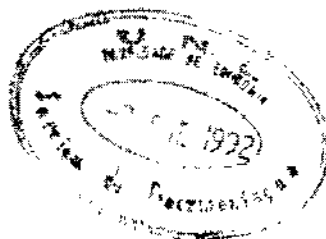


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THE TREASURY AND THE BANKS IN

PORTUGAL

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IMPLICIT TAXES AND CREDIT CEILINGS:
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Abstract

Sustaining government budget deficits in high public debt countries requires increasingly diverse forms of tax anesthesia which must be recognized and accounted for in policy analysis. In economies with exchange controls, there may be an interest rate tax, implicit in low real interest rates, credit ceilings or other administered controls imposed by the Treasury on the Banks. Such implicit taxes end up being paid by lenders or borrowers who cannot avoid them by moving abroad (section 1). All domestic banks were nationalized in Portugal in the wake of the 1974 Revolution. The hybrid nature of the Portuguese commercial banks suggests that one may or may not take the consolidation of the financial public sector to include them (section 2).

A decomposition of the debt to income ratio in Portugal from 1976 to 1987 according to both criteria shows substantially different tax bases for domestic seignorage (section 3). The incidence of the anesthetized tax is on private borrowers or lenders. They suffer from spreads well in excess of any reasonable intermediation margin. Estimated revenue from the implicit intermediation tax is substantially larger than from domestic seignorage (section 4). The ongoing tax reform cannot be seen as complete until implicit taxes are accounted for.

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1. An accounting framework

Seeing controls as sources of revenue makes it easier to understand the difficulties of fiscal adjustment and the dangers of financial deregulation in high public debt countries. The literature, e.g. IMF (1987), touches all too briefly on the link between financial programming and fiscal policy, largely because the various ways in which the public sector deals with financial intermediaries are not adequately accounted for. Rather than attempting to present a comprehensive accounting framework, we focus on the borrowing by the Treasury from the Banks as a suggested interpretation of the large spread between the loan rate and the deposit rate. We argue that borrowing by the public sector under credit ceilings and exchange controls is tantamount to an implicit form of taxation. This has not been given sufficient attention in the ongoing efforts to bring about tax and public sector reform in many countries. We concentrate here on domestic debt, even though the nature of sovereign borrowing in international capital markets suggests that a comprehensive accounting framework ought to reflect the choice between domestic and foreign-held public debt.

In the European Community, for example, the opening up of domestic capital markets is required by the objective of a single market in 1992. Imposing financial discipline in high public debt member countries may be the only credible measure to end the direct financing of the Treasury by the Banks. In at least some of these high public debt countries, the current system is unsustainable and the alternatives involve maintaining the closing of the domestic capital market, perhaps sharing financial

repression in a "soft currency club", loosely tied to the European Monetary System, see Macedo (1988a).

In the fully consolidated view of the public sector, shown for the closed economy in Buiter (1985), the change in the monetary base would be treated like any other source of government revenue. Instead, we take all public debt not voluntarily held by Banks to be Treasury monetary base. Other assets, especially claims on foreign monetary authorities, or foreign-held public debt may change the Banks' profit and loss account, but they are treated here as lowering the implied government budget deficit rather than as financing it.

The nature of debt accumulation in these high public debt countries shows that the Treasury can adjust to high real interest rates by maintaining a sizable source of revenue from the Central Bank. This is collected not so much in the form of currency but rather through bank reserves and controls which increase the demand for public debt on the part of the banking system. This view emphasizes that the qualitative composition of public debt does matter. In the Italian context, this point has often been seen in terms of marriages and divorces between Banca and Tesoro. The broad implication of what one of us called the "gospel according to UCLB" is for the careful study of the variety of roles the Treasury takes with respect to Banks (1).

Like some efforts at Nova, Beleza et al. (1984) or Barbosa et al. (1985), the Bocconi approach touches upon recent advances in the strategic analysis of government behavior and raises the issue of the independence of the Central Bank. In this sense, the accounting framework presented here may serve to motivate the need for a monetary

constitution so dear to the members of the public choice school, see Brennan and Buchanan (1981). In any event, uncovering anesthetized taxes or disguised fiscal policy shows the political element behind financial discipline, emphasized in the comparative analysis of Germany, France, Italy and Great Britain in the 1920s and the United States in the 1950s by Alesina (1988). The idea that external financial liberalization may be a way of neutralizing the domestic lobbying efforts for deficit financing is also reminiscent of some of the economic development literature.

The order in which trade and financial protectionism must be removed is not indifferent. The analysis of liberalization episodes in the Southern Cone of Latin America suggests a sequencing of policies where domestic real liberalization should precede external financial liberalization, see Edwards (1984) and Macedo (1985). This suggests that the removal of financial protectionism requires domestic financial liberalization, namely the recognition of the implicit taxes and administrative controls designed to favor borrowing by the Treasury. The ability to bring about an irreversible monetary reform without external pressure may be limited in high public debt countries. Nevertheless, the Portuguese debt experience makes clear that the expectation of external financial liberalization need not by itself validate a change in the domestic financial regime.

2. The Portuguese debt experience

In the aftermath of the April 25th, 1974 Revolution, all domestic banks were nationalized and the growth of public debt began. Expansionary demand policies from 1974 to 1977 required external

adjustment in 1978/79. After a brief attempt at disinflating in 1980, inflationary policies resumed and, in 1981/82, the economy was again "out-of-phase" relative to partners' business cycle. As a result a new, severe adjustment program was required and implemented in 1983/85. Throughout, the demand for government bonds was facilitated by nationalized banks and a system of direct monetary control based on credit ceilings.

Before 1986, the banking system was the almost exclusive market for savings. The policy of administered interest rates consistently tried to steer deposit rates so as to stimulate savings. Credit ceilings have been established on an individual basis, according to the amount and type of each bank's deposits and equity. The existence of exchange controls and the unavailability of alternative instruments to domestic depositors created a captive market for nationalized commercial banks. In 1986/87, after private banks were allowed to operate a new and the capital markets started to develop, the monopoly of the public sector began to erode.

Demand for credit, however, frequently exceeds what can be afforded by a responsible monetary policy. As a rule, the allocation of credit to the private sector has had to be squeezed due to the debt behavior of the enlarged public sector (General Government and non-financial public enterprises). As a consequence, the Central Bank has no alternative but to freeze the potential excess liquidity which ends up in the banking system. In order to avoid the (rational) response on the part of commercial banks of turning down requests for deposits which cannot find their way into loans, the Central Bank has rewarded potential excess liquidity at reasonable interest rates. As liquidity purchases have been increasing fast, the net effective interest rate on the public debt

held by the Central Bank has turned negative. Treasury bills, the only relevant instrument of public debt that may be seen as voluntarily held, did not begin until 1984. It is not surprising that private commercial banks, unlike their nationalized brethren are not very active in public debt markets other than Treasury bills (2).

There is now increasing awareness that the high public debt threatens the anti-inflationary program initiated in late 1985. This program managed to cut the rate of increase of the GDP deflator from 20% in 1985 to 11% in 1987, bringing ex post real interest rates on domestic public debt up from -10% to +1%. Meanwhile, as shown in the Tables below, the reported primary budget deficit including Treasury operations fell from the equivalent of 5% of GDP in 1981/85 to one half of 1% in 1986/87, and domestic seignorage fell from 6% to less than 1% of GDP over the same period. Note that, in 1980, the Treasury decided to revalue the stock of gold reserves (3). This once-and-for-all change in the level of public debt is another reason why, in the average figures reported in Tables 1 and 2 below, we leave out 1980. Indeed, comparisons between phase averages before and after that date are not strictly accurate because of the debt write-off operation. The phases used in the Tables have a rough correspondence with governments: conservative 1970/73, socialist (military then civilian) from 1974 until 1979, reformist in 1980 and 1986/87 and a mixture between 1981 and 1985. As the reformist government began in late 1985, the 1986/87 phase could be extended back to include 1985. Since for some purposes these phase averages are not sufficiently informative, we present the yearly figures in Annex Tables. All data is from the Bank of Portugal.

The Portuguese government has announced a program designed to

create primary surpluses by reducing consumption and transfers, increasing taxes and privatizing public enterprises, including banks. The government's program is designed to generate primary surpluses sufficient to stabilize the debt to output ratio before 1992. Whether the program can be enforced, however, remains to be seen (4).

3. The accumulation equation

The debt accumulation equation states that, in each period, the change in the stock of total outstanding debt (DT) equals the primary deficit (F) plus interest payments (J). The change in the ratio of debt to nominal income Y is then:

$$[1] \quad d(DT/Y) = (dt - n)(DT/Y) + F/Y$$

$$\text{where } dt = J/DT$$

$$\text{and } n = dY/Y$$

Unfortunately, a debt accumulation equation does not replicate the official budget figures provided by the Bank of Portugal and the Ministry of Finance. The public sector borrowing requirement is not the exact counterpart of the budget deficit, mainly due to Treasury (lending) operations. The yearly change in the stock of outstanding debt is not equal to the corresponding year borrowing requirement either, due to other off budget operations such as the takeover of debts by the General Government. In Table 1, we use [1] to equate the change in the total public debt to income ratio net of the interest and growth factor (INTG) to an implied deficit as a percentage of GDP. The implied deficit (IF) is either reported (RF) or hidden (HF).

Table 1 assumes that the Central Bank behaves like a private agent, so that all public debt is taken to be privately-held. Instead, in Table 2 total public debt is decomposed into domestic privately-held public debt, denoted by D, external debt (EB) and Treasury monetary base (MT). The latter is the base of the domestic seignorage tax. The net accumulation of MT less interest JMT is the seignorage tax rate. Similarly, the net change in the external debt can be seen as foreign seignorage. We now decompose HF further into net foreign borrowing (NFB), domestic seignorage (SEIGN) and a residual (RES), so that the implied deficit is given by:

$$[2] \text{ IF} = \text{RF} - \text{NFB} - \text{SEIGN} + \text{RES}$$

$$\text{where NFB} = \text{dEB} - \text{JEB}$$

$$\text{and SEIGN} = \text{dMT} - \text{JMT} = \text{DTAX} * \text{MT}$$

The two panels of Table 2 show different concepts of domestic seignorage. The first (i=CB) assumes that the nationalized commercial banks also behave like private agents - as in Macedo (1988b) and Macedo and Sebastiao (1988) - whereas the second (i=NB) does not. We use [2] in [1], and interpret all magnitudes as percentage of nominal income:

$$[3] \text{ dDi/Y} = \text{INTGi} + \text{IFi/Y}$$

$$\text{where IFi} = \text{RF} - \text{NFB} - \text{SEIGNi} + \text{RESi}$$

$$i = \text{CB, NB}$$

Overall, Tables 1 and 2 show a situation which appears more distorted than the situation in Italy before the so-called "divorce" between Banca and Tesoro in 1981 (5). Total Treasury debt reached 70%

of output in 1987, up from 42% in 1980. The debt to income ratio has been growing at 4% p.a. since 1974. An increase of about 7% p.a. in the debt to income ratio during 1981/85 is recorded, despite high growth and negative real interest rates. The difference between the interest rate and the growth rate is about 8%, leading to an interest and growth factor of over 4% in absolute value from 1981 to 1987. The fall in the debt to income ratio from 7% to 1% between the two phases thus translates into a reduction in the implied deficit from 11% in 1981/85 to less than 6% in 1986/87. This decline is almost entirely accounted for by the reported deficit, as the hidden deficit remains over 5% of income throughout (Table 1, last column).

In Table 2, we decompose this hidden deficit taking into account external borrowing and domestic seignorage. We notice first an acceleration of debt accumulation in 1986/87, as more market instruments are offered to private savers. The interest and growth factor is positive and rising when nationalized banks are excluded from the public sector (top panel). It remains negligible when privately - voluntarily - held debt is taken to be Treasury bills only (bottom panel). The implied deficit thus has a pattern which is the exact opposite of the reported deficit: it rises from below 1% in 1981/85 to 6% in 1986/87. This is explained in part by foreign borrowing, as the net figure remains at about 1%. Another factor of the resilience of the residual. It remains at over 5% of GDP, thereby more than offsetting the decline in domestic seignorage from 6% to less than 1%. The high share of the residual underscores the severe lack of correspondence between the official figure net of interest and the components of debt accumulation. The tax revenue from domestic seignorage remains the same according to both criteria because its broader base is offset by a lower rate. Thus

if nationalized banks are part of the private sector, the tax base is 23% throughout and the tax rate falls from 27% in 1981/85 to 4% in 1986/87. Conversely, if only Treasury bills are taken to be privately held, the rate still falls from 15% to 2% but the base actually rises from 37% to 41%, suggesting that tax anesthesia is far from over (6).

4. The implicit intermediation tax

The accounting framework used so far is appropriate to show the existence of tax anesthesia and to assess the size of privately-held public debt. It does not help to find out who pays the implicit taxes. We now suggest some orders of magnitude under further assumptions about the behavior of the private sector. The tax rate depends on the spread between the loan rate and the deposit rate net of an assumed intermediation margin, as both borrowers and lenders suffer from excessively large interest margins. The tax base depends on the slopes of demand for and supply of credit and deposits. These are in turn related to the alternatives offered to residents. If the binding constraint is credit ceilings on private borrowers, the tax base should be private credit. Here we assume this to be the case throughout our sample period, even though private depositors may have been occasionally constrained (7).

To estimate the variables required to compute the tax rate, we inferred an average rate on deposits from figures on the stock of total deposits and the interest bill paid by Banks (deposit rate on Table 3). We then used the (administered) loan rate for the 91 to 180 day maturity to obtain two annualized rates, one when interest is paid at maturity (L1 in Table 3) the other when it is paid up front (L2 in Table 3). We

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believe the latter to be the representative rate for loans extended by commercial banks (8). Credit ceilings of course imply that this is a relatively small share of the total assets of Banks. Then, based on estimates for several countries in OECD (1987), we assume values of 2, 3 or 4%, for the intermediation rate in Table 3, thus obtaining estimates of the excess margin.

Table 3 shows that even for the higher intermediation rate, the estimates of tax revenue are substantially larger than the ones in Section 3, reaching 7% of GDP in 1981/85 when all interest is paid up front. The fall in 1986/87 is still substantial, but the degree of tax anesthesia remains significant at 3% of income. The corresponding figures for the lower intermediation rate are 9% and 4% respectively.

It can certainly be said that the financial regime in Portugal changed a great deal since private commercial banks began to operate in 1985. Nevertheless, domestic seignorage and other implicit taxes remain as significant sources of government revenue. The pressure of 1992 has not even been sufficient to bring about a simplification of explicit direct taxation in the 1988 Tax Act, as argued by Macedo, Gaspar and Sarmiento (1988). Important as it is, the ongoing tax reform cannot be seen as complete until tax anesthesia is reduced to a level consistent with external financial liberalization.

NOTES

(1) The recent debt experience of Italy was analyzed by Bruni, Penati and Porta (1988) and the same framework was applied to Portugal in Macedo (1988b) and Macedo and Sebastião (1988) with good results.

(2) As this paper was being revised, the role of Treasury bills appeared to be taken, in part at least, by a new, similar instrument, the "CLIPS".

(3) A similar operation was carried out in 1988.

(4) Debt figures will be considerably increased if we take into account "guarantees" provided by the General Government to public enterprises' loans. To the extent they will never be repaid the existence of these loans justify the notion of enlarged public sector at the level of non financial public enterprises, matching the notion of financial nationalized banking system suggested here.

(5) Coincidentally, a Portuguese version of the divorce was announced as this paper was being written. It became final as the paper was being revised.

(6) Seignorage defined as the change in the monetary base - the usual measure - declines from around 4% to 2% of GDP between 1981/85 and 1986/87. The difference relative to our measure of seignorage in 1986/87 is related to the strong external position.

(7) Data and other limitations have so far not allowed the analysis of the incidence of the seignorage and other anesthetized taxes. In general, they will be collected not only from borrowers or depositors, but also from bank shareholders.

(8) There were, of course, other maturities and a variety of other administered rates. L1 is sure to be the lowest of these. By September 1988 virtually all controls on lending rates had been abolished.

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TABLE 1
TOTAL TREASURY DEBT

Phase	change debt to income (1) =	interest and growth (2) +	implied deficit (3) =	reported (4) +	hidden (5)
70/73	-1.0%	-2.3%	1.4%	-0.6%	1.9%
74/75	3.8%	-2.2%	6.0%	2.4%	3.7%
76/79	4.1%	-5.9%	10.0%	5.2%	4.8%
80	-6.2%	-5.1%	-1.1%	-7.4%	6.3%
81/85	6.6%	-4.3%	10.9%	5.2%	5.7%
86/87	1.2%	-4.6%	5.8%	0.5%	5.2%

SOURCE: Annex Table 1

TABLE 2
DOMESTIC DEBT AND SEIGNORAGE

Phase	change debt to income (1) =	interest and growth (2) +	implied deficit (3) =	reported (4) -	net foreign borrowing (5) -	domestic seign. (6) +	residual (7)
CENTRAL BANK							
76/79	-1.5%	-1.0%	-0.5%	5.2%	2.5%	7.9%	4.7%
80	6.8%	0.2%	6.6%	-7.4%	-0.6%	-6.9%	6.4%
81/85	1.5%	1.0%	0.5%	5.2%	4.3%	6.0%	5.7%
86/87	7.9%	2.3%	5.6%	0.5%	-0.7%	0.9%	5.3%
NATIONALIZED BANKS							
76/79	0.0%	0.0%	0.0%	5.2%	2.5%	7.5%	4.7%
80	0.0%	0.0%	0.0%	-7.4%	-0.6%	-0.4%	6.4%
81/85	0.8%	0.0%	0.8%	5.2%	4.3%	5.6%	5.6%
86/87	5.6%	-0.4%	6.0%	0.5%	-0.7%	0.6%	5.3%

SOURCE: Annex Tables 2 and 3

TABLE 3
ESTIMATED REVENUE FROM IMPLICIT INTERMEDIATION TAX

	deposit rate	annualized loan rate		Private Credit /GDP	
	D	L1	L2		
78/80	9.8%	19.7%	20.7%	60.5%	
81/85	15.9%	28.1%	30.3%	69.5%	
86/87	11.9%	20.8%	22.0%	48.2%	

	interme- diation rate	tax L-I-D		Revenue/GDP	
	I	1	2	1	2
78/80	2%	7.8%	8.8%	4.7%	5.3%
81/85	2%	10.2%	12.4%	7.1%	8.6%
86/87	2%	6.9%	8.1%	3.3%	3.9%
78/80	3%	6.8%	7.8%	4.1%	4.7%
81/85	3%	9.2%	11.4%	6.4%	7.9%
86/87	3%	5.9%	7.1%	2.9%	3.4%
78/80	4%	5.8%	6.8%	3.5%	4.1%
81/85	4%	8.2%	10.4%	5.7%	7.2%
86/87	4%	4.9%	6.1%	2.4%	2.9%

SOURCE: Annex Tables 4 and 5

ANNEX TABLE 1

DECOMPOSITION OF THE CHANGE IN THE TOTAL DEBT TO INCOME RATIO

YEARS	dD/Y	rdt	rdt-dY/Y	DT/Y	INTG	IF/Y	RF/Y	HF/Y
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1970	-0.7%	2.6%	-9.0%	21.8%	-2.0%	1.2%	-2.0%	3.2%
1971	-0.3%	2.6%	-8.7%	21.3%	-1.9%	1.6%	-0.8%	2.4%
1972	-2.0%	3.4%	-11.8%	20.1%	-2.4%	0.3%	1.9%	-1.5%
1973	-0.9%	2.6%	-17.0%	18.7%	-3.2%	2.3%	-1.3%	3.7%
1974	-0.4%	2.7%	-15.6%	18.1%	-2.8%	2.5%	1.7%	0.8%
1975	8.1%	3.4%	-7.2%	22.2%	-1.6%	9.6%	3.1%	6.6%
1976	5.9%	4.1%	-17.0%	29.2%	-5.0%	10.8%	5.1%	5.7%
1977	2.0%	5.9%	-22.1%	33.0%	-7.3%	9.3%	3.4%	5.9%
1978	4.1%	8.3%	-14.6%	36.1%	-5.3%	9.3%	7.3%	2.0%
1979	4.4%	7.9%	-15.0%	40.4%	-6.1%	10.5%	5.1%	5.4%
1980	-6.2%	8.4%	-13.2%	38.9%	-5.1%	-1.1%	-7.4%	6.3%
1981	10.6%	13.9%	-3.5%	41.8%	-1.5%	12.0%	5.4%	6.6%
1982	2.5%	12.4%	-10.7%	48.1%	-5.1%	7.7%	6.4%	1.2%
1983	6.6%	13.5%	-7.4%	52.8%	-3.9%	10.5%	4.0%	6.5%
1984	5.3%	13.2%	-7.5%	58.7%	-4.4%	9.7%	6.4%	3.3%
1985	7.8%	12.9%	-10.2%	65.4%	-6.7%	14.4%	3.5%	10.9%
1986	-0.8%	13.2%	-9.0%	68.4%	-6.2%	5.4%	0.4%	5.0%
1987	3.1%	11.7%	-4.3%	69.8%	-3.0%	6.1%	0.7%	5.5%

NOTES: (2) Interest as a proportion of two year moving average of debt
 (4) Two year moving average of debt and nominal income
 (5) = (3) * (4)
 (6) = (1) - (5)
 (7) Deficit as proportion of two year moving average of nominal income
 (8) = (6) - (7)

ANNEX TABLE 2

DECOMPOSITION OF THE CHANGE IN THE DOMESTIC DEBT TO INCOME RATIO EXCLUDING CENTRAL BANK DEBT (CB)

YEARS	dd/Y	rd	rd-dY/Y	D/Y	INTG	IF/Y	RF/Y	NFB/Y	dMT/MT	rmt	dTAX	MT/Y	SEIGN/Y	RES/Y
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1976	-0.8%	2.6%	-18.4%	12.2%	-2.2%	1.5%	5.1%	1.6%	70.9%	6.8%	64.2%	11.9%	7.8%	5.8%
1977	-4.1%	10.3%	-17.7%	5.5%	-1.7%	-2.5%	3.4%	1.1%	82.6%	5.0%	57.6%	16.2%	10.5%	5.8%
1978	0.6%	17.9%	-5.0%	8.0%	-0.4%	1.0%	7.3%	4.6%	23.3%	6.6%	16.8%	21.0%	3.3%	2.0%
1979	-1.6%	27.2%	4.2%	7.4%	0.3%	-1.9%	5.1%	2.3%	44.9%	3.4%	41.5%	24.1%	10.0%	5.3%
1980	6.6%	23.7%	2.1%	10.5%	0.2%	6.6%	-7.4%	-0.6%	-33.3%	0.9%	-34.2%	20.2%	-6.9%	6.4%
1981	3.6%	24.4%	7.1%	15.5%	1.1%	2.5%	5.4%	2.8%	43.1%	3.7%	39.4%	17.7%	7.0%	6.6%
1982	-3.3%	16.5%	-4.6%	15.2%	-0.7%	-2.8%	6.4%	5.1%	32.0%	7.6%	24.4%	20.6%	5.1%	1.1%
1983	-1.4%	26.9%	6.0%	12.9%	0.8%	-2.2%	4.0%	6.1%	29.6%	9.7%	19.9%	22.8%	4.5%	6.4%
1984	-2.3%	37.2%	18.5%	11.0%	1.8%	-4.1%	6.4%	5.7%	36.7%	5.7%	31.0%	26.0%	6.0%	3.2%
1985	11.0%	35.1%	12.0%	16.1%	1.9%	9.0%	3.5%	0.2%	21.2%	2.2%	19.1%	27.6%	5.3%	10.9%
1986	7.3%	30.9%	6.7%	25.0%	2.2%	5.1%	0.4%	-1.4%	6.0%	-1.0%	7.0%	25.1%	1.8%	5.1%
1987	8.5%	23.1%	7.1%	32.9%	2.3%	6.1%	0.7%	-0.1%	-1.9%	-2.5%	0.6%	21.2%	0.1%	5.5%

NOTES: (11) = (9) - (10)

(13) = (11) * (12)

(14) = (6) - (7) + (8) + (13)

ANNEX TABLE 3

DECOMPOSITION OF THE CHANGE IN DOMESTIC DEBT TO INCOME RATING EXCLUDING CENTRAL AND NATIONALIZED BANK DEBT (NB)

YEARS	DD/Y	rd	rd-dy/y	D/Y	INTG	IF/Y	RF/Y	NFB/Y	OMT/MT	TLB	DTAX	MT/Y	SEIGN/Y	RES/Y
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1976						0.0%	5.1%	1.6%	42.6%	4.7%	37.8%	24.1%	8.1%	5.6%
1977						0.0%	3.4%	1.1%	36.1%	6.6%	29.3%	27.7%	8.1%	5.9%
1978						0.0%	7.3%	4.8%	25.2%	9.7%	15.5%	28.1%	4.3%	2.0%
1979						0.0%	5.1%	2.3%	34.7%	9.0%	25.7%	31.5%	8.1%	5.4%
1980						0.0%	-7.4%	-0.6%	7.4%	8.7%	-1.3%	30.7%	-0.4%	6.4%
1981						0.0%	5.4%	2.6%	41.7%	18.4%	28.4%	33.2%	9.4%	6.8%
1982						0.0%	6.4%	5.1%	19.1%	12.2%	6.8%	36.1%	2.6%	1.2%
1983						0.0%	4.0%	8.1%	22.5%	15.9%	8.5%	35.7%	2.3%	6.4%
1984						0.0%	6.4%	5.7%	25.8%	15.1%	10.7%	37.0%	4.0%	3.2%
1985	4.2%	21.0%	-2.0%	2.4%	0.0%	4.3%	3.5%	0.2%	37.9%	14.0%	23.8%	41.3%	9.9%	10.6%
1986	7.1%	15.0%	-7.2%	8.2%	-0.6%	7.7%	0.4%	-1.4%	13.1%	14.8%	-1.7%	42.0%	-0.7%	5.2%
1987	4.1%	14.0%	-2.0%	13.5%	-0.3%	4.4%	0.7%	-0.1%	17.4%	12.8%	4.6%	40.5%	1.8%	5.5%

NOTES: AS IN ANNEX TABLE 2

ANNEX TABLE 4
DEPOSIT AND LOAN RATES AND TAX BASE

ANO	deposit rate	loan rate	annualized loan rate		private credit/ GDP
	D	L	L1	L2	
1978	8.4%	17.6%	18.7%	19.7%	59.4%
1979	10.4%	18.8%	20.1%	21.2%	59.3%
1980	10.7%	18.8%	20.1%	21.2%	62.9%
1981	11.9%	20.0%	21.6%	22.8%	68.7%
1982	13.4%	22.9%	24.9%	26.6%	90.8%
1983	16.4%	27.6%	30.6%	33.1%	65.1%
1984	18.8%	29.5%	32.9%	35.8%	64.1%
1985	18.8%	27.6%	30.6%	33.1%	58.5%
1986	13.7%	19.9%	21.4%	22.6%	51.6%
1987	10.1%	18.9%	20.2%	21.3%	44.8%

NOTES: D - Implied interest rate on total deposits
L - Rate on 91 - 180 day loans corrected for
days effective
 $1+L1 = (1+L)**365/91$
 $1+L2 = (1+[L/(1-L)])**365/91$

ANNEX TABLE 5

IMPLICIT INTERMEDIATION TAX REVENUE

AND	intermediation rate 2%				intermediation rate 3%				intermediation rate 4%			
	TAX L-I-D		Revenue/GDP		TAX L-I-D		Revenue/GDP		TAX L-I-D		Revenue/GDP	
	1	2	1	2	1	2	1	2	1	2	1	2
1978	8.4%	9.3%	5.0%	5.5%	7.4%	8.3%	4.4%	4.9%	6.4%	7.3%	3.8%	4.3%
1979	7.7%	8.8%	4.6%	5.2%	6.7%	7.8%	4.0%	4.6%	5.7%	6.8%	3.4%	4.0%
1980	7.4%	8.5%	4.7%	5.3%	6.4%	7.5%	4.0%	4.7%	5.4%	6.5%	3.4%	4.1%
1981	7.6%	8.9%	5.2%	6.1%	6.6%	7.9%	4.6%	5.4%	5.6%	6.9%	3.9%	4.7%
1982	9.6%	11.2%	8.7%	10.2%	8.6%	10.2%	7.8%	9.3%	7.6%	9.2%	6.9%	8.4%
1983	12.2%	14.7%	7.9%	9.6%	11.2%	13.7%	7.3%	8.9%	10.2%	12.7%	6.6%	8.3%
1984	12.1%	15.0%	7.7%	9.6%	11.1%	14.0%	7.1%	9.0%	10.1%	13.0%	6.5%	8.3%
1985	9.7%	12.2%	5.7%	7.2%	8.7%	11.2%	5.1%	6.6%	7.7%	10.2%	4.5%	6.0%
1986	5.7%	6.9%	2.9%	3.5%	4.7%	5.9%	2.4%	3.0%	3.7%	4.9%	1.9%	2.5%
1987	8.2%	9.3%	3.7%	4.2%	7.2%	8.3%	3.2%	3.7%	6.2%	7.3%	2.8%	3.3%