# A Note on the Italian Public Debt

## 1. Introduction

Between December 1980 and December 1983 net indebtedness of the Italian Public Sector *vis-à-vis* domestic and foreign private residents jumped from 55% to 70% of GDP. This rapid increase raises two main worries:

*a)* that in the absence of changes in the monetary-fiscal policy mix, and/or in the real rate of interest, the debt-income ratio will continue to increase at an ever growing rate;

*b)* that even if the debt-income ratio were stabilized around the present value, the economy would remain financially unstable: with, for example, a debt-income ratio of one, a 1% increase in the real interest rate would raise the overall budget deficit by 1% of GDP. To stop the debt-income ratio from growing, the budget deficit net of interest payments would have to be reduced at once by the same amount, either cutting expenditure, or raising revenue, including the revenue from issuing money. The latter is often the only source of revenue which can be rapidly increased, but at the cost of fuelling inflation.

An economy with a high debt-income ratio is therefore particularly vulnerable to a real interest rate stock: this may originate abroad, or at home, if, for example, worries about financial stability, or rumours about the possibility of debt repudiation raise the risk premium.

The dangers associated with the current level and growth rate of public debt are the main arguments in favour of a fiscal contraction in 1984-85. But while most observers perceive this strategy as the only policy option, some warn that budget cuts in an econony which has experienced the third consecutive year of stagnation may have an unwelcome deflationary impact.

This paper has three objectives. First, by looking at the evidence available, I shall try to establish the causes of the rapid growth in public debt, and the extent to which the Italian experience has been shared by other European countries. Next I shall address the issue of dynamic instability. Finally I shall attempt to answer the question whether a fiscal contraction now is indeed a reasonable policy option.

TABLE 1

BUDGET DEFICITS AND PUBLIC DEBT (% GDP)

| | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|
| 1. Public Sector Borrowing | 12 | 13.5 | 17 | 16.5 |
| 2. Inflation Adjustment (Loss in Real Value of Public Debt) | 10.4 | 8.8 | 8.7 | 8.6 |
| 3. Revenue from Seignorage (Money Financing) | 3 | 3.4 | 2.7 | 2.2 |
| 4. Increase in Public Debt (4) = (1) − (2) − (3) | − 1.4 | 1.3 | 5.6 | 5.7 |
| Breakdown of (4): | | | | |
| 4A. Cyclical Component | .6 | 1.7 | 2.6 | 3.3 |
| 4B. Real Interest Payments on Outstanding Public Debt | − 2.6 | .9 | 1.4 | 1.7 |
| 4C. Structural Budget Deficit | .6 | − 1.3 | 1.6 | .7 |
| 5. Debt-Income Ratio (end of period) | 55 | 57 | 63 | 70 |

*Sources:* Calculations by Author on information available in: BANCA D'ITALIA, *Relazione Annuale*. Line 1 refers to the "Settore Pubblico Allargato". Line 2 excludes foreign debt. Line 3 is the growth rate of the domestic component od the monetary base (Base Monetaria Fonte Tesoro). For Line 4A see footnote 2. Line 4B was built weighing the ex-post real return on short and long term debt, including postal deposits, by their share in total domestic debt. Line 5 excluded government debt held by the Central bank, but includes foreign debt.
Data as of January 1984. Data for 1983 are estimates.



## 2. The Growth in the Italian Public Debt: 1980-83 [1]

We first look for the causes behind the recent growth of public debt. Has there been an autonomous fiscal expansion, a reduction in the degree of money financing of the deficit? Or is the growth accounted for by the recession and high world real interest rates? Table 1 attempts to give an answer to these questions.

The first thing one notices is the amount by which the budget deficit is swollen by the effect of inflation on nominal interest rates. It accounts for over one half of the widely publicized budget deficit of 17% of GDP.[2] Line 3 reports the revenue from money financing. This has been an important, though declining, source of revenue to the government: in 1983 it amounted to 2.2% of GDP and was about seven times larger than the average for the European Community (.4%). One obvious reason is the high Italian inflation rate, but there is also a structural reason: the domestic component of the monetary base amounts in Italy to 15% of GDP, more than twice the EC average (6%).

Line 4 reports the growth of public debt, obtained subtracting from the public sector borrowing requirement the inflation adjustment and the revenue from money creation: the jump in the rate of growth of public debt as a share of GDP from 1980-81 to 82-83 is marked and only a small fraction is explained by the drop in money financing. Lines 4A through 4C establish the causes of this rapid growth. I have separated out 1) the cyclical component of the budget deficit and 2) the flow of real interest payments on public debt. What is left, I have called the "structural budget deficit".[3]

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[1] For an extensive analysis of the growth of the Italian public debt over the period 1960-1963 see L. SPAVENTA, "The Growth of Public Debt in Italy", February 1984.

[2] The procedure of subtracting from the public sector borrowing requirement the loss in real value of outstanding debt assumes of course that private real savings are unaffected by inflation.

[3] The cyclical component arises from the reduction in tax revenue and the increase in outlays on unemployment benefits and other cyclically sensitive programs that occur because the economy is not at full-employment. The cyclical component of the budget deficit is therefore proportional to the deviation of the unemployment rate from its full-employment level. Though crucial in the calculation of the structural budget deficit, the cyclical component is a difficult concept to measure since it depends on an accurate specification of full-employment and the "GDP gap". The numbers reported in this paper are those which have been calculated by the EC assuming: *a)* 1973 and 1979 "full-employment" years; *b)* a potential growth rate between 1973 and 1979 equal to the average growth rate between those two years; *c)* a potential growth rate since 1979 equal to that between 1973 and 1979. *Source:* COMMISSION OF THE EUROPEAN COMMUNITIES, Directorate General for Economic and Financial Affairs, "High Activity Budget Balances: Calculations and Caveats".

The structural budget deficit differs from the more usual definition of the "full-employment budget deficit" because it includes the revenue from money financing but excludes, in addition to the cyclical component, the flow of interest payments. It reflects the direct effect on the budget of autonomous changes in the monetary-fiscal policy mix.

One fact clearly emerges. The growth of public debt over the last two years is for the most part a consequence of the recession and high real interest rates. This has been a common experience throughout Europe: Table 2 shows that since 1981 the real cost of servicing the public debt, as measured by the ex-post real return on government bonds has increased by approximately 4 percentage points in most European countries, with Germany at the lower end of the scale (+ 1.4%), and the U.S. at the upper end with over 5%. The numbers suggest however no stable relation between the increase in real interest rates and the size of a country's budget deficit, or its ratio of public debt to GDP. Real interest rates in Europe went up following the increase in U.S. rates, quite independently of the fiscal policy stance of the individual countries.

With two exceptions, UK and Denmark, a higher initial level of the debt-income ratio is associated with a larger growth in the ratio. Since the increase in real interest payments as a share of GDP is proportional to the level of the debt-income ratio, this pattern suggests that higher real interest payments were a major force behind the growth of public debt throughout Europe.

TABLE 2

REAL INTEREST RATES AND PUBLIC DEBT IN EUROPE

| | FR | GY | IT | BE | UK | DK | US |
|---|---|---|---|---|---|---|---|
| 1. Long-Term ex-post Real Interest Rate | | | | | | | |
| 1970-80 | .6 | 2.8 | −2.1 | 1.2 | −1 | 4.3 | −.5 |
| 1971-83 | 3.6 | 4.2 | 2.4 | 4.7 | 3.8 | 7.9 | 4.9 |
| 2. Stock of Public Debt (% of GDP) | | | | | | | |
| December 1980 | 16.6 | 31.6 | 55 | 77.9 | 52.1 | 7.2 | 35.3 |
| December 1982 | 16.8 | 38.3 | 63 | 97.8 | 54.7 | 25.8 | 39 |
| 3. Budget Surplus Net of Interest Payments and Revenue from Money Financing (% GDP 1981-83) | −.9 | −1.4 | −2.8 | −3.9 | +1.5 | −12.2 | −1.7 |

*Sources:* EUROPEAN ECONOMY, November 1983:
1. Table 6.5: average of monthly observations, each deflated by the rise in consumer prices over the previous 12 months;
2. Table 5.5 (except Italy): concepts differ across countries so that the levels of debt are not strictly comparable. Data for Italy are those used in Table 1;
3. Calculations by Author starting from Table 5.4. Data for Italy are those used in Table 1.



The two exceptions are Denmark and the UK. In the UK the debt-income ratio remained almost unchanged, although its level at the beginning of the period was relatively high: the reason is to be found in the UK budget surplus net of interest payments which was positive throughout the period reflecting North-Sea oil revenues. The opposite is true for Denmark, where the debt-income ratio jumped from 7% to 26% of GDP in three years reflecting a very large budget deficit net of interest payments.

Finally Line 4C (Table 1) reports the evolution of the structural budget deficit. Its level in 1983 (·7% of GDP) was unchanged from three years before: this constancy reflects some adjustment in the monetary-fiscal policy mix, as the fall in revenue from money creation was matched by a small reduction in the full-employment excess of expenditures over tax revenue.

## 3. Dynamic Instability

What concerns most observers is the possibility that the persistence of real rates of interest which exceed the potential growth rate of the economy will cause the debt-income ratio to increase at an ever growing rate.

Beyond the direct question of dynamic instability there is also the concern that the cyclical component of government borrowing will add permanently to outstanding debt, and increasingly so, as the prospects of a return to full employment in Europe are quite gloomy.

Assuming that the budget deficits is financed by issuing money and a short-term nominal bond, and that inflation is perfectly anticipated,[4] the growth rate of the debt-income ratio is described by:

$$(\dot{b/y}) = (r-n)b/y + (d-gm)/y + d^c/y$$

where b/y is the debt-income ratio, $(\dot{b/y})$ its growth rate, r the real rate of interest, n the rate of growth of the economy, (d−gm)/y the structural budget deficit as a share of GDP (d is the excess of expenditure over revenue at full-employment and gm the revenue from seignorage, equal to the growth rate of the domestic component of the

[4] For an analytical discussion of these issues, see BASEVI and GIAVAZZI: "Stabilization Policies in an Explosive Economy: Announcements and Expectations", mimeo, 1983.

monetary base times its value in real terms), and $d^c/y$ is the cyclical component of the budget deficit, also expressed as a share of GDP.

The possibility of dynamic instability arises from the term $(r-n)$: if its long run value is positive the debt-income ratio will eventually explode. Is this a serious concern in the Italian case? In 1983 the ex-post real interest rate on public debt was approximately 3%, equal to the average growth rate of the economy between 1971 and 1980.

Let us assume that the real interest rate remains unchanged and that the economy returns to the growth path of the '70s (this is a little more optimistic than the EC projections which predict 2% growth rates for the average of the Community up to 1987. *European Economy*, November 1983). The real rate of interest being equal to the growth rate of the economy, dynamic instability should not be a matter of concern, but the stationary level of the debt-income ratio would remain indeterminate. Even if the structural component budget deficit was kept close to zero,[5] the debt-income ratio would rise by the amount of any cyclical component and the evolution of the debt-income ratio would depend upon the prospects for unemployment. If productivity grows like output at 3% per year, unemployment would remain flat at the current level of 11% and the debt-income ratio, though not exploding, would rise steadily by approximately 3% per year.

## 4. Policy Options

A reduction in real interest rates would do away with any concern about the possible instability of public debt in Europe. The means for such a reduction, however, do not seem to be within the control of Europe. Table 3 shows the short and long-term real interest rate in five European countries and the U.S. nominal interest rates are deflated using the D.R.I. forecast for consumer prices inflation over two different time horizons: 1 year for short term interest rates and 3 years for long term rates.

The picture which emerges points to the inability of Europe to unplug its economy from the U.S. Table 4 looks at the prospects of a

[5] This would require a fall in current expenditure, d, parallel to the fall in revenue from money creation, gm, which would accompany a gradual reduction in the inflation rate.



TABLE 3

| | US | UK | GY | BE | FR | IT |
|---|---|---|---|---|---|---|
| 1. Short-Term Real Interest Rate | 4 | 3.8 | 2.8 | 4.4 | 4.6 | 4.8 |
| 2. Long-Term Real Interest Rate | 6.5 | 4.6 | 4.1 | 5 | 5.3 | 4.6 |

*Sources:*
1. 3-months interbank rate minus DRI forecasts of CPI inflation in 1984.
2. yield on long-term government bonds minus DRI forecasts of average CPI inflation in 1984-86.
*The Economist*, January 21, 1984. Data Resources Inc., *European Review*, November 1983.

reduction in real interest rates in the U.S. The Table reproduces the D.R.I. forecast for the U.S. budget deficit and level of short-term real interest rates in the U.S. under two scenarios: 1) no budget action by Congress and the Administration and 2) adoption of the Dole-Rostenkowski Bill which would introduce a 55 billions dollars tax package over three years and a 65 billions dollars expenditure reduction plan.

TABLE 4

| | No Budget Action | | | D-R Bill | | |
|---|---|---|---|---|---|---|
| Fiscal Year | 85 | 86 | 90 | 85 | 86 | 90 |
| 1. Federal Budget Deficit (Billions dollars) | 196.4 | 225.3 | 352.2 | 167.3 | 150.9 | 122.1 |
| 2. Short-Term Real Interest Rate (end of year) | 4.5 | 5.5 | 3.5 | 2.5 | 2.0 | 0.0 |

*Sources:* Data Resources, *Review of the U.S. Economy*, November 1983.

If high real interest rates in Europe are there to stay, one policy option is to attempt at stopping the growth of the debt-income ratio by reducing the structural component of the budget deficit. In Italy this would imply cutting it by approximately 4 percentage points. If increases in the rate of money financing are ruled out, this option would require a very large fiscal contraction. The effect on aggregate demand would push economic activity down and unemployment up, with the result that the increase in the first and last terms of the budget equation would most likely outweigh the initial reduction in the structural budget deficit. The debt-income ratio would keep growing.

This policy option is still at the debating stage in Italy where, as we have seen, there has been no significant change in the structural budget deficit. Elsewhere in Europe, and in Germany in particular, it has been the deliberate choice of governments. As the O.E.C.D. recognizes, the rapid reductions in structural budget deficits are one of the causes of the gloomy prospects for unemployment in Europe: "... deficit reductions may be proceeding too fast for the health of the demand side of the economy" (OECD, *Economic Outlook*, December 1983, p. 38).[6] In the average of the 10 EC countries the structural budget deficit moved from zero in 1981 to a surplus of 2.5% of GDP in 1983. The shift was particularly large in Germany: from a deficit of 1% of GDP in 1981 to a surplus of 3% in 1983.

In contrast, reductions in current government expenditure matched by, for example, a temporary investment tax credit would leave the structural budget deficit unchanged and would stimulate growth reducing the first and last terms in the budget equation with positive effects also on the evolution of the debt-income ratio. The simple point is that changes in monetary-fiscal policy mix influence the growth of public debt through their effect on aggregate demand, not only through their direct effect on the public sector borrowing requirement.

The picture which emerges suggests that fiscal policy in Europe should be conducted with an eye to aggregate demand rather than, with a partial equilibrium approach, to the short run evolution of the budget deficit. If changes in U.S. fiscal policy fail to materialize, only a recovery can reduce the debt-income ratios throughout Europe.

An alternative is a once and for all reduction in the stock of public debt. A capital levy however, can not stop the growth of the debt-income ratio to the extent that this originates from the cyclical component of the budget deficit. But if real interest rates remain above the growth rate of the economy, a reduction in the stock of debt would be effective at temporarily slowing down the growth of the debt income ratio. Though a questionable and in any event only a temporary solution, its reputation cost may be lower than the costs which would be associated with a severe fiscal contraction.

*Venezia*

FRANCESCO GIAVAZZI

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[6] See also O.J. BLANCHARD and R. DORNBUSCH, "U.S. Deficits, the Dollar and Europe", in this *Review*, March 1984, pp. 89-113.