Working Paper

INTERNATIONAL MONETARY FUND

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WP/93/37

INTERNATIONAL MONETARY FUND

Monetary and Exchange Affairs Department

Private Saving, Public Saving and the Inflation Tax: Another Look at an Old Issue

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April 1993

Abstract

The present paper provides an analytical discussion on a popular issue: the measurement problems associated with the inflation tax. It is well known that conventional national accounts definitions usually misplace the proceeds from the inflation tax: they are typically not subtracted from disposable income, and they are not included as part of the Government's revenues "above the line." Using a simple, perfect foresight monetary model developed by Calvo (1986, 1987), this paper analyzes the difference between macroeconomically relevant concepts of public and private saving, and their national accounts counterparts. The paper goes on to show that the national account aggregates create the impression that heavier reliance on the inflation tax on the part of the Government is associated with higher private saving, even in situations where the composition of government revenues does not have any effect on private saving.

JEL Classification Number:
E31

1/ I am grateful to William E. Alexander, Uwe Corsepius, Carlo Cottarelli, Socorro Heysen, and Miguel Savastano for helpful comments. All remaining errors are my sole responsibility.

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Contents

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Summary

The distortions caused by inflation on conventional national account aggregates have been widely discussed in the literature. Two aspects of the problem have received particular attention: monetary correction of interest payments on nonindexed debt instruments and the proper classification of the proceeds from the inflation tax in measures of the public sector deficit. This paper focuses on the second issue, analyzing the consequences of omitting the inflation tax from standard national account definitions. It uses the framework developed by Calvo (1986 and 1987), a model that has solid microeconomic foundations and is simple enough as an expositional tool.

The model portrays a representative individual who maximizes his lifetime utility over an infinite horizon. The individual faces two types of taxes: a lump-sum tax and the inflation tax. It is shown that, in a steady state with a constant inflation rate, the optimal level of private consumption depends on the overall tax burden, but not on the structure of the tax system--that is, on the relative importance of the inflation tax. This result implies that it is impossible to infer the effects on the economy of certain government policies exclusively on the basis of national accounts figures. Rather, it would be necessary to take into account the evolution of seigniorage collection by the government. In particular, the paper shows that standard national account definitions of private saving and the budget deficit create the illusion that heavier reliance on the inflation tax is associated with higher saving by the private sector when, in fact, private saving is unrelated to inflation in the model developed here. Using figures from Mexico and Uruguay, the paper shows that the inflation tax bias may represent a significant percentage of domestic saving.

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I. Introduction

The distortions caused by inflation on conventional national account aggregates have been widely discussed in the literature; in particular attention has been focused on two aspects of the problem: monetary correction of interest payments on non-indexed debt instruments, and the proper classification of the proceeds from the inflation tax in measures of the public sector deficit. 1/ The present note centers on the second issue, discussing analytically the consequences of omitting the inflation tax from standard national account definitions. The analysis is carried out using the framework developed by Calvo (1986 and 1987), a model that has solid microeconomic foundations and is simple enough as an expositional tool.

The model is used first to illustrate the effects of certain policies on three important macroeconomic variables: public saving, private saving and the external current account; the paper then compares the results with the way in which the effects of those policies are captured in the standard national account framework. The behavior of the three economic variables mentioned above is studied in the context of the macroeconomic equilibrium condition equating saving--private, public and external--to investment, that is derived from the model. It is shown that when the presence of the inflation tax is ignored a version of the standard saving/investment equilibrium condition still holds, because the omission distorts the composition of domestic saving but not the total. Nevertheless, it is also shown that extreme care should be taken in interpreting the effects of certain government policies based exclusively on the national account aggregates. In particular, the national account concepts lead to the illusion that heavier reliance on the inflationary financing may be associated with higher saving by the private sector.

The paper is organized as follows: section II presents the model and defines some basic macroeconomic concepts; sections III and IV look at some policy exercises and the possible misinterpretations of the effects of those policies that may arise when the analysis is based exclusively on national account aggregates; section V presents estimates of the relative importance of the inflation tax bias in conventional accounting; and section VI concludes.

II. A simple monetary model

The basic framework used throughout this paper has been developed elsewhere; it is presented here again, however, in order to keep this as a self-contained document. The model portrays an infinitely lived agent, subject to a cash in advance constraint, in a one good world. Output is constant and the individual's subjective discount rate is equal to the

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1/ See for example Tanzi et al. (1988) and the references contained therein for a general discussion on the subject; Arrau and Oks (1992), Bovemberg and Evans (1988) and the discussion in chapter 2 of McKinnon (1991) for the empirical relevance of this issue.

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world's real interest rate. 1/ Purchasing power parity is assumed to hold and the economy operates under a crawling-peg regime; thus, at any point in time, the rate of inflation is given by the rate of crawl. 2/ The preferences of the representative individual are assumed to be given by the lifetime utility function:

$$V(c) = \int_0^\infty U(c_t)\, e^{-rt}\, dt \tag{1}$$

where c_t represents current consumption and $U(\cdot)$ is strictly concave, continuous and twice differentiable everywhere. The individual is subject to a cash-in-advance (CIA) constraint; thus, his demand for real money balances (m) is given by:

$$m_t \geq \alpha c_t \tag{2}$$

His lifetime budget constraint is:

$$\int_0^\infty [\, c_t + \dot{m}_t + \pi_t m_t + \tau + \dot{b}_t - r b_t - y \,]\, e^{-rt}\, dt = 0 \tag{3}$$

where τ represents lump-sum taxes, b are private holdings of an internationally traded bond, π is the inflation rate, and y is output. A dot over a variable indicates a time derivative. Defining financial wealth (a) as the sum of money balances and current holdings of the foreign bond, i as the nominal interest rate, and using the CIA constraint (2) with equality, the budget constraint (3) can be re-written as:

$$\int_0^\infty [\, c_t\, (\, 1 + \alpha i_t\,)\,]\, e^{-rt}\, dt - a_0 - \frac{y - \tau}{r} = 0 \tag{4}$$

The individual maximizes (1) subject to (4). The first order condition (FOC) is:

1/ As shown by Obstfeld and Stockman (1985), this assumption removes all intrinsic dynamics from the model.

2/ It is assumed that there is no inflation in the rest of the world, and the world price level is normalized at 1.

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$$U'(c_t) = \lambda [(1 + \alpha i_t)] \tag{5}$$

An important implication of (5) is that a constant inflation rate will imply a constant level of consumption and, given the CIA constraint, a constant level for the real money demand.

The government is assumed to finance its consumption (g) and purchases of the foreign bond with the collection of lump-sum taxes and seigniorage (σ). 1/ The government is also free to trade in the international bond market. Thus, its budget constraint is:

$$\int_0^\infty [\sigma_t + \tau + rk_t - \dot{k}_t - g] e^{-rt} dt = 0 \tag{6}$$

where k denotes official holdings of the foreign bond. Equation (6) simply states that the present value of government outlays must equal the present value of government revenues. Assuming constant paths for g and τ, equation (6) can be written as:

$$\int_0^\infty \sigma_t e^{-rt} dt = \frac{g - \tau}{r} - k_0 \tag{7}$$

Combining equations (3) and (6), one obtains the economy-wide budget constraint:

$$\int_0^\infty c_t (1+\alpha r) e^{-rt} dt = [b_0 + k_0] + m_0 + \frac{y - g}{r} \tag{8}$$

Equations (4), (5) and (8) provide a complete description of the economy under the assumption of constant paths for τ and g.

Let's consider now 2 sets of macroeconomic definitions. The first set of definitions is implied by the model itself, whereas the second set, while not implied by the model, is closely related to the standard national

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1/ The term 'seigniorage' refers to the total amount of resources collected by the government through money creation: $\sigma=\pi m+\dot{m}$. The term 'inflation tax' refers only to the erosion of money balances by inflation: πm. In steady state $\dot{m}=0$ and thus, seigniorage is identical to the inflation tax. Notice also that because of the absence of banks and financial assets denominated in domestic currency, only the money base is subject to the inflation tax in this model.

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account (NA) definitions. Define private saving(s) as the excess of the individual's disposable income over his consumption:

$$s_t = [\, y + rb_t - \tau - \pi_t m_t \,] - c_t \tag{9}$$

From (3) it should be clear that the definition of saving is identical to that of total asset--bond and money--accumulation. Following a similar reasoning, define the government's budget deficit (or "public saving", since there is no capital in the model) as the excess of expenditure over total revenues, including the inflation tax:

$$d_t = g - [\, \tau + \pi_t m_t + rk_t \,] \tag{10}$$

In this case, d reflects the change in the government's net asset position (the difference between holdings of the international bond and the domestic resident's holdings of money). Clearly, the government will improve its net asset position whenever it runs a surplus in the sense that $d<0$. These definitions are perfectly consistent with the budget constraints (3) and (6). Consider now the second type of definitions, which disregard the existence of the inflation tax:

$$d_t^{NA} = g - \tau - rk_t \tag{11}$$

$$s_t^{NA} = y + rb_t - \tau - c_t \tag{12}$$

Whenever the inflation rate is positive, the NA definitions overestimate their actual counterparts--s and d--: d^{NA} excludes seigniorage as a source of revenue and overestimates the actual deficit, and s^{NA} overestimates the individual's disposable income as it omits part of the taxes actually paid. 1/ Finally, denoting the economy's total holdings of the foreign bond by f, the current account is defined as:

$$CA_t = y + rf_t - [\, c_t + g \,] \tag{13}$$

which is simply the difference between GDP and domestic absorption.

1/ Notice that the overestimation of saving is identical to the overestimation of disposable income, because when determining consumption the individual uses full knowledge of seigniorage, as implied by equation (4).

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Simple aggregation of the flow versions of the budget constraints (3) and (6) shows that the economy's overall accumulation of assets is determined by the current account outcome.

$$\dot{f}_t = \dot{k}_t + \dot{b}_t = y + rf_t - [\, c_t + g \,] = CA_t \tag{14}$$

Using the definitions (9) and (10), equation (14) can be re-written as the following condition:

$$s_t = d_t + CA_t \tag{15}$$

which equates private saving to the sum of the budget deficit and the current account. Since the model developed here assumes that output is exogenous, there is no investment; consequently, (15) is equivalent to the standard macroeconomic condition equating total saving--private, public and external--to investment (zero in the present model). An interesting result is obtained when (11) and (12), instead of (9) and (10) are substituted in (14):

$$s_t^{NA} = d_t^{NA} + CA_t \tag{16}$$

Clearly, despite the difference in the definitions of saving and the budget deficit, a similar macroeconomic equilibrium condition holds for the NA aggregates. This is due to the symmetry in the omission of the inflation tax from the definitions of s^{NA} and d^{NA}. However, there is an important problem with this version of the saving/investment condition: since there is a misallocation of the resources associated with the inflation tax implicit in equation (16), looking at it in order to interpret the effects of certain fiscal policy actions involving the use of seigniorage could be misleading. Some examples illustrating this point are provided in the next two sections.

III. A Regime with a Constant Inflation Rate

Consider first a regime characterized by a constant positive inflation rate, such that the government stock of foreign assets remains constant. In that scenario, the government would choose π from equation (7) in the following manner:

$$\pi_0 = \frac{[\, g - \tau - rk_0 \,]}{m_0} \tag{17}$$

From the FOC (4), constancy of the inflation rate implies a constant level of private consumption and, therefore, a constant level of money

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balances. Also, if the inflation rate is constant, seigniorage equals the inflation tax: $\sigma=\pi m$; therefore, the overall economy budget constraint (8) becomes:

$$c_0 = r\, f_0 + y - g \tag{18}$$

which, for convenience could also be written as:

$$c_0 = r b_0 + y - [\, \pi_0 m_0 + \tau \,] \tag{19}$$

Equation (18) implies that in equilibrium total consumption--public and private--must equal GDP, or that the current account is in balance. Equation (19) shows that in a steady state equilibrium, the individual consumes all his disposable income; different combinations of seigniorage and conventional taxes that yield the same revenue will be associated with the same level of private consumption. Thus, under the current regime, in equilibrium both s and d are equal to zero, since neither the private sector nor the government are accumulating or dispersing assets. However, since the current account is in balance and the inflation rate is positive, equations (15) and (16) imply:

$$s_0^{NA} = d_0^{NA} > 0 \tag{20}$$

This result can be used to illustrate how the effect of certain government policies can be misinterpreted if one ignores the limitations of the aggregates d^{NA} and s^{NA}. Consider first a situation identical to the one just described except for the fact that the government relies more heavily on the inflation tax and less on conventional taxation. From equation (19) it is clear that consumption possibilities are reduced by the total amount of taxes paid, independently of the structure of the tax system; therefore, if the government switches from conventional taxation to inflationary financing c will not change. 1/ Since the substitution of inflationary finance for conventional taxation has no effects on either (9) or (10), in equilibrium s and d would still be zero--as would be the current account. Notice, however, how the aggregates d^{NA} and s^{NA} would capture the policy just described. A substitution of inflationary finance for conventional taxation would be registered as a higher s^{NA} because according to the NA aggregates a reduction in conventional taxes leads to an increase in disposable income, but an increase in the inflation tax does not lead to a reduction in disposable income. The substitution of inflationary finance for conventional taxation also leads to a larger budget deficit as measured by d^{NA}, because the reduction in revenues from conventional taxes is registered but the increase in revenue derived from the inflation tax is not. This

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1/ This is true for a permanent and unanticipated change in tax bases.

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increase in d^{NA} and s^{NA} could be easily interpreted as an increase in the budget deficit financed by higher private saving. The presumed increase in private saving would have been made possible by the reduction in taxes. This explanation would be within the logic of the national account identities but would also be wrong since the policy under consideration did not lead to either a larger deficit or to more saving.

As another example, suppose that instead of a substitution of inflationary financing for conventional taxation, the new equilibrium was characterized by higher government consumption, with the additional expenditures being financed through a higher inflation tax. From equation (18) it is clear that a larger value of g implies an equivalent reduction in private consumption. In the model, this reduction is achieved through a reduction in disposable income brought about by the higher inflation rate; as a result, in the new steady state equilibrium s would still be 0. On the other hand, since government outlays would be fully financed with taxes or interest income, the new equilibrium would also be characterized by d=0. However, in the NA framework the lower level of private consumption would lead to a higher s^{NA} and the higher g would lead to a higher d^{NA}. As before, this could be given an erroneous interpretation: the increase in g presumably leads to a higher deficit, and this deficit is financed with higher private saving made possible by lower private consumption. 1/ But, this analysis is misleading because saving has not increased since the reduction in private consumption is identical to the reduction in disposable income--as implied by equation (19)--, and no higher deficit arises because the increase in g is fully financed with the inflation tax.

These two examples show a bias in the standard definitions of d and s, which is proportional to the amount of seigniorage collected by the government. This bias creates the illusion that heavier reliance on inflationary financing could be associated with higher saving by the private sector.

IV. Temporary Increases in the Inflation Rate

One additional example is used to illustrate the idea outlined above. The example focuses on the effects on the saving-deficit relation of temporary increases in the rate of inflation. It is assumed that the government uses the increase in inflation tax revenue to purchase foreign assets. As before, the analysis centers first on the basic macroeconomic equilibrium conditions of the simplified model developed in section II, and then on what the NA identities would show. A comparison between the two sets of equilibrium conditions illustrates the importance of keeping in mind the distortions introduced by the omission of the inflation tax from the NA aggregates.

Assume that the economy has been locked in a steady state situation with an inflation rate π_0 until time 0 when, unexpectedly, the government implements a temporary increase in the inflation rate to π_1 that will last

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1/ Notice, however, that in this case it would be impossible to understand why c went down without looking at the evolution of seigniorage.

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until year T. 1/ From T on, the inflation rate will be reduced to π_2, a level consistent with a constant stock of official assets, k_2. From equation (6), the government would have to choose π_2 as:

$$\pi_2 = \frac{(g - \tau) - [k_0 + (k_2 - k_T)\, e^{-rT}] - \pi_1 m_1 (1 - e^{-rT})}{m_2\, e^{-rT}} \qquad (21)$$

where m_1 and m_2 represent the money demands associated with the inflation rates π_1 and π_2. The purchase of assets during the period (0,T) implies that after T the government's interest income will be higher and, therefore, the rate of inflation would need to be smaller than otherwise, i.e., $\pi_2 < \pi_0$.

As mentioned earlier, the FOC (5) implies that constant levels of inflation are associated with constant levels of consumption and money balances. Thus, denoting by c_1 and c_2 the consumption demands prevailing during the periods (0,T) and (T,∞) respectively, equation (5) implies:

$$\frac{U'(c_1)}{U'(c_2)} = \frac{1 + \alpha i_1}{1 + \alpha i_2} \qquad (22)$$

Clearly, the temporary increase in inflation leads to an intertemporal substitution in consumption, as the money balances required to finance consumption expenditures are taxed more heavily in the period (0,T). As a result, consumption will fall to c_1 at t=0, and go up to c_2, a level higher than c_0, at T. Notice that since a discrete change in consumption requires a proportional change of money holdings, and given that the only way in which an individual can adjust instantaneously his holdings of money is to sell bonds, the following portfolio adjustment will have to take place at time t=0:

$$(\Delta m)_{t=0} = -(\Delta b)_{t=0} < 0 \qquad (23)$$

Equation (23) states that the representative individual will reduce instantly its money holdings to a level consistent with c_1 via the purchase of bonds. No further changes in the private sector's portfolio would occur between t=0 and T. Thus:

1/ It is assumed here that T is determined exogenously by the government. It would be more appropriate to treat T as endogenously determined by the rate of inflation and the amount of assets that the government intends to buy. This issue, however, is of no particular relevance in the analysis of the present section.

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$$\dot{m}_t = \dot{b}_t = 0; \qquad t \in (0, T) \tag{24}$$

This negative jump in the money demand at t=0 has implications for the government's budget constraint. Indeed, the government will face an immediate decrease in seigniorage when the money demand falls which, under the assumption of constancy of g and τ, implies that the government will have to sell bonds. The amount of bonds sold at the time of the policy change equals the amount of bonds purchased by the individual:

$$(\Delta k)_{t=0} = (\Delta m)_{t=0} < 0 \tag{25}$$

In other words, at t=0 the private sector swaps with the government cash for bond holdings. Immediately after this swap, the government will start collecting seignorage at a higher rate and will accumulate assets according to:

$$\dot{k}_t = T + \pi_1 m_1 + r k_t - g \qquad t \in (0, T) \tag{26}$$

Adding equations (24) and (26) leads to the current account result:

$$CA_t = y + r [k_t + b_0] - [c_1 + g] = \dot{k}_t \qquad t \in (0,T) \tag{27}$$

which denotes that during the period (0,T) the government accumulation of foreign bonds is identical to the current account result. Equation (27) summarizes the results described above: the temporary increase in inflation leads immediately to a simultaneous reduction in current consumption; as a result, during the period (0,T) private saving will equal zero and the current account will show a surplus of a magnitude that matches government purchases of foreign assets.

At T, the government lowers the inflation rate permanently to a level consistent with a constant stock of bond holdings. Consequently, private consumption will go up permanently to c_2. Because of the CIA constraint, right at T there will be another discrete adjustment in the private sector's portfolio: the representative individual sell part of its holdings of the foreign bond and will increase its holdings of money balances. The jump in the money demand represents an increase in seigniorage collection for the government which, given the constancy of g and T, is used to purchase foreign assets. Thus:

$$(\Delta m)_{t=T} = -(\Delta b)_{t=T} > 0 \tag{28}$$

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$$(\Delta k)_{t=T} = (\Delta m)_{t=T} > 0 \qquad (29)$$

After this portfolio recomposition neither the government nor the private sector will accumulate assets, and the economy will be in a steady-state equilibrium. Thus, the current account would be in balance. Formally:

$$\dot{m}_t = \dot{k}_t = \dot{b}_t = CA_t = 0 \qquad t \in (T,\infty) \qquad (30)$$

Figures 1-3 show how these macroeconomic variables would evolve under the exercise just described. Consider first the definition of these variables that include seigniorage. During the period between years 0 and T, the government runs a surplus (d<0) that is used to purchase foreign assets; this surplus increases rapidly as interests earned on previously acquired bonds grow. After T the government's budget will be balanced (d=0). All along, however, the private sector does not save or dissave (s=0), although it reshuffles its portfolio at t=0 and again at T. The current account simply mirrors the government's accumulation of foreign bonds between 0 and T, and after T it remains in balance. As expected, at any point in time private saving equals the sum of the budget deficit and the current account.

However, the picture resulting from the NA framework is quite different. Before the increase in inflation, the budget deficit as measured by d^{NA} is equivalent to the inflation tax collected at that time, $\pi_0 m_0$. At t=0 d^{NA} jumps due to the sudden reduction in interest income for the government--derived from the bond sale at t=0--; the increase in revenue derived from seigniorage is, obviously, not accounted for. However, since the government will be accumulating assets until T, its interest income will increase gradually leading to a reduction in d^{NA}. At T, when the private sector's money demand increases and so do government holdings of the foreign bond, d^{NA} falls by an amount equivalent to the increase in interest income registered at T. From then on, d^{NA} will be equal to $\pi_2 m_2$.

As for private saving, according to the NA definitions s^{NA} is equal to $\pi_0 m_0$ until t=0. Between then and T, s^{NA} goes up because of the private sector's portfolio recomposition that takes place at t=0, which increases its interest income (the reduction in disposable income resulting from the higher inflation rate is, obviously, ignored). At T, the private sector rearranges its portfolio again substituting money for bonds. Despite the reduction in the rate of inflation, this concept of saving registers a fall equivalent to the reduction in interest income; from T on, s^{NA} is equal to $\pi_2 m_2$.

Notice that all along the condition that s^{NA} equals the sum of d^{NA} and CA is satisfied. Nevertheless, the changes registered by s^{NA} and d^{NA} could be easily misinterpreted. As mentioned above, in a consistent macroeconomic framework private saving is zero during the whole experiment and the budget deficit is not balanced only between t=0 and T, when a <u>surplus</u> is registered. However, using the NA indicators a large <u>deficit</u> would be

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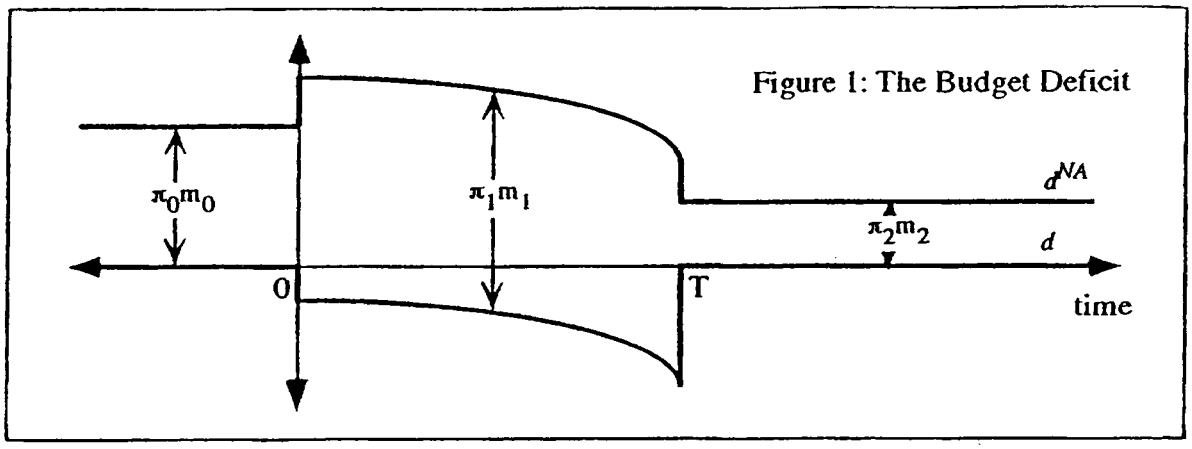
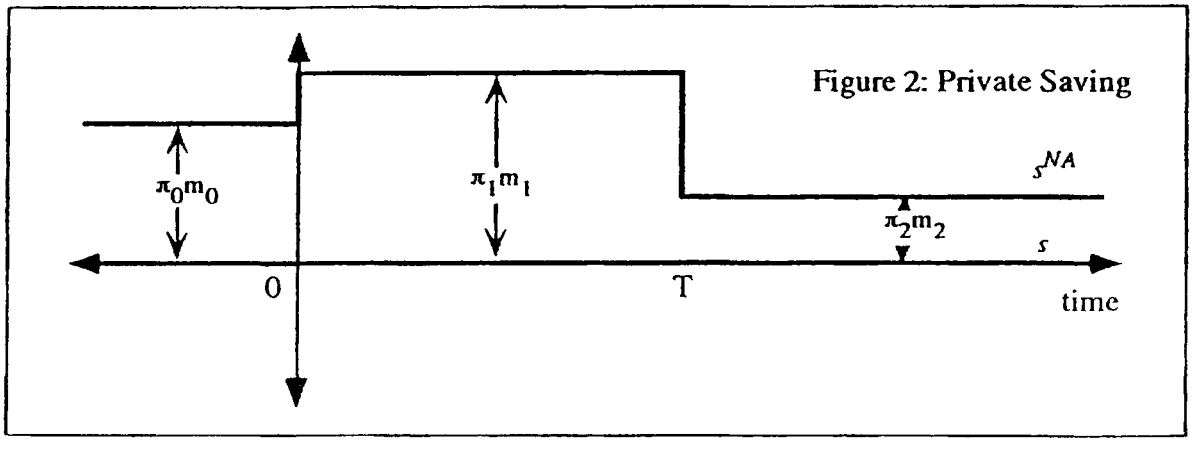
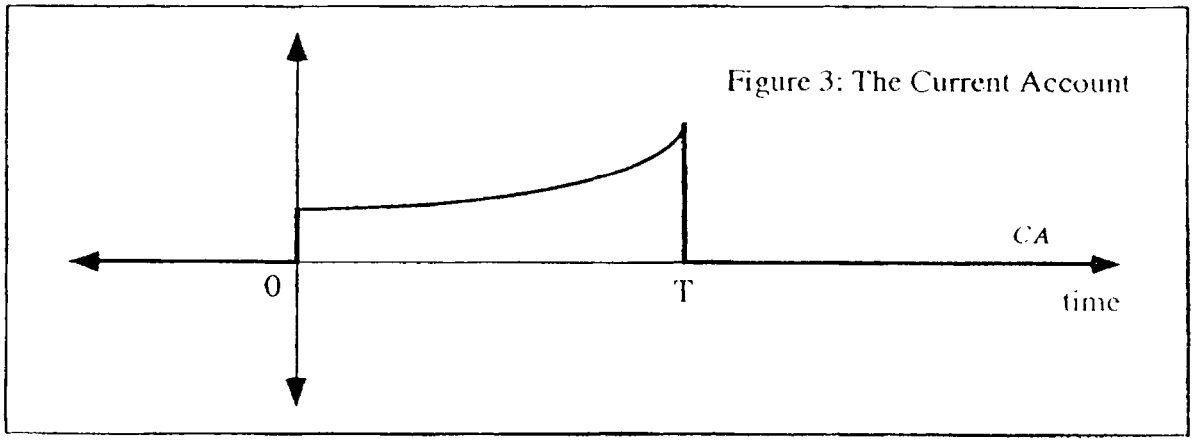
Effects of a Temporary Increase in the Inflation Rate







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registered between 0 and T; this deficit, together with the current account surplus obtained during the same period would have to be explained by a large increase in private saving--which presumably stems from the increase in interest income emanating from the sudden acquisition of bonds from the government at t=0. In other words, at a time when the government actually registers an increasing surplus and private saving remains equal to zero, d^{NA} shows a deficit and s^{NA} goes up temporarily. As before, heavier reliance on the inflation tax creates the illusion of a larger deficit accompanied by an increase in private saving.

V. The inflation tax bias in Mexico and Uruguay

This section illustrates the empirical relevance of the inflation tax bias discussed in the preceding sections. Table 1 compares the figures of the inflation tax and domestic saving for Mexico and Uruguay, two countries with historically different saving rates, that have relied quite significantly on the inflation tax over the last two decades.

Table 1: Relative Importance of the Inflation Tax Bias

(As a percentage of GDP)

	Mexico		Uruguay	
Year	INFTAX	Saving*	INFTAX	Saving*
1978	2.1	20.7	2.6	13.6
1979	2.5	22.3	4.6	12.8
1980	3.6	24.9	2.1	11.7
1981	3.5	24.8	1.7	11.4
1982	11.0	27.9	1.3	11.3
1983	9.7	30.3	3.1	12.3
1984	6.5	27.7	4.6	15.2
1985	6.6	26.3	4.5	13.4
1986	7.6	22.8	4.2	14.3
1987	7.0	26.3	3.1	12.1
1988	1.9	23.3	4.4	14.4
1989	0.8	23.7	5.5	15.9
1990	1.0	18.2	4.8	18.9
Period average	4.9	24.6	3.6	13.6

Source: IMF, International Financial Statistics; World Bank, World Tables 1991.

* Gross Domestic Saving.

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The inflation tax paid by money holders is calculated as the erosion of the money base by inflation. 1/ In both cases the inflation tax is significant as a percentage of GDP: in Uruguay it averaged around 3 1/2 percent (26 percent of domestic saving) over the period 1977-90, and in Mexico around 5 percent (20 percent of domestic saving). Thus, not accounting for the inflation tax amounts to inappropriately allocating a significant fraction of domestic saving as private saving in both countries.

Table 1 also shows that the inflation tax has fluctuated over time, especially in Mexico. Given the relative size of the inflation tax bias, it should be clear that nonadjusted national accounts data on private and public saving can be seriously misleading. 2/

VI. Conclusion

This paper has focused on the proper accounting of the proceeds from seigniorage and its implications for the interpretation of macroeconomic data. As it is well known, national account figures on private saving and the budget deficit ignore the existence of the inflation tax and, thus, are likely to provide a misleading picture of the effects of certain policy actions. The paper illustrates this idea in the context of a model in which the representative individual maximizes his lifetime utility over an infinite horizon. The individual faces two types of taxes: a lump-sum tax and the inflation tax. It is shown that in a steady state with a constant inflation rate the optimal level of private consumption depends on the overall tax burden, but not on the particular structure of the tax system--i.e., on the relative importance of the inflation tax. A direct implication of this result is that it is impossible to obtain a correct inference of the effects of certain government policies on the economy based exclusively on national accounts figures; such an inference requires taking into account the evolution of seigniorage collection by the government. In particular, the paper shows that standard national account definitions of private saving and the budget deficit tend to create the illusion that heavier reliance on the inflation tax could be associated with higher saving by the private sector, when in fact private saving is unrelated to inflation in the model developed here. Using figures from Mexico and Uruguay, the paper shows that the inflation tax bias may represent a significant and highly variable percentage of domestic saving.

1/ The inflation tax was calculated using the following formula:

$$INFTAX = \pi M_0 / Y$$

where M_0 represents the beginning-of-the-year money base, π is the percentage increase in the CPI during the year, and Y is nominal GDP. No correction for interest payments on bank reserves was necessary because during the period 1978-1990 bank deposits in the central bank did not earned interest in either country.

2/ A detailed analysis of private saving in Mexico, including correction for inflation can be found in Arrau and Oks (1992).

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The results of this paper support the notion that the relevant national accounts aggregates should be adjusted in order to account for the presence of the inflation tax before being used for testing. The inflation-corrected figures would be more closely related to their theoretical counterparts.

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