Warnes (1991), Aizenman (1992), Arce (1994) and Mondino, Sturzenegger and Tommasi (1996).

A straightforward way to asses this coordination problem between interest groups and the public sector is to start from a simplification of expression (40) ignoring interest payments on debt and government investment, and assuming a constant velocity of money:

$$\frac{G}{p_t y} - \frac{T}{p_t y} = \frac{\Delta M}{p_t y} = \frac{\Delta M}{M_t} \frac{M_t}{p_t y} = \frac{\pi}{(1 + \pi)v} \quad (47)$$

Following (47) a reduced form expressing inflation as a function of the fiscal link is:

$$\pi = \pi(\phi - \tau) \quad (48)$$

where  $\phi = \frac{G}{p_t y}$  and  $\tau = \frac{T}{p_t y}$

Now the fiscal demand game assumes the presence of a triad: a government that faces two interest groups, workers ( $w$ ) and capitalist ( $c$ ). Private groups seek to expand their component of the deficit through increased transfers or decreased taxes. In the absence of political pressure we may keep the convention that the government preferred policy is  $\phi = \tau$ , that is a balanced budget. But when pressures are present, additional fiscal demands require a payment,  $a_i$ , which represents both the cost associated with pressuring the government to move away from optimal policy  $\phi^o = \tau^o$ , and the political benefits to government of changing

policies. Workers would pay  $a_w$  for an increase in subsidies or transfers (such as social security benefits) and capitalist would pay for tax decrease  $a_c$ . Preferences of each interest group, as in Becker (1983, 1985), depend on its subsidy or tax, and its expenditure on the production of pressure. In addition, as in Heyman *et.al.* (1991) and Arce (1994), groups face a fraction of the inflationary burden as a consequence of their own fiscal demands.<sup>23</sup> Hence, we see that,

$$U^c = U^c(\tau, \beta\pi) - a_c, \quad \frac{\partial U^c}{\partial \tau} < 0, \quad \frac{\partial U^c}{\partial \pi} < 0 \quad (49)$$

$$U^w = U^w[\phi, (1 - \beta)\pi] - a_w, \quad \frac{\partial U^w}{\partial \phi} > 0, \quad \frac{\partial U^w}{\partial \pi} < 0 \quad (50)$$

where the sum of the inflationary burden coefficient of each group is equal to one, that is  $\beta + (1 - \beta) = 1$ . Clearly, taxes hurt capitalist and subsidies benefit workers. Moreover, each group is exposed to some of the cost of inflation (if the government acquiesce to fiscal demands), but it is important to note that there is also a free rider problem since no group or sector faces the full costs of inflation (even if it is entirely a consequence of their own income claim).

If fiscal policy is used for the purposes of development finance (as it may happen in many developing countries), government utility may be increasing in social expenditure and decreasing in taxes.<sup>24</sup> However, if  $\phi > \phi^o$  or  $\tau < \tau^o$ , then the government is self-restricted by the inflationary consequences of these fiscal actions since government utility is also decreasing in inflation. In sum, we have

$$U^g = U^g(\phi, \tau, \pi), \quad \frac{\partial U^g}{\partial \phi} > 0, \quad \frac{\partial U^g}{\partial \tau} < 0, \quad \frac{\partial U^g}{\partial \pi} < 0 \quad (51)$$

By linking inconsistent claims in the private sector and fiscal policy, the conflict inflation literature shows that given the structure of preferences and pay-off of each participant, the nature of the game in which every sector is involved can yield an inflationary equilibrium solution. Indeed, Cournot-Nash behavior implies that each group best strategy is to assume the inflationary burden and their payments costs by increasing their claims.<sup>25</sup> Both workers and

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<sup>23</sup> This means that each group has the ability to pass on the cost of inflation through methods such as indexation, markup pricing or decreased contract length.

<sup>24</sup> Development finance refers to the action of mobilizing finance to meet basic services and infrastructure necessary for economic and human development.

<sup>25</sup> Cournot-Nash behavior assumes that each group holds the choice variable of the other as parametric.

capitalist choose an optimal expenditure and tax policy under the constraint that government utility must be greater than or equal to what it receives at  $(\phi^o, \tau^o)$ . The government acquiesces since the resulting inflation (and disutility) is offset by the corresponding transfers  $a_w$  or  $a_c$ .<sup>26</sup>

It is clear then, that a key difference between orthodoxy and the developing country view that we have just described, regarding the link between inflation and fiscal deficits, is that the former very often easily asserts that getting rid fiscal deficits in a discretionary way is essential to achieve inflation stabilization, while the latter places much more attention to the interaction between government behavior and latent distributive tensions. Thus, from this latter perspective, reliance on fiscal austerity alone assuming away coordination problem does not address the core of the problem.

#### 4. The Relevance of Countercyclical Fiscal Policy

A limited number of empirical studies for developing countries suggest that fiscal policy and, in particular, government spending tends to be procyclical. For example, Kaminsky, Reinhart, and Vegh (2004) find that fiscal policy is procyclical in a subsample of 83 low- and middle-income countries. Similarly, Braun (2001) finds that government expenditure is procyclical in a panel of 35 developing countries for the period 1970–98. Gavin and Perotti (1997) find that in Latin America, total expenditures and its components are highly procyclical, with recessions being associated with exaggerated collapses in public spending. Therefore, an increasing perception is that in most developing countries fiscal policy has not played a relevant counter cyclical role since it is typically oriented towards keeping financial solvency in recessions, while during booms it tends to expand with the cycle.<sup>27</sup> Worse than that it is the fact —pointed out by Perry (2003)— that some analysts and policymakers appear to think that countercyclical fiscal policies are a luxury that only developed countries can indulge in.

It seems to us that there is as yet no consensus about what should be the appropriate role of fiscal policy over the business cycle. Moreover, measuring fiscal policy has always posed a

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<sup>26</sup> Arce (1994), for instance, derives the best reply functions for each social group and finds a Nash equilibrium solution in which inflation can result when fiscal policy offsets the burden established by privates sector inconsistencies.

<sup>27</sup> The procyclical fiscal response is most pronouce during recessions and it stems from the fact that access to international markets often vanishes in the face of adverse shocks, forcing a fiscal contraction in an already weakening economy.

difficult challenge since there has typically been a lack of agreement about the measures of fiscal balance that should be used to judge the fiscal policy stance and as we will remark the fiscal balance itself may be endogenous.

In the short run, we know that the possible role that fiscal policy could play in stabilizing output may occur through the operation of automatic stabilizers and/or discretionary fiscal policy. Automatic stabilizers are budget components that respond automatically to the business cycle without any explicit government action, while discretionary policy consists of active policy measures meant to stimulate the economy during bad times. The appropriateness and feasibility of either do not admit of unambiguous answers and may vary according to economic context and individual country circumstances.

The popular view on automatic stabilizers relies on the assumption that fluctuations in GDP or income are partially smoothed by changes in taxes and transfers over the business cycle so that disposable income is less volatile than income. As the economy slides into a recession incomes are falling but collected income taxes falls, unemployment is raising but transfers and payments of unemployment benefits also rises. In this setting automatic stabilizers have obvious appeal as a counter cyclical policy instruments since they are supposed to be not subject to time inconsistency problems or implementation lags (in opposition to discretionary actions). Precisely because they are not discretionary, automatic stabilizers are also less likely to affect market expectations adversely. It is also argued that automatic stabilizers are more effective in stabilizing output fluctuations because they are more predictable and, unlike discretionary measures, they do not require political forecasting.

Cyclically-adjusted budget balance indicators have been used to isolate the component of fiscal policy that is assumed to be exogenous with respect to the business cycle from the part that is determined by the business cycle. Cyclically-adjusted budget balance indicators are motivated by the fact that  $T$  and  $G$  are sensitive to the cycle. For example, to work properly as an stabilization tool we might think of tax revenue as being the sum of a lump-sum component and a component that is proportional to output, so that  $T = \bar{T} + \rho Y$ . Similarly, we might think that government spending is the sum of a discretionary component and a transfer component that rises during cyclical downturns:  $G = \bar{G} - \psi Y$ . In this case we would rewrite the public budget constraint (4) as

$$\left( \bar{G} - \psi Y + r_t B_{t-1} + I_g - \bar{T} - \rho Y \right) = (C_t - C_{t-1}) + (B_t - B_{t-1}) \quad (52)$$

Notice that automatic stabilizers will do the job if the fiscal deficit increases as a recession develops. But this may not be the case if, for instance, the cyclical component of government expenditure decreases in a recessionary situation. Indeed there are a number of factors that may account for the weak automatic stabilizers. For example, automatic stabilizers may be constrained by the combination of low tax elasticity and relatively low share of taxes in GDP that tends to reduce the responsiveness of revenues to demand shocks. Their impacts depend on how strongly consumption demand responds to changes in disposable income and this in turn may depend on whether the shock is seen to be temporary or permanent. They are relatively ineffective when the source of the shock to the economy is from the supply rather than the demand side and since they are backward-looking by nature, they are less useful in preventing a demand shock. Furthermore, it is likely that automatic stabilizers are less important in developing countries. In these economies the revenue/GDP and expenditure/GDP ratios are far smaller than in advanced countries. Since the tax base in these economies is small, the share of income-elastic taxes is smaller than in industrial countries. On the expenditure side, few developing countries have significant social security, and unemployment benefits are not an important expenditure category that moves with the cycle. The impact of automatic stabilizers also depends on income distribution. If income is concentrated on high-income groups, with low marginal propensity to consume, automatic stabilizers will be less effective in stabilizing the economy.

Despite all these limitations, recognizing business cycles as a source of budget endogeneity may constitute an important step forward. By recognizing the impact of output fluctuations in the budget, an analyst confronting data will find out that the budget deficit is not of much significance for judging the efficacy of government's budgetary programs for furthering the basic objectives of public policy.<sup>28</sup> Furthermore, if we accept that the overall fiscal balance is endogenous, then it will be difficult to view it as a target variable (as it may happen in many IMF-supported programs).

The simple source of endogeneity just described is still limited when analyzed in the context of developing countries. In developing countries output fluctuations are not the only

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<sup>28</sup> Ize (1991) points out that cyclically-corrected balances are routinely computed in the monitoring of developed countries' fiscal performance. However, they are seldom used for developing countries.

source of endogeneity in budgetary figures. As we have discussed before, channels of influence involve also external disturbances as well as social and political tensions, all which impact the fiscal accounts through changes in interest rate, exchange rates and inflation rates (Chand, 1991).

Specifically, the case of inflation—as an important source of budget endogeneity—deserves to be discussed to some extent. The fact of the matter is that over years, and after decades of high inflation episodes, some economists and practitioners in third world countries believe that the standard definition of the government's budget deficit used in the conventional national accounts needs to take proper account of inflation. Bacha (1987), for instance, points out that one the main sources of conflicts between the IMF and the government of Brazil in the mid 1980s was the “continuing difficulty in understanding the relevant economic distinctions between nominal and inflationary-corrected public sector deficits” (p. 757). Arce (1999) also shows that when the budget is adjusted for inflation edogeneity, “the stance of Argentine fiscal policy changes dramatically” (p.31).

There are several ways in which inflation can affect the fiscal accounts. One early pointed out by Olivera (1967) stresses the relationship between tax revenues and inflation.<sup>29</sup> Rediscovered by Tanzi (1977) the so-called Olivera-Tanzi effect shows that when inflation rises and taxes are paid with a lag, there can be a substantial difference between the value of revenues at the time the taxable event occurs and the real revenues the government actually collects.<sup>30</sup> An increase in inflation will bring a fall in real government revenue (and a higher budget deficit), the extent to which depends on the average collection lag and the prevalent tax burden,  $\tau = T/p_t y$ , that is the initial ratio of taxes to GDP. Formally the actual (inflation adjusted) tax/GDP ratio collected is given by

$$\tau(\pi) = \frac{\tau(0)}{[(1 + \pi)(1 + g)]^{l/n}}, \quad \tau'(\cdot) > 0 \quad (53)$$

where  $l$  is the legal lag for the period  $n$ . Thus, current period tax revenues,  $\tau(\pi)$ , are a function of zero-inflation tax revenues,  $\tau(0)$ , discounted by the rate of growth,  $g$ , and the level of inflation,  $\pi$ .

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<sup>29</sup> In fact, Olivera (1967) tried to demonstrate that a fall in ordinary revenues resulting from an increase in inflation may be large enough to outweigh the increase in revenue from the inflation tax. Later, Tanzi (1978) provided simulations that showed that this outcome is entirely plausible, under reasonable parameters configurations.

<sup>30</sup> Indeed the importance of the Olivera-Tanzi effect is finally reaching mainstream macroeconomic education (Arce, 1993).

Another way in which inflation affects the deficit is through the interest payments component. In 1982, Brazil argued with the IMF that measuring the deficit in nominal terms was seriously misleading in a high-inflation country, where most of the nominal interest payments on government debt were really accelerated amortization of principal. The argument was that the conventional or unadjusted deficit was artificially inflated by the presence of an inflation premium in the interest payments of the budget. The IMF accepted this argument, if initially with some reluctance, and hence it sometimes now pays attention to the "operational deficit," which includes in expenditure only the real component of interest paid on government debt. The operational deficit deducts from the nominal deficit that inflation component of interest payments on domestic debt. The rationale for this adjustment is the presumption that interest payments are endogenous to the level of inflation (through the Fisher equation). Higher inflation rates are associated with higher interest payments and lower values of the stock of real debt. The reader may wonder why. The fact of the matter is that in a world free of money illusion, bondholders perceive the increase in disposable income (due to higher interest payments) as a compensation for the decline in their real wealth (due to the lower value of their bonds). Bondholders do not consume the additional income but restore the value of their initial wealth by buying new government bonds.

These implications of inflation in the fiscal accounts are fairly simple to appreciate. The Fisherian equation is given by

$$r - \pi^e = i, \text{ assuming that } \pi^e = \pi. \quad (54)$$

Plugging now equations (53) and (54) into equation (39) we got

$$\frac{\text{Conventional Deficit}}{p_t y} = \frac{G}{p_t y} + \frac{I_g}{p_t y} + \frac{(i + \pi)B_{t-1}}{p_t y} - \frac{\tau(0)}{[(1 + \pi)(1 + g)]^{1/n}} \quad (55)$$

The deficit (as a percentage of GDP) is an increasing function of inflation because inflation increases nominal interest payments and erodes tax revenues due to the Olivera-Tanzi effect.

Under traditional Keynesianism as applied in industrial countries, fiscal policy must run surpluses under full employment and allow for deficits during recessions. When the public sector runs a larger budget deficit than previously, the government is said to have an expansionary fiscal policy stance because the theory predicts that a lax fiscal policy will have a positive impact on real activity. However, if the budget deficit is larger simply because the

economy is going through a recessionary phase of the business cycle (and tax revenue is consequently lower), or because the economy experiences an inflationary episode, thinking of fiscal policy as expansionary may be inappropriate. We have just argued that the measurement of budget balances raises a host of conceptual and practical issues. Even the calculation of the cyclically adjusted fiscal stance only adjusts the budget for deviations of output from its potential level, ignoring the effects of prices, interest rates – both real and nominal – and the exchange rate. Then, it seems to be clear, that under these conditions of budget endogeneity, that are pervasive in many developing economies, the budget deficit is not of much significance for judging the efficacy of government's budgetary programs for furthering the basic objective of full employment. From this perspective fiscal policy is seen as being to secure the desired level of economic activity rather than to achieve a particular budget target.

The above discussion highlights the fact that there may be circumstances and contexts where discretionary counter cyclical fiscal policy whose goal is to close the output gap could be a far better candidate for the stabilization job. This was widely recognized in Southeast Asian economies, where the recession that followed the Asia crisis was attacked with expansionary fiscal policy (Jansen, 2002). But analysts in industrial economies still argue that discretionary fiscal policy is especially difficult to use for stabilization because of the 'inside lag'—the gap between the time when the need for fiscal policy arises and when it is implemented by the executive and Congress. Arestis and Sawyer (2004b) clearly remark that fiscal policy is much more subject to democratic decision-making than monetary policy. Thus, what seems to be its strength in terms of social and political consensus can also be its weakness in terms of its economic goals. But lags are not immutable. The sources of many, if not most, of them lie in policymaking institutions that can be changed (Blinder, 2004). One such idea is to reduce the inside fiscal lags by the adoption of a 'fiscal policy rule' (Taylor 2000; and Budnevich 2002) so long as it emphasizes full employment (Arestis and Sawyer, 2004b) and authorities respond to output fluctuations through a fiscal policy reaction function.

Another question that arises with respect to discretionary fiscal policy is that it is sometimes very difficult to implement in financially open economies where a fixed exchange rate system prevails. This is precisely the case of many developing economies. Under borrowing constraints, an adverse external shock sometimes requires a reduction of absorption making fiscal policy contractionary. Moreover, orthodox economists and multilateral agencies such as the IMF argue that, against an adverse external shock, fiscal contraction gives

international investors confidence which helps avoids capital outflows. To this we may say, in opposite direction, that investors will loose confidence when they see fiscal and monetary contraction leading the economy into a deeper recession. Weak activity today tends to result in expectations of weak activity tomorrow, which lowers investment today and tomorrow's potential supply.

Another additional issue arises from the alleged possibility of 'crowding-out.' This issue was tackled long ago when Keynes debated the so-called treasury view in the late 1920s. Under this general heading, there are several channels through which this crowding out effect can occur. The most conventional form of crowding out occurs in the context of the IS-LM when the deficit is finance by selling bonds. With the fiscal expansion, the price of the bonds is bid down (due to oversupply) which is equivalent to an increase in interest rates. The higher interest rate causes private investment to decline or to be crowded out as a result of higher deficit. But the Latin American experience suggests that the story may be different and that causality between interest rate and fiscal deficit needs to be revised. A negative external shock—as a reversal in the terms of trade or sudden stop in capital inflows— may generate monetary policy reactions. The Central Bank may tend to maintain high interest rates to avoid capital flight and protect the economy from devaluation. Since part of the public debt is indexed to the short-term interest rate, monetary policy translates into high debt service and higher budget deficits (Camara and Vernengo, 2004). Curiously, in the context of recent financial liberalization of interest rates in India, Chakraborty (2002) uses the Hsiao autoregressive modeling of Granger-causality test and finds that the fiscal deficit does not induce a rise in the rate of interest. Rather, the direction of causality runs from real rate of interest to deficit.

Further, Arestis and Sawyer (2003) remark that the conventional crowding-out effect has always been based on two crucial assumptions: an exogenous money supply and the interest rate equating the demand for and supply of money. We may see that as soon as we lift these crucial characteristics of the IS-LM analysis, the crowding out effect does not arise or can be avoided. Let us see how the results are affected when the money supply is endogenous. For this purpose it is useful to start with expression (6a), a modified version of equation (24) and an expression for money market equilibrium, that is

$$(G + r_t B_{t-1} + I_g - T) = (M_t - M_{t-1}) \quad (6a)$$

$$Y = C(Y - T) + I_p(r, Y, I_g) + G + I_g + X - IM(Y), \quad (56)$$

$$\frac{dC}{dY} > 0, \frac{dI_p}{dr} < 0, \frac{dI_p}{dY} > 0, \frac{dI_g}{dY} > 0, \frac{dIM}{dY} > 0,$$

$$M = L(Y, r), \quad \frac{dL}{dY} > 0, \frac{dL}{dr} < 0, \quad (57)$$

The economy described by this model is a demand deficient economy where taxes are lump sum and the central bank monetizes fiscal expansions. It is in this latter sense that money is endogenous. Note that private investment now can be affected by the interest rate, the level of output and public investment. A few results relating to fiscal policy and crowding out, are fairly clear from the model. When the government raises  $G$  to eliminate an output gap (leaving  $I_g$  and  $T$  unchanged), the resulting change in output is given by

$$dY^* = \frac{\left[ 1 + \frac{dI_p / dr}{dL / dr} \right]}{\left[ 1 + \frac{dI_p / dr}{dL / dr} \frac{dL}{dY} + \frac{dIM}{dY} - \frac{dI_p}{dY} - c \right]} dG \quad (58)$$

Despite the negative interest rate effect on private investment note that the term  $(dI/dr)/(dL/dr)$  is unambiguously positive, therefore fiscal expansion in this case does not crowd out private investment. Indeed, monetized financing of government expenditure ( $dM = dG$ ) adds to money supply which is sufficient to prevent any increase in interest rates.<sup>31</sup> In a different context in which money is still endogenous money but the interest rate set by the Central Bank, conventional crowding out may arise but from the deliberate action of the Central Bank. That is to say, if the Central Bank, operating on an independent basis, responds to a fiscal expansion by raising interest rates, then there could be some form of crowding out. Indeed this kind of monetary policy reaction has been reported over and over in developing countries as result of the disciplinary effects of global markets. But in that case any "crowding

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<sup>31</sup> The effect of expansionary fiscal policy on interest rates is also potentially mitigated by the extent of capital mobility. In the extreme case of perfect capital mobility, for example, international capital will flow in as domestic interest rates rise, which causes interest rates to fall again leaving total investment unchanged, but its composition changed.

out" depends on the response of the monetary authority: it does not occur through the response of asset markets to fiscal policy actions.

Even if the rate of interest were allowed to increase, there is still the question of the investment response with respect to the rate of interest. Post Keynesian economists cite empirical studies by Chirinko (1993) and Fazzari (1993), in which the impact of the rate of interest on investment is modest at most (see for instance Arestis and Sawyer, 2003). In general post Keynesians believe that sales growth (the accelerator effect) and cash flow effects, are the dominant variables in the determination of investment. But investment decisions in developing countries are not necessarily based on the same variables as in industrial countries. Analysts have concentrated much more attention on additional factors such as financial repression, shortage of foreign exchange, lack of infrastructure, institutional development and significant economic instability. Moreover, findings of various empirical studies for developing countries are not clear with respect to the effects of the cost of capital on private investment. Indeed it is commonplace to find no significant relationship between real interest rates and investment–output ratios in cross-country studies as in Agosin (1996) and Serven, (1998), or a modest effect as in Green and Villanueva (1991) and Solimano (1993).

In particular, empirical studies for developing countries indicate that public investment may lead to higher levels of private investment. Belloc and Vertova (2004) reports a whole set of empirical studies where public investment is found to have a robust positive effect on private investment —regardless of econometric specification and samples. They found a positive relationship between private investment and forms of public investment in 13 out of 14 empirical studies.<sup>32</sup> The evidence is impressive if we consider that in many cases infrastructure investment in developing countries has been categorized as unproductive “white elephants” and that public investment financed through monetary financing is thought to discourage private investment. Of course, we should not be denied the fact that public investment undertaken by heavily subsidized and inefficient state-owned enterprises in agriculture, manufacturing, capital goods, energy, banking and financial services, has often reduced the

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<sup>32</sup> Over the last 20 years the role of public investment and infrastructure provision in private investment decision making has been examined in a number of investment equations for developing countries, including Blejer and Khan (1984), Gupta (1984), Greene and Villanueva (1991), Easterly and Revelo (1993), Oshikoya (1994), Serven (1996) Ramirez (2000), Hermes and Lensink.(2001), Ribeiro and Teixeira (2001), Erden and Holcombe (2005).

possibilities for private investment and long-term economic growth.<sup>33</sup> However, the estimated results in the literature indicated an overall positive and significant effect on gross private investment expenditures.

The economic rationale behind most of these studies resides in the idea that public investment is confined, by and large, to those goods and services that the private sector will not produce in optimal amounts because it is both hard to ration their use and benefits to paying customers (the free rider problem), and, they are subject to substantial start-up costs (lumpy and indivisible investments). In this so-called crowding-in hypothesis many channels may be involved in which public capital provides positive externalities on the private sector. Belloc and Vertova (2004) summarize three of them: first, the availability of economic and social infrastructures may create favorable conditions for private decisions to invest, by offering essential services to the production system both in the short and in the long run (transportation, communication, education, and so on); second, higher public capital may lead, on the one side, to increments in total factor productivity and, on the other, to reductions in production costs (through availability of streets, highways, electrical and gas facilities, mass transit, and so on); finally, public investment, by increasing total demand, may give rise to profit and sales expectations, so to spur private decisions to invest more.<sup>34</sup>

As important as this crowding-in effect is the fact that carrying out public investment in periods when other private investment has temporarily declined is an effective way of dampening instability. Keynes sharp distinction between stabilizing investment and stimulating consumption by counter cyclical public action is quite relevant here. Of course, while the discussion so far underscores the favorable impact of public investment on private capital accumulation as well as its relevance as a countercyclical tool, very often governments in developing countries find difficult the implementation of a discretionary counter cyclical fiscal policy. A combination of external volatility, budget endogeneity and politico-institutional constraints undermines the capacity to carry out countercyclical fiscal policies. The budget

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<sup>33</sup> This is particularly the case if these investments are undertaken, as many were during the import substitution era, in markets with high rates of effective protection.

<sup>34</sup> Thus even if private investment is found directly more productive than public investment, any conclusion on adjustment strategies should be qualified with the consideration of the relationship between public and private investment. Indeed, if the crowding-in hypothesis holds, a fiscal adjustment which reduces public investment implies a contraction in the fixed capital formation and a slowdown in economic performance.

components are not immune to external shocks and political pressures to overspend in good times, due to ‘common pool’ problems, are sometimes endemic. This makes saving during good times difficult and expansive fiscal policy during bad times almost impossible.

Macro fiscal rules, stabilization funds and reform of budgetary institutions are intuitively attractive solution to the problem of the procyclical bias. Despite progress in these areas, not always these institutional mechanisms are well designed to smooth business cycles and perfect enforcement is rarely the environment in which they are applied. Martner (2001), for instance, points out that the recent implemented fiscal rules in Latin American countries tend to focus on goals that look no further than the budgetary cycle. Sometimes insufficient weight is given to the principles of full employment and output stability, as the authorities’ ability to react to recessionary situations is removed. Adam and Bevan (2006) also find that in Sub-Saharan Africa new budgetary rules have emerged as a direct response to the need to reduce the domestic budget deficit. These rules limit the ability of governments to run countercyclical fiscal policy. Stabilization funds are often championed as an option for stabilizing the cycle. However, in countries with strong pressures to spend, and high ‘social deficits’, the surpluses in these funds might be difficult to sustain politically during goods times. Regarding reforms of budgetary institutions the argument is that they can change and influence the incentives that the players (in the fiscal game) have over cycle. However, according to Braun and Di Grecia (2003) hierarchical budget procedures-that give more power to the executive *vis-à-vis* the legislature seems to have been the preferred option. But this solution may exacerbate political business cycles since more powerful incumbent politicians in the executive may hope to stimulate the economy just prior to an election and thereby greatly improve their own and their party's reelection chances. What seems to be clear is that any type of analysis and solution is still in its early stage.

## 5. A Few Words on Sustainability

Debt sustainability has become one of the most used and abused concepts in recent discussions regarding international financial issues and fiscal policy in developing countries. There is no question that public debt sustainability has been an important issue in particular to the countries belonging to the EMU, where the need to ensure fiscal sustainability was often invoked as a rationale for the fiscal rules set out in the Maastricht treaty and in the Stability and

Growth Pact. But debt sustainability became important in a number of developing countries, where the fiscal budget was caught up in an explosive spiral of increasing indebtedness —a ‘snowball effect’ in which the debt generally absorbs a growing proportion of fiscal revenue. The advent of the debt crisis in the early 1980s as well as the large public debt/GDP ratios caused by the aftermath set the scene for the emergence of new views on deficits, debt and fiscal sustainability. Indeed, as remarked by Perry (2003) much of the discussion on fiscal policy in Latin American Countries today deals just about long term sustainability issues.

The notion of fiscal sustainability is not new. In the beginning of the 20s, for instance, when writing about the public debt problem faced by France, Keynes (1923) alerted to the need for the French government to conduct a sustainable fiscal policy in order to satisfy its budget constraint. Keynes stated that the absence of sustainability would be evident when "the State's contractual liabilities (...) have reached an excessive proportion of the national income" (p. 54). In Keynes's words, there is a problem of sustainability when "it has become clear that the claims of the bond-holders are more than the tax payers can support" (p. 55). According to Keynes, at that stage the government "must come in due course to some compromise between increasing taxation, and diminishing expenditure" (p. 59). But Keynes was never in favor of repayment at whatever cost as he left it very clearly when denouncing the absurdity of the reparation question after the Versailles peace treaty (Keynes, 1920).

Precisely, the most known concept of fiscal sustainability relates to the government's ability to indefinitely maintain the same set of policies (regarding taxes and expenditure for instance) while remaining solvent. This means that the focus of fiscal sustainability analysis is frequently not on default itself—which governments frequently avoid—rather it is on the consequences of the policy changes needed to avoid eventual default. Thus, a sustainability condition makes any stable path of the primary deficit consistent with a stable public debt to GDP ratio.<sup>35</sup>

Though our analysis here is going to be too simple, it nevertheless provides a revealing benchmark by which to make an initial rough judgment about the sustainability issue in developing countries. It is important to point out that discussions of debt financing from a long-term perspective have followed two main approaches (Cuddington, 1996): (a) the so-

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<sup>35</sup> The sustainability of fiscal policy is sometimes confused with the financial solvability of the government. In practice however, what the empirical literature ends up testing is whether both public expenditures and government revenues may continue to display in the future their historical growth patterns. This seems really to be the issue here, not so much a question of solvability.

called accounting or Domar's approach; and (b) the solvency criterion of government finances or Present Value Constraint approach.<sup>36</sup> But independently of the conceptual approach used, the fundamental building block of the fiscal sustainability analysis today is the public sector or government budget constraint (which is an identity). The government borrowing constraint for period  $t$  may be written as a percentage of nominal GDP as in expression (6)

$$(G + r_t B_{t-1} - T) = (B_t - B_{t-1}) \quad (6b)$$

Note from (6b) that public investment is ignored and government debt is the only source of financing for the fiscal deficit.

In order to analyze the evolution of the debt-to-GDP ratio we may compute now the total derivative of  $\frac{B_t}{Y_t}$  (the ratio of debt to nominal income):

$$\Delta \left( \frac{B_t}{Y_t} \right) = \frac{\Delta B_t}{Y_t} - \frac{B_t}{Y_t} \frac{\Delta Y}{Y_t}. \quad (59)$$

If we call  $b_t = \frac{B_t}{Y_t} = \frac{B_t}{p_t y_t}$  and apply  $\frac{\Delta Y_t}{Y_{t-1}} = [g_t + \pi_t (1 + g_t)]$  and  $\pi_t g_t \approx 0$ , we may rewrite (59) as

$$\Delta b_t = \frac{\Delta B_t}{Y_t} - b_t (\pi_t + g_t) \quad (60)$$

Substituting (60) into (6b) we have

$$\Delta b_t = \frac{G_t - T_t + r B_{t-1}}{p_t y_t} - b_t (\pi_t + g_t) \quad (61)$$

Remembering our previous notation, that is,  $\phi = \frac{G_t}{p_t y_t}$ , and  $\tau = \frac{T_t}{p_t y_t}$ , we have in terms of ratios to GDP:

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<sup>36</sup> The main difference between the accounting and PVC approach is that the former leaves rather vague the role that lenders ultimately play in determining what debt strategies are "sustainable" and which are not. The PVC approach is more explicit in this regard.

$$\Delta b_t = (\phi - \tau) + \frac{rB_{t-1}}{p_t y_t} - b_t(\pi_t + g_t) \quad (62)$$

Assuming steady state debt ratios, using the definition for real rate of interest on debt ( $i = r - \pi$ ) and rearranging we have

$$\Delta b_t = (i - g)b_{t-1} - (\tau - \phi) \quad (63)$$

It follows immediately that if the primary surplus ratio ( $\tau - \phi$ ) is equal to zero, the debt/GDP ratio will grow (or shrink) at the rate  $i - g$ .<sup>37</sup> Under this situation, the Domar's condition for debt stability can be held when the growth rate in nominal GDP is higher than the nominal interest rate. In other words, the nominal growth,  $g$ , rate has to be higher than the real interest rate,  $i$ , in order to maintain fiscal sustainability, even if primary balance continues to be just zero. Otherwise, the debt to GDP ratio will continue to rise without limit and "when the public recognizes the unsustainability of the government fiscal policy, it will cease buying government debt and thereby force a change in policy" (Fischer and Easterly 1990, p. 135).

Moreover, another conclusion that deserves emphasis (but that it is often forgotten) is that the government does not need a primary fiscal surplus to generate a stable debt dynamics. The government may run a primary deficit and if the rate of growth of the economy is substantially higher than the real interest rate, the debt to GDP ratio will not rise.<sup>38</sup> In general, in (63) a stable debt dynamics is achieved as soon as

$$(\tau + gb_{t-1}) > (\phi + ib_{t-1})$$

The reader may note so far that monetized deficit does not figure as a source of financing public expenditure. However, since many developing country governments have extensively tapped this source, it appears important to examine its role for sustainability in a growing economy. When seigniorage is included as a source of financing public expenditure, (61) assumes the following form

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<sup>37</sup> The reader may note that in this conventional analysis of sustainability it is assumed that there is a level  $b^T$  beyond which the ratio  $b = B/py$  cannot or should not rise.

<sup>38</sup> In some sense this implies that larger deficits -on average- than surpluses over the business cycle may be sustainable, which constitute an implicit critique to the notion that the deficit should be balanced in the long run so that the debt should not grow over time.

$$\Delta b_t = \frac{G_t - T_t + rB_{t-1}}{p_t y_t} - \frac{\Delta M}{p_t y_t} - b_t(\pi_t + g_t) \quad (64)$$

since we know that  $m = \frac{\Delta M}{M_t}$  and  $\frac{1}{v_t} = \frac{M_t}{p_t y_t}$ , then equation (63) is modified to

$$\Delta b_t = (i - g)b_{t-1} - (\tau - \phi) - \frac{m}{v_t} \quad (65)$$

Remarking that in a growing economy the government can secure seigniorage without any inflationary impact, Rakshit (2005) points out (in the context of the economy of India) that seigniorage revenue can play a role in reducing the burden of servicing the public debt. From (65) it is clear that seigniorage stands on the same footing as taxes. Moreover, an increase in the demand for money as represented as decrease in income velocity,  $v_t$ , makes the Domar's condition weaker. But note that seigniorage may be more important as a source of temporary increase in revenue than as a steady state phenomenon. Consequently, even though thank to seigniorage the debt/GDP ratio may register a jump in the short run, over time the steady state assumption becomes useless for the analysis of sustainability.

The conventional Domar's sustainability condition can be further modified if government expenditure gives rise to additional revenue in the future. That is clearly the case of government investment that produces a return. Of course, returns on government investment can fall short of the borrowing rate of interest, but this does not justify its exclusion from the government borrowing constraint. In order to appreciate the sustainability implications of public investment note that expression (61) is now

$$\Delta b_t = \frac{G_t - T_t + rB_{t-1}}{p_t y_t} + \left( \frac{I_g}{p_t y_t} - \frac{r_g K_g}{p_t y_t} \right) - \frac{\Delta M}{p_t y_t} - b_t(\pi_t + g_t) \quad (66)$$

where  $r_g K_g$  is the revenue generated by public capital stock. We may call  $\delta$  the term in parenthesis and replaced expression (65) by

$$\Delta b_t = (i - g)b_{t-1} - (\tau - \phi - \delta) - \frac{m}{v_t} \quad (67)$$

Hence, if  $\delta < 0$ , fiscal sustainability improves and the conventional Domar's condition is once again modified.

We may also highlight the role of foreign borrowing in financing public sector deficits, or the importance of contingent liabilities, or the contribution of concessional lending and grants to fiscal finance, or even the relevance the imputed wealth from reserves of natural resources in countries where a significant share of government revenue is derived from exploitation of natural resources. These and other specification of receipts and expenses of the government are of considerable significance for most developing countries. The fact of the matter is that we may misstate the sustainability of a given fiscal policy because it focuses on only a portion of government assets and liabilities sometimes from very a narrow institutional and time perspective. Ideally, a better assessment of public debt sustainability should be based on an analysis of the balance sheet of the public sector, defined as comprehensively as possible. Such an approach would explicitly recognize that, for the purpose of long-term sustainability, the focus should be on current and expected future changes in public sector net worth rather than gross debt. In developing countries, the public sector frequently holds significant assets (buildings, infrastructure, mineral deposits, and various forms of liquid reserves), and changes in net worth could potentially be very different from changes in gross debt.

Another basic problem with the conventional sustainability framework is the critical assumption about the behavior of key macroeconomic variables. Take for instance the problems associated with high and explosive debt/GDP ratios. What measures can be taken to control it? An obvious answer is the control of government expenditure. However, as remarked by Jha (1994) this may not be as simple as it looks at first glance. Reducing government expenditure may lower real national income and then tax revenues and exacerbate the debt situation. Thus, using sustainability targets to correct the size of the primary balance (to avoid default) may not be such a good idea since government spending cuts may be self-defeating. Further, assuming that  $g$  and  $i$  remain unaffected irrespective of the government's fiscal stance may not be right at all. Indeed, in all plausible models of long term growth, the fiscal programs, through their impact on factor productivity, saving and investment, will affect  $g$  or  $i$  or both. Thus a major step that needs to be done in order to improve the analysis concerns factoring in the effects of fiscal instruments on the long-run behaviour of the economy, especially those on the growth rate and interest rate.

This presumed constancy of  $g$  and  $i$  is somewhat compatible with the steady state assumption. Indeed the steady state fiscal sustainability condition is limiting in that it assumes  $\tau$ ,  $\varphi$ ,  $g$  and  $i$  are all constant. But absent the steady state, the debt-to-GDP ratio does not need

to be constant in order for sustainability to hold and there may be many paths for debt that satisfy (63) (Burnside, 2004).

But from our viewpoint the major deficiency of the sustainability framework, in general, is that it only ask how big the primary balance must be to avoid default. In practice, the overriding aim of using sustainability targets, as presently applied, is the restoration of debt service capacity. Indeed that was the root problem from which these targets derived their analytical rationale. The analytical origins of the sustainability targets therefore tend to limit their use for adequate growth and development considerations.

## 6. Conclusions

In view of the ground that we have covered in this paper, as well as the diversity and extensions of the issues that have been touched upon, it is difficult and perhaps unwarranted to raise any single and neat conclusion. It might, all the same, be useful to have an overview and draw attention to some general findings that emerge, just to ensure that the full implications are understood.

Today's conventional wisdom in economics holds that discretionary changes in fiscal policy are unlikely to do much good, and might even do harm. Virtually every contemporary discussion of stabilization policy by economists—whether it is abstract or concrete, theoretical or practical—is about monetary policy, not fiscal policy. Questions on fiscal sustainability have taken center stage in macroeconomic policy discussions; quite apart from the effects of fiscal policy on aggregate demand. Despite the fact that over the last years arguments and proposals, in this aforementioned direction, have been widely accepted even by economist and policy-makers in Third World countries, the literature that have followed have never lost sight of the need to incorporate in the analysis the importance of perceived nature of the economy, its institutional structure as well as the resulting causal mechanisms.

A proper accounting framework is essential for disentangling the stance and macroeconomic effects of fiscal policy. But accounting conventions are not innocuous. They serve to present mainstream arguments but also more plausible alternatives. We have argue, for instance, that a conceptually complete discussion of the relationship between budget deficits and the external balance would have to cover not only the presumed mechanism through which fiscal imbalances translates into external imbalances, but also the possible reversion of the causal link. There is much more than the Ricardian equivalence proposition or the twin

deficit hypothesis. It may happen, for instance, that the foreign account is balanced while the deficit has to match the borrowing of the private sector. The experience of developing countries also indicates that fiscal deficits may respond to, rather than cause, changes in the current and capital account. Misconceptions about the proper closure of the economy may lead to restrictive fiscal policy (when this is not needed), which reinforces the recessionary trends, feeds the negative expectations and prevents the so much expected fall in country risk premium.

It is clear that the emphasis on the story that also claims that fiscal deficits cause inflation is not without design. However, we have showed that the unidirectional causation from deficits to inflation that derives from this orthodox approach is contingent to a set of very limiting assumptions seldom uncovered. To the extent that the exogeneity of output is due to the neoclassical assumption of full employment growth, this story has all the possible defect of the neoclassical model. A larger budget deficit that translates into a larger money stock does not need to lead to inflation if the long-run steady state effects of fiscal policy on growth are positive. The path of aggregate demand may itself influence the supply-side potential of the economy especially when active fiscal policy is supported by public investment in infrastructure. In the inflationary finance story seigniorage and inflation does not display a simple relationship. Often forgotten, inflationary finance will exist insofar as a flexible exchange rate system is assumed. One important and additional difficulty with the canonical inflationary finance approach is that it leaves unanswered the prior question about what produces the fiscal deficit. Structuralist inspired thinking has acknowledged the role that latent domestic distributive conflicts and tensions generated in the international arena (and generated beyond the fiscal sphere) play in the behavior of fiscal and monetary variables. We have summarized and discuss some of the existing theoretical literature.

Developing countries need to correct their overwhelming procyclical fiscal policy bias, since this greatly augments the instability of macroeconomic outcomes. Despite the wide belief that undermines the effectiveness of fiscal policy in stimulating economic activity in developing countries, we have argued the opposite and show that public and private investment may be linked by a complementarity relationship which avoids any reference to crowding out. In consequence, policy-makers might do well to pay close attention not just to the level of government expenditures but also to its composition between consumption and investment goods. The empirical evidence collected in developing countries strongly favors the

positive relationship between public and private investment. Regarding the issue of the appropriate fiscal target, though the measurement of the correct budget deficits has attracted considerable recent attention in developed nations, we have shown that measuring the fiscal balance that should be used to judge the fiscal policy stance poses a much more difficult challenge in developing countries due to the numerous unexpected disturbances in the macroeconomic environment that deviate the fiscal balance from targets. We believe that the present orthodoxy that states the importance of budget deficit targets does not have any merit at all. Even though considerable uncertainty remains about how to implement countercyclical fiscal policy, Keynes sharp suggestion of stabilizing output by increasing public investment is quite relevant here and should not be relegated to the dustbin of history.

Finally, we have used the accounting approach on the government fiscal constraint and showed that the sustainability analysis has some important limitations and deficiencies when applied to developing countries. Further assuming that the rate of growth of the economy and the real interest rates remain unaffected irrespective of the government' fiscal stance may not be right at all. We highlight the fact that the aim of using sustainability targets to correct the size of the primary balance (to avoid default) may be a wrong idea since government spending cuts may be self-defeating. Moreover, while it is possible, in principle, to control the volume of government spending or taxation to some extent, the same is not true for the budget deficit since other macroeconomic variables affected by government discretionary measures will in turn modify the budget balance in an ex-post way. The overriding aim of using sustainability targets as a tool to restore debt service capacity limits their use for adequate growth and development considerations.

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