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**Portugal, the EMS and 1992  
Stabilization and Liberalization**

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**DEPARTMENT OF ECONOMICS**



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\*Paper presented at the joint CEPS/Bank of Greece Conference on the EMS, held in Athens, August 1989.

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**PORTUGAL, THE EMS AND 1992  
Stabilization and Liberalization\***

by

Francisco S. Torres

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**Abstract**

Following the entry of Spain into the EMS, only Greece, Portugal and the United Kingdom are not fully participating in the exchange rate mechanisms of the EC. This paper discusses the possible participation of Portugal in the EMS in the light of progressive financial liberalization towards a European internal market.

It is argued that EMS membership may enhance the credibility and reduce the output cost of the necessary fiscal adjustment to external financial liberalization. This positive effect is due to a possible shift in price expectations.

The success of the whole strategy hinges, then, on two factors: the government's commitment to fiscal stabilization and domestic liberalization on the one hand and the external constraint on the other hand. Only the latter depends upon the participation of the escudo in the ERM - timing and conditions of entry and adjustment within the band. Any slippage in the fiscal adjustment may, however, generate an unsustainable path of public debt growth and the occurrence of balance-of-payments crises.

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**Contents**

- I. Introduction
  - II. EMS Discipline and the Public Debt Trap
  - III. Exchange Controls, Seigniorage and Public Debt in Portugal
  - IV. Domestic and External Financial Liberalization
  - V. EMS Discipline for Portugal: Why and How
  - VI. Conclusion
- Appendix
- Footnotes
- References
- Charts





## I. Introduction

After having joined the European Economic Community in 1986, Portugal faces now the challenge posed by the creation of a European internal market by 1992. Political commitment to this objective has exerted pressure for domestic liberalization and stabilization. This process has however been hampered and partly neutralized by persistent fiscal imbalances, which led to an unsustainable path of public debt growth (from 40% of GDP in 1980, public debt rose to 74% in 1988), high inflation rates, and cyclical external disequilibria. The need for an integrated stabilization package is therefore a necessary condition for a non-disruptive process of integration.

In the paper we discuss the possible macroeconomic adjustment to the real shock of 1992. The EMS is here considered as a unique device to reduce the output costs of disinflation and adjustment. The high level of Portuguese public debt reinforces the importance of the EMS' role during the process of stabilization and liberalization. Moreover, it is argued that the process of gradual external liberalization will further enhance the credibility of the adjustment.

The following section describes the disciplinary role of the EMS with particular emphasis on "fiscally weak" countries. Section III provides a brief description of the recent Portuguese debt

accumulation experience; its sustainability is discussed in the light of progressive reduction of implicit taxation. Section IV deals with the problem of external liberalization, namely its effects on domestic stabilization. Section V stresses the usefulness of the EMS as a disciplinary device in the process of convergence. Finally, section VI provides some concluding remarks.

## II. EMS discipline and the public debt trap

Concerning the selection of an appropriate exchange rate régime, policy-makers in small countries may be tempted to join an area of monetary stability where the tone of the monetary stance is given by a credible (anti-inflation) leader; the authorities "tie their hands" in search of a solution for the internal consistency problem - too high a level of inflation resulting from the non-cooperative game with the private sector. Such an explicit external commitment to an exchange rate rule works domestically as a reputational constraint.

By analyzing the trade-off between the benefits of monetary (exchange rate) policy flexibility and the costs associated with dynamic inconsistency (as was done for the EMS case by Giavazzi and Pagano, 1988b) it is possible to discuss the potential impact of the EMS on both a country's economic stability and performance and its authorities' policy effectiveness and credibility.

Given the current structure of the system, one can weigh the advantages and disadvantages of adhering to the EMS. On the one hand, by joining high inflation countries of the EEC confer more credibility on their policy-makers: the competitiveness losses incurred by inflating the economy enforce domestically the rules of the system. On the other hand, if the punishment costs are too high the EMS may be a welfare deteriorating arrangement for the joining country. These costs depend on the characteristics

of the specific country.

The question of flexibility should be weighted against the credibility / stability problem and translates into the following: To which extent is a stable exchange rate regime compatible with large and persistent external shocks or large structural asymmetries which would require adjustments in relative prices?

As is well known, when shocks asymmetrically hit the different countries in an exchange rate union, the arrangement is sub-optimal, as it imposes the same monetary policy on countries facing different problems; as stressed by Giavazzi and Giovannini (1987), in the presence of cross-country asymmetries in the intermediate input-wage-price transmission mechanism, common exogenous shocks are transmitted asymmetrically to different countries. The evidence for Europe presented by the authors confirms the sub-optimality of irrevocably fixed exchange rates. Moreover, for a country facing a process of trade liberalization it may be optimal to adjust relative prices through exchange rate changes. Throughout the paper we abstract from this element since realignments in the EMS allow for some adjustment to external shocks.

We shall then concentrate on the problem of structural asymmetries, namely the structural weakness of some fiscal and financial systems.

"Fiscally weak" countries (with relatively inefficient tax collection systems and high public debt levels) may need revenue from seigniorage to finance their rigid expenditures. Therefore, it has been argued [see Dornbush (1988) and Giavazzi (1989)] that too quick a convergence to the present EMS average inflation rate may shift the entire fiscal burden onto explicit taxes which cannot absorb it, at least in the short-run, without causing more distortions to the existing tax system (namely, by raising marginal tax rates). In fact, evidence suggests (see figure 1) that Europe is not an optimal currency area<sup>1</sup>. It has been argued, therefore, (see Dornbusch (1988)) that Southern countries should adopt a more flexible policy in the form of a crawling-peg vis-à-vis the "Northern" members of the EMS; this would allow for a higher inflation rate and the "optimal" level of seigniorage.

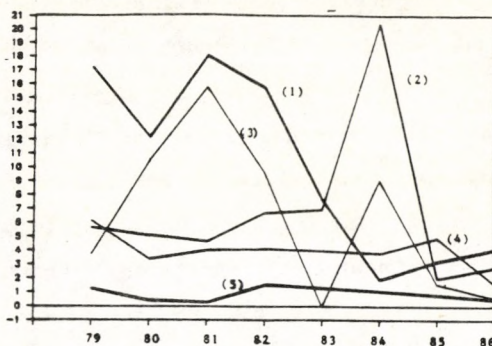
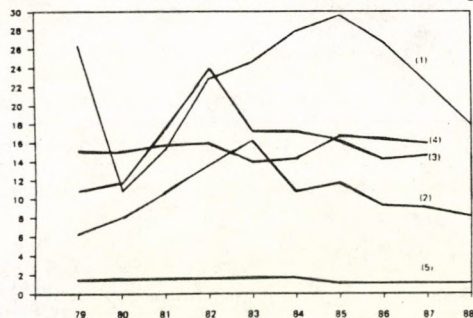
This argument is especially important for high public debt countries and can be illustrated by a conventional government intertemporal budget constraint:

$$(1) \quad D(B_t) = (G_t - T_t) + r B_t - D(H_t)/P_t$$

Dividing equation (1) by GDP we obtain:

$$(2) \quad D(b_t) = (g_t - t_t) + (r - n) b_t - D(h_t)/P_t Y_t$$

which can be read as follows: the growth of public debt as a share of GDP is equal to the primary deficit (government

**Figure 1: The North-South Fiscal Asymmetry****a) Seigniorage in percent of total revenues****b) Central Banks' claims on the Government in percent of GDP**

- (1) Portugal, (2) Spain, (3) Greece, (4) Italy,  
 (5) ERM countries (except Italy)

**Sources and definitions:**

Seigniorage is the change in monetary base. IMF, International Financial Statistics (line 14); OECD, Main Economic Indicators; and Bank of Portugal, Monetary and Financial Statistics. For Greece, Italy and Spain, where considerable interest payments on reserves are paid, various national sources were used to compute the appropriate measure of seigniorage (the change in monetary base minus interest paid on reserves); data are from Gros (1989b).

Total revenues include seigniorage and total explicit taxation as reported from the OECD: Tax Revenue Statistics of OECD Member Countries, 1987. Central Banks' claims on the Government are as in line 12a of IFS, IMF.

expenditure,  $g_t$ , minus taxes,  $t_t$ ) as a percentage of national income plus the debt service ratio (the implicit real rate of interest,  $r$ , net of GDP growth,  $n$ , times the ratio of outstanding debt to GDP) minus seigniorage revenue (measured as the change in the monetary base) as a proportion of national income. When the government is unable to generate primary surpluses ( i.e.,  $g_t - t_t > 0$ ), a reduction of seigniorage revenues (a lower  $D(H_t)/P_t Y_t$ ) implies a faster debt accumulation: higher interest payments, due to tight money and newly issued debt, feed back into higher budget deficits, which in turn require new bond issuance. This spiral (equation (2) is unstable when  $r > n$ ) translates then into future inflation taxes to service the debt (again a higher  $D(H_t)/P_t Y_t$ ).<sup>2</sup> Let the private sector anticipate the whole process from the outset, and the demise of the stabilization programme will be triggered by speculative attacks on the currency intended to be stabilized.

For "fiscally weak" countries, where fiscal authorities cannot help in the disinflation process, the solution would then be to resort to standard seigniorage revenue or other hidden taxation schemes coupled with strict exchange controls.

However, even for a country with a relatively loose money stance, accommodated by a crawling-peg vis-à-vis tight money countries, the credibility argument still holds: in countries with a large non-indexed public debt, the incentive to use surprise inflation as a means of finance (by reducing the real interest rate paid on outstanding debt) may further increase the resulting inflation

rate. This is because the private sector rationally anticipates the government's temptation.<sup>3</sup> As put forward by Gros (1989b), the public would not believe a government that promises to use only an "optimal" anticipated inflation rate; it would, on the contrary, expect the authorities to use surprise inflation as a consistent policy towards their assumed fiscal weaknesses. The resulting inflation rates would then be far above the "optimal" level.

For countries with various administrative controls, as Portugal, other forms of implicit taxation might constitute a more important source of revenue than the seigniorage immediately derived from a high inflation rate (as suggested in Beleza and Macedo (1988)). In this case some loss of implicit tax revenues will come independently from EMS discipline, given the need to liberalize domestically in view of the coming external liberalization.<sup>4</sup> It remains then to be discussed at which pace the domestic financial liberalization, fiscal discipline and disinflation should be implemented and coordinated in order to minimize the further distortion of the existing tax system and to avoid the failure of the stabilization / liberalization attempts in view of the political objective of 1992.

Given the above arguments, our problem resumes to the following question: Under which conditions can EMS discipline enhance the sustainability and/or reduce the output costs of a stabilization programme<sup>5</sup> coupled with a process of domestic liberalization and financial integration?



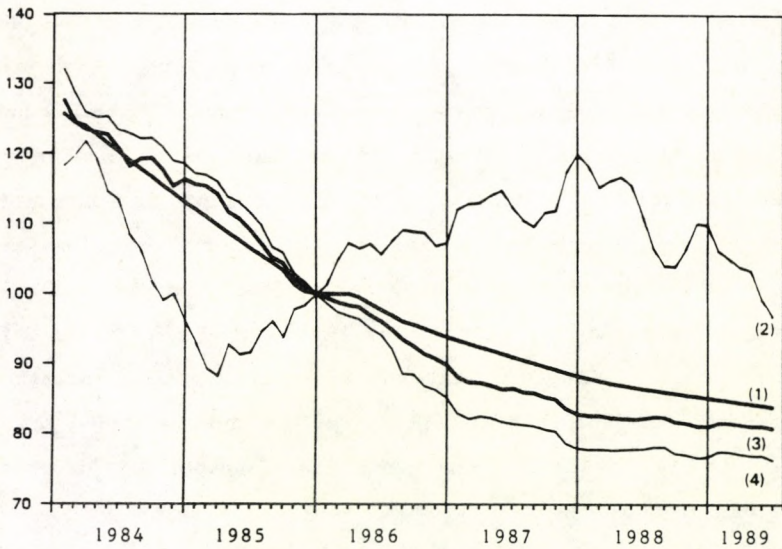
### III. Exchange controls, seigniorage and public debt in Portugal

#### Exchange rate and monetary policy

After the breakdown of the Bretton Woods System, the Portuguese currency (escudo) followed an adjustable peg to the US Dollar (from 1971 to 1977). In February 1977, the escudo was devalued by 15% in effective terms. Six months later, Portugal adopted a crawling-peg régime. The average monthly rate of the escudo has since then been adjusted in relation to a basket of currencies weighted according to their importance in Portugal's international merchandise trade; the rate of the crawl is pre-announced. The system was primarily designed to maintain Portugal's external competitiveness, as measured by relative unit labour costs, interest rate differentials and inflation differentials. The initial monthly rate of the crawling-peg was fixed at 1%, while at the same time another 4% discrete devaluation took place.

The crawling-peg régime was followed up, with many changes in its pre-announced monthly rate and several discrete exchange rate changes, until the end of 1985; the Portuguese Government decided then to suspend it for four months in order to moderate inflationary expectations.<sup>6</sup> By April 1, 1986, the crawling-peg was resumed at a decreasing rate. Since July 1988, the effective monthly rate of devaluation of the escudo has been 0.25%. Figure 2 depicts the evolution of the escudo exchange rate.

Figure 2: The escudo exchange rate  
(December 1985 = 100)



- (1) Weighted basket of 13 currencies (EER)
- (2) US dollar
- (3) ECU
- (4) Deutsche mark

This managed exchange rate system, coupled with capital controls, quantitative credit controls and administratively set interest rates, has allowed the government to collect substantial implicit revenues from the productive sector. This distorted situation originated in 1975, when all credit institutions, with the exception of savings banks, foreign banks operating in Portugal and agricultural credit cooperatives, had been nationalized; the entry of new banks was constitutionally forbidden until 1984. During this period the behaviour of the Portuguese banking industry was highly collusive and to a large extent determined by the monetary and fiscal authorities.

Credit ceilings, still the major instrument of monetary policy, were implemented in 1978 as an instrument to correct balance of payments disequilibria. The domestic credit ceiling was obtained as a residual, after taking into account the goals for GDP growth and inflation rates, an intermediate target for the expansion of liquidity held by the non-financial resident sector and assumptions on public sector borrowing requirements. The ceiling for each bank was computed according to its share in the weighted resources of the banking system and its type of portfolio in order to stimulate bank deposits not intermediated into loans.

Explicit reserve requirements have played, comparatively, a rather secondary role in the conduct of monetary policy. Eligible liabilities have consisted of sight and time deposits, certificates of deposits, repurchase agreements and other quasi-

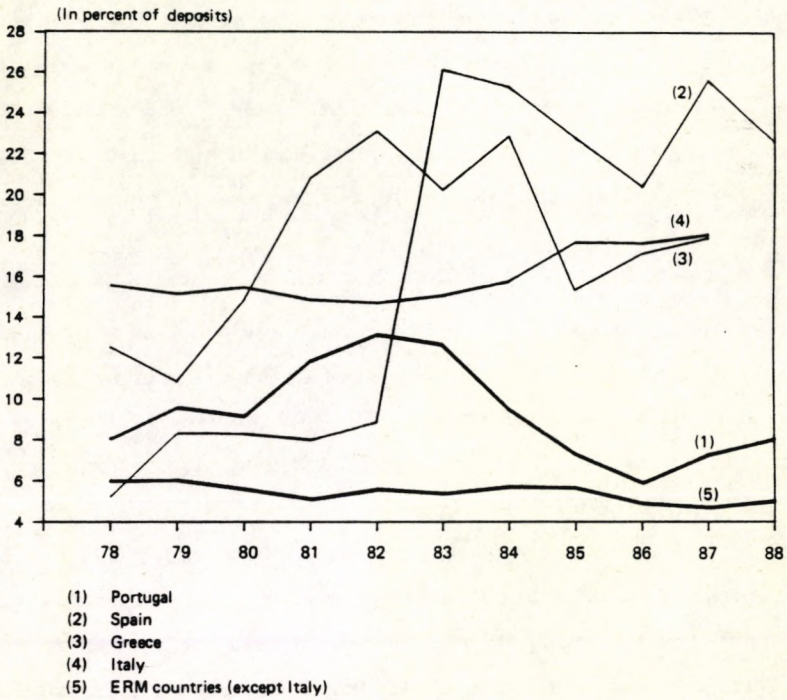
monetary liabilities. Until April 1989, reserve ratios varied according to maturity and type of liability (15% on sight deposits, 12% on deposits between 30 and 180 days, 3% on deposits between 180 and 365 days and 1% on deposits over one year and on emigrants' foreign currency deposits). This would translate into an average rate of 9.3% (from 1979 through 1988) - see figure 3 for international comparison.

Against this background, several new instruments have been issued since 1986 allowing for better management of short-term liquidity by the monetary authorities.<sup>7</sup> Controls have accordingly been reduced. Since September 1988 only a minimum rate of deposits with a maturity of more than six months has been administratively set. In April 1989, a uniform reserve requirement of 17% has been set; the Bank of Portugal has however compensated part of the costs of the increase of compulsory reserves through interest payments, as it is the case for Greece, Italy and Spain (see note in figure 1). Since July 1989, new credit to the public sector is given the same treatment as credits to firms and households.

#### Monetary policy and implicit taxation

Since the introduction of credit ceilings in 1978, and due to the fact that budget deficits were mainly financed by the Central Bank (as can be seen in figure 4), excess liquidity rose steadily within the banking system. In order to provide banks with investment opportunities for these idle balances, an interbank securities market (ISM) was created. In the ISM, the Central

Figure 3: Bank Reserves



Source: IFS, lines 20, 24 and 25; and Bank of Portugal Monetary and Financial Statistics.

Bank sells public debt bonds of its portfolio, under repurchase agreements of 4 to 13 weeks, to other monetary institutions; by doing so it rewards this frozen excess liquidity; these yields, although having recently followed the deposit rate, have however remained far below the would-be lending rates. Throughout the reported period that induced liquidity corresponded to a higher seigniorage revenue than apparently indicated by the reserve ratio in the sense that it led to a substantial implicit taxation. In fact, despite the positive impact on the correction of unsustainable external imbalances (76-77 and 81-83), the efficiency of credit ceilings in periods of economic expansion has been limited to the implicit taxation of the productive sector.

Beleza and Macedo (1988) provide some evidence on this hidden form of taxation. The authors suggest that Treasury implicit revenues have been collected not only in the form of currency or bank reserves but also through the imposition of the above mentioned controls (exchange controls, credit ceilings and administratively set interest rates). This policy has induced an increase in demand for public debt on the part of the banking system; the costs involved have been then partly shifted onto private borrowers, to whom credit has been rationed, in the form of excessively high interest rates (see table 1 for evidence); this situation is illustrated in diagram 1 in the appendix.

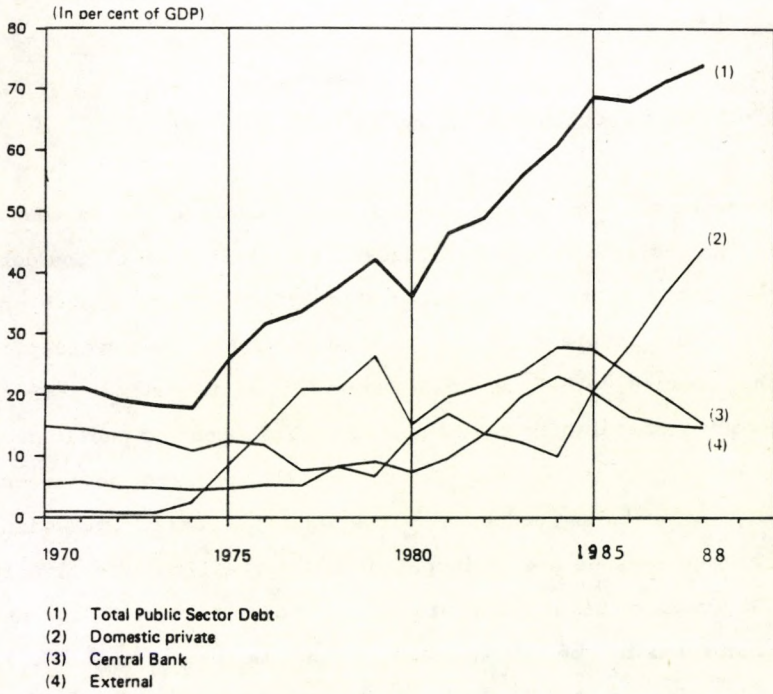
These implicit revenues correspond in fact to a higher tax base (monetary base). This is because credit ceilings on private

borrowing are a portfolio constraint that leads to the same implicit taxation on the allocation of financial resources as non-interest bearing reserve requirements or compulsory investments in certain types of securities (see Modigliani et al. (1987) for a discussion). This is especially true in a situation where these constraints on banking activities are enhanced by administratively set interest rates and foreign exchange restrictions.

#### The Portuguese public debt dynamics

In the period 1975-85 the ratio of public debt to GDP increased steadily despite a substantial negative contribution of the debt service ratio (  $(r - n) b_t$  in equation (2) ): high growth and negative real interest rates. In 1980 and 1988, the revaluation of the Treasury stock of gold reserves led to debt write-off operations, diminishing the Central Bank component of public debt as a percentage of GDP. Throughout that period government primary deficits accounted for the entire debt accumulation; seigniorage revenue had an important countervailing effect. Only by 1985 Treasury Bills (short-term public debt sold with discount to other banks by the Central Bank, which can then be traded with the public or between banks) were issued improving somehow the non-monetary financing of the public sector borrowing requirement. Domestic privately held public debt increased then sharply allowing for a reduction of both the Central Bank and the external components of total debt through 1988 (see figure 4); by the end of 1988, a new public debt instrument very similar to

Figure 4: Portuguese Public Sector Debt



Source: Bank of Portugal, Annual Reports



treasury bills, the CLIP (a long-term revolving credit to the Treasury, auctioned among credit institutions every six-months), was issued.

Official budget figures provided by the Bank of Portugal and the Ministry of Finance do not fit our government's intertemporal budget constraint.<sup>8</sup> Reasons are three-fold:

The public sector borrowing requirements (PSBR) include, besides the official government primary deficits, the so-called Treasury (lending) operations which, in fact, should be taken as mere government transfers (expenditure) within the public sector; they have accounted for 1.8%, 1.5% and 1.1% of GDP in the last three years. The yearly change in the stock of outstanding public debt reflects as well other operations such as the take-over of debts and other hidden past deficits of the enlarged public sector (General Government and non-financial public enterprises); the ratio of these debt take-overs to GDP represented 5.1% in 1986, 3% in 1987 and 2% in 1988. Finally, exchange rate variations, by affecting the value in escudos of the external component of the debt, may contribute to the discrepancy.

#### Is the debt sustainable?

Despite the recent move towards domestic liberalization implicit taxation has remained high. It is to be expected, however, that the current reform of the financial sector will substantially reduce these revenues to the level of the standard measure of

seigniorage. In table 1 we use two alternative measures of seigniorage: the change in the monetary base (4) and an upward biased measure of it given by the implicit intermediation tax (4'). The rationale for the latter is the following: the controls used by the authorities to induce that implicit tax have an equivalent yield to a higher monetary base. However, part of the "tax" imposed by these costly controls (especially to private borrowers) is lost in the process.

Beside the conventional deadweight losses, this "taxation" has led to a sharp decrease in public banks' profitability, which had to be compensated for by the Treasury and the Bank of Portugal. This effect partly offset the revenue from implicit taxes and eventually showed up as increased Treasury (lending) operations (this is represented by the area AB EF in diagram 1 in the appendix) requiring, in turn, higher hidden taxation.

In this sense, domestic liberalization has a clear welfare gain although it will affect negatively the public debt dynamics in the form of a lower degree of implicit financing and (especially) higher interest rates. Disinflation will further aggravate this effect by reducing seigniorage revenues. EMS membership may come then as a positive contribution to debt stabilization: the reduction of the inflation risk premium (see diagram 2 in the appendix) and, as a consequence, the reduction in the output costs of the stabilization programme, will translate into a lower interest net of growth factor.

Table 1

The Portuguese debt accumulation equation

Years	$D(b_t)$ (1)	Debt cancelling (1')	$g_t - r_t$ (2)	$(r - n) b_t$ (3)	$D(H_t) / P_t Y_t$ (4)	$P_t Y_t$ (4')	Residual (5)	Residual (5')
1978	12.1		7.3	- 6.6	2.8	4.9	14.2	16.3
1979	11.6		5.1	- 7.6	5.4	4.6	19.5	18.7
1980	- 8.3	(13.7)	- 7.6	- 6.0	4.0	4.7	9.3	10.0
1981	24.7		5.5	- 2.9	6.7	5.4	28.8	27.5
1982	5.0		6.3	- 7.1	5.8	9.3	11.6	15.1
1983	12.4		4.0	- 5.8	2.8	8.9	17.0	23.1
1984	9.6		6.3	- 6.3	0.6	9.0	10.2	18.6
1985	10.1		3.2	- 8.5	1.1	6.6	16.5	22.0
1986	- 1.0		- 0.8	- 6.3	1.4	3.0	7.5	9.1
1987	4.8		- 0.3	- 3.4	3.0	3.9	11.5	12.4
1988	3.2	(2.3)	- 0.2	- 3.6	2.1	3.5	9.1	10.5

Sources and definitions: All symbols are defined as in equation (2) in the text. All data are from the Bank of Portugal; (4') was obtained from Beleza and Macedo (1988) -annex table 5 - and updated to 1988. (1') refers to the cancelling of public debt (as proportion of GDP) by counterpart of revaluation of gold reserves in the Bank of Portugal. The effective interest rate used in (3) is the ratio of interest payments to a two year moving average of total debt. (4) is the change in the monetary base and (4') is the implicit intermediation tax revenue (assuming interest to be paid up-front and an intermediation rate of 3%) used as an upward estimate of seigniorage derived from a higher tax base. (5) = (1) - (2) - (3) + (4); (5') = (1) - (2) - (3) + (4').

The sustainability of the public debt equation relies, however, on the extent to which the government is capable of generating primary surpluses to stabilize the debt ratio. While the official primary deficit is turning into a surplus, a substantial residual (whose composition was discussed above) remains to be eliminated. For 1989, the forecasted primary surplus is sufficient to cover the Treasury (lending) operations, and a new factor will contribute to the reduction of the residual: the revenue from privatizations of public enterprises. The extent to which this factor may in the future compensate for debt take-overs (hidden deficits of the past) and stabilize the ratio of debt to GDP remains however to be seen.<sup>9</sup>

#### IV. Domestic and external financial liberalization

The liberalization of capital movements in 1992 renders domestic liberalization and stabilization even more urgent. Other liberalization attempts have failed because of removing financial protection before domestic liberalization was achieved. Portugal has to remove most capital controls by 1992<sup>10</sup>, and there is still a long way to go before domestic liberalization and stabilization are completed.

However, it should be stressed that the current Portuguese situation is considerably different from the examples provided by some liberalization experiences in Latin America: Portugal is integrated in the EC with, comparatively, a much higher degree of trade liberalization which can only be increased; financial liberalization is not expected to be reversed either - the commitment to the European internal market objective is fully credible. Other liberalization attempts have suffered from a high probability of policy reversals. In this case the private sector may expect the monetary authorities to return to capital controls when facing a speculative run; speculative attacks triggered by self-fulfilling expectations generate then balance of payments crises. As put forward by Dellas and Stockman (1988), the potential rapid access (through some international institution) to sufficient foreign exchange reserves eliminates the risk of a speculative run. Various credit facilities of the EMS could supply potentially large amounts of foreign exchange

reserves for problems of this kind.

Moreover, as emphasized by Modigliani et al. (1987), as less recourse to hidden taxation is made, the level and structure of domestic interest rates become increasingly determined by the market, and more in line with international interest rates. This reduces the need for controls on capital flows for any given exchange rate or balance-of-payments target.

#### Capital controls in Portugal

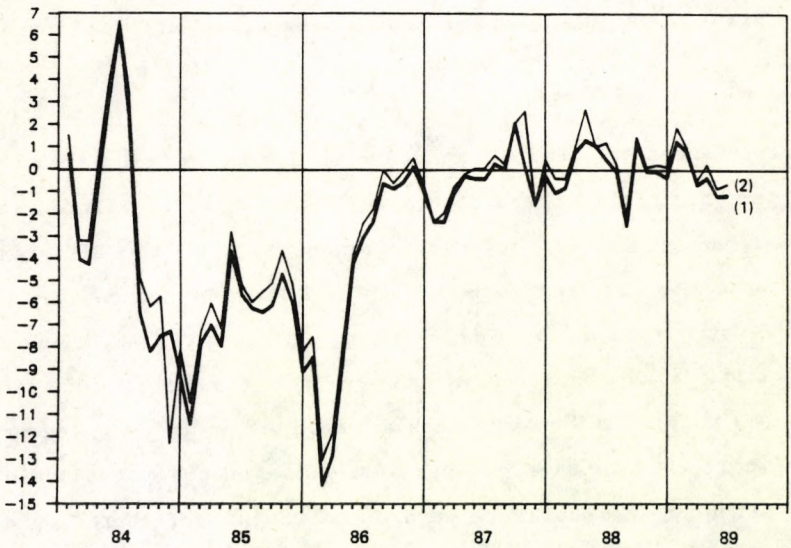
Data on capital flows and interest rate differentials suggest that capital controls have not been very effective in preventing capital movements. Gros (1989) computes the flows of capital both in absolute terms and as a percentage of GDP for all EC countries; he concludes that most members have substantial flows in both directions although capital controls are not totally irrelevant. Southern countries, which have relatively severe capital controls, have ratios of trade in capital that are substantially lower than the EC average. If we look at short-term instead of overall capital flows these remarks maintain; in this case, however, for 1987, Portugal records the highest ratio of trade to GDP among the Southern countries (1.26% compared to 0.12%, 0.44% and 0.47% for Italy, Greece and Spain respectively) which is even higher than the ratio for Germany (0.85%).<sup>11</sup> Moreover, in 1987, the extent to which short-term capital moves in both directions, as measured by an index of intra-industry trade, is again the highest for Portugal (.95).

Another way to assess the effectiveness of capital controls is to look at domestic and offshore interest rates. One of the arguments used to defend capital controls is the fact that, in the presence of significant inflation differentials, domestic interest rates would have to rise substantially to prevent massive outflows of capital; this would lead to too high an interest level with the consequent negative effects for the economy.

Effectiveness of capital controls would then be translated into a permanent "offshore" / "onshore" interest rate differential. In figure 5 we test covered interest parity: the difference between the (average) domestic interbank in Lisbon and covered (in Portuguese escudos) Euro deposits. Since mid-1986, there are no significant differences between the two rates (0.00 for 1988);<sup>12</sup> this evidence suggests again that in the long-run capital controls have not been effective enough to maintain a permanent differential between domestic and "offshore" rates. The data presented above for short-term capital movements reflect the correspondent arbitrage funds. We can therefore conclude that the present system of capital controls could not be used as a way of neutralizing permanent inflation differentials.

In this light, the impact of the liberalization of capital controls does not need to have disruptive consequences. The immediate effect on government bond yields, and consequently on

Figure 5: "Onshore" / "offshore" interest rate differential



Difference between the (average) interbank rate in Lisbon and covered (in Portuguese escudos) Euro dollar (1) (or DM (2)).

Source: Bank of Portugal



the public debt dynamics seems to be rather small. The potential short-term increase in interest rate volatility in the wake of expected parity changes (which could be avoided in the very short-run with costly controls) could be eliminated by a smooth adjustment of the escudo within overlapping changing bands. Moreover, this increased interest rate volatility would tend to reinforce (or substitute) the usual competitiveness punishment as a means of enforcing domestically the rules of the system.

### V. EMS discipline for Portugal: Why and how

The rationale for a country like Portugal to join the EMS was given in section II and has been thoroughly discussed in the credibility literature (the best example is Giavazzi and Giovannini (1989)). Gros (1989b) reinforces the credibility argument for high public debt countries.<sup>13</sup>

As a disciplinary device, the EMS reduces the output costs of a given disinflation process. This is because tight money will face low inflation expectations due to the established disinflationary reputation of the EMS. If the authorities announce a new contractionary stance of monetary policy without this mechanism, they have to gain the necessary reputation by continuously sticking (in a non-optimal way) to contraction. Changing expectations in this way might be too costly and/or take too long, undermining the success of the intended stabilization package. Giavazzi and Spaventa (1989) illustrate this reasoning drawing on the cases of Italy and the UK.

Given the liberalization programme in course and the need to disinflate, the EMS would be the appropriate device to smooth the adjustment process. In this light, the decision to join the EMS would a priori be more beneficial for Portugal than for Spain whose stabilization costs were incurred before full participation in the ERM. Likewise, it would make much less sense for Portugal to join when the inflation rate had already converged to the EMS

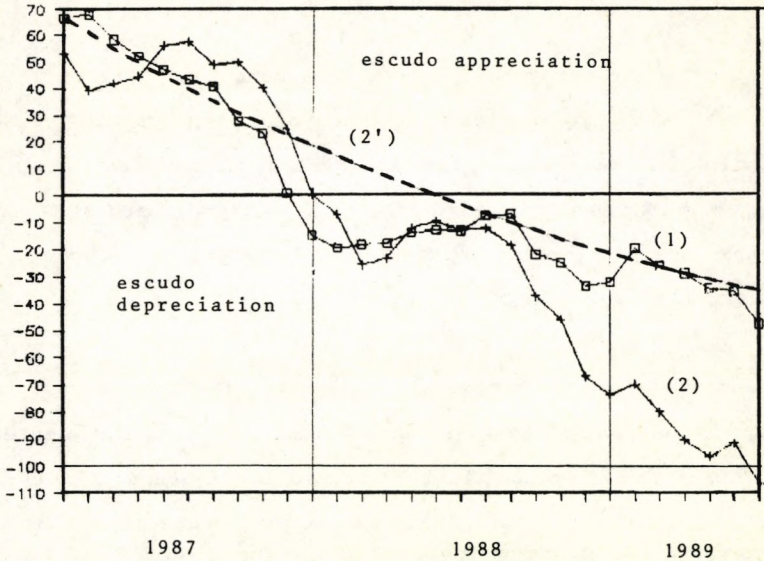
average. The usefulness of the EMS as a disciplinary device consists precisely in the help it provides in the process of convergence.

It is worth stressing the present good momentum. The shift in expectations will be clearly faster now than it was in the beginning of the 80s: the internal market objective, the experience of other countries and the recent increased stability of the system (smaller inflation differentials and fewer realignments) all make it more credible.

The essence of the strategy of joining the EMS is the required change in the pace of nominal depreciation once the escudo enters into the band. The idea is illustrated in figure 6: line (2) corresponds to a non-overvalued real exchange rate of the escudo achieved by a crawling-peg and line (2') to the same real exchange rate within the EMS (lower inflation). A 6% fluctuation band allows for a gradual (and sustainable) disinflation process. This is because at the time of realignments the actual rate of the escudo crawls into the new band without any discrete jumps.

The initial central rate has to be set in such a way as to place the actual rate close to the top of the band. A pre-set devaluation in order to compensate for past real exchange appreciation (see figure 6 for evidence on the escudo) has to be regarded with caution. While its credibility effect is unclear, its real effects may be close to nil if they are not coupled with the adequate policy tools.

Figure 6: Simulated divergence indicator of the escudo in the ERM (6% fluctuation band)



- (1) Divergence indicator had the same crawling-peg been pursued.
- (2) Divergence indicator had exchange rate policy been conducted in order to compensate inflation differentials between Portugal and its 13 main trading partners.
- (2') Hypothetical effect of EMS discipline and credibility (invariant real exchange rate as in (2) ).

Central rate: Average 1987/88 exchange rate.

Source: Bank of Portugal.

## VI. Conclusion

As discussed above, the reduction of implicit taxation, achieved by financial liberalization, would have a negative direct impact on the debt dynamics; higher interest rates would be also required to prevent the loss of control over credit growth and avoid the consequent negative implications for inflation and the balance-of-payments.<sup>14</sup> The correspondent benefits come only in the medium run: greater transparency concerning the cost of the public sector on the one hand and lower financial intermediation costs on the other hand. This latter effect, coupled with an EMS-induced reduction in the inflation risk premium (due to a shift in price expectations), may have a substantial impact in terms of productive capital formation, as illustrated in diagram 1 in the appendix. If the disinflationary process is effective in increasing competitiveness, adjustment will not lead to recession. The transmission of credibility to the labour market plays, however, a key role in the success of the strategy, as is suggested by the disinflation experiences of Italy and Ireland (see Giavazzi and Spaventa (1989) and Dornbusch (1989), respectively).

The probability of speculative attacks against the escudo (a "peso problem") need not be increased during the stabilization process (the present managed exchange rate system has already experienced eroded capital controls). Moreover, a credible commitment to financial liberalization and disinflation can only

reduce that probability by excluding recurrence to financial repression and/or monetization. The possibility of a strong upward pressure on the escudo (the "peseta effect") due to capital inflows is not to be neglected but, in the short run, these inflows can be sterilized through the amortization of the external component of public debt. Any slippage in the necessary strong commitment to fiscal adjustment during the transition may however trigger the failure of the whole programme.

## Appendix

Let us consider a very simple diagrammatic representation of the financial market.

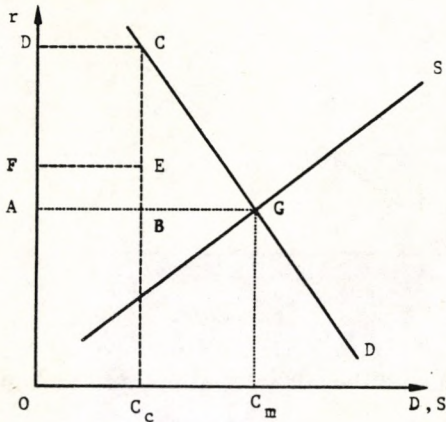


Diagram 1: Credit ceilings and implicit taxation

Arguments of  $D$  (demand for credit) and  $S$  (supply of credit) are the expected value and variance of the probability distribution of real interest rates. To simplify, the intermediation rate is here assumed to be zero, i.e.  $r^D = r^S$ .  $OC_c$  is the credit ceiling and the area  $ABCD$  the implicit tax revenue (upward biased estimate of seigniorage in table 1). The whole tax burden was assumed to be on private borrowers because administratively set deposit rates were designed to stimulate deposits. Public sector

credit is S-CcC, therefore if the deposit rate is set above OA government preferential credit is increased.

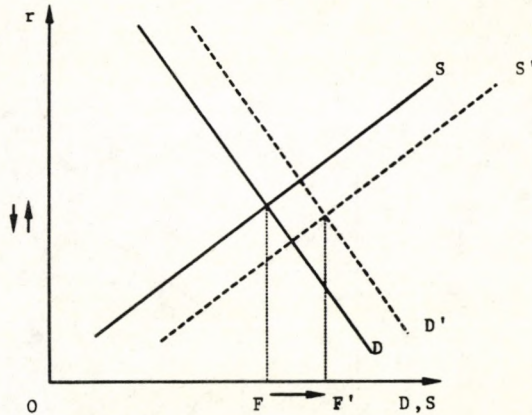


Diagram 2: Liberalization and EMS discipline

If both borrowers and lenders are risk averse, financial liberalization, enhanced by EMS credibility, shifts  $S$  and  $D$  to the right. This is due to a reduction on banking intermediation costs and to a decrease of the inflation-risk premium (uncertainty). Capital formation may then increase substantially as depicted above. The effect on interest rates is unclear. However, as put forward by Modigliani et al. (1987),  $D$  may be steeper (less elastic with respect to its arguments) than  $S$ , especially if the public sector is a large borrower; in this case interest rates decrease.



## Footnotes

1. As stressed by Canzoneri and Rogers (1988), optimal tax rates depend not only upon supply and demand elasticities of the good taxed but also upon the menu of taxes that a government can impose. Separate inflation rates might therefore have tax smoothing properties. The substitutability between the inflation tax and other revenues depends on the interest rate elasticity of demand and on the money-to-income ratio. Among the extensive literature on optimal tax programmes, see Lucas (1986) and Mankiw (1987) for a discussion of the merits of the inflation tax in a second best world.

2. This reasoning draws on the well known unpleasant monetarist arithmetic of Sargent and Wallace (1981); see also Dornbusch (1989) for the recent Irish stabilization experience.

3. The temptation to cheat translates into considering an ex-post real interest rate in expression (2) incorporating the usual surprise inflation effect:  $E_t(P_t) - P_t$ . This incentive to inflate and the actual inflation (equal to  $E_t(P_t)$  in equilibrium), are increasing with  $b$ . See Gros (1989b) for the analytical treatment of this issue.

4. Latin American experiences tell us about the danger of liberalizing foreign capital transactions and removing financial protectionism before domestic liberalization is achieved; the sequence of this process is also of utmost relevance for the success of the liberalization attempt. Beleza and Macedo (1988) stress this aspect for Portugal; see also Edwards (1983), for a survey on the order of liberalization of foreign accounts and its relation to domestic stabilization.

5. See Giavazzi and Spaventa (1989) and Dornbusch (1989) for a thorough discussion of the Italian and Irish cases, respectively.

6. A similar policy package had been adopted in 1980; it involved a reduction of the announced rate of the crawl and a discrete revaluation of the escudo in 6%.

7. For a thorough discussion of the Portuguese financial system see Lygum et al. (1988).

8. Beleza and Macedo (1988), using a different debt growth equation, already reached this conclusion.

9. Revenues from privatizations are expected to amount to 0.7% of GDP for 1989, while debt take-overs will be around 5%. Moreover, in order to privatize the government might have first to take over the debts of public enterprises; this reduces the revenues from privatizations. There is however a clear consensus that, from 1990 onwards, revenues will be more than sufficient to offset past hidden deficits.

10. Direct investment in Portugal is to be liberalized by 1990, outflows of a personal nature together with purchases of foreign securities by 1991 and direct investment abroad by 1993. Some items such as financial credits, money market securities, some private capital transactions and the opening-up of deposits abroad (for residents) and at home (for non-resident banks) may be delayed until 1995.

11. Data for 1985-86, although not so clearly, point to the same result. In both cases France is well above the four Southern countries and Germany for 1987; in 1985, however, the ratio of short-term capital flows to GDP in France was smaller than in Portugal. All data are from Eurostat, Balance of Payments, 2-B, Table II-D.4.

12. While Portugal has enjoyed a "tranquil period" since mid 86 in terms of covered interest parity (CIP), Spain has gone through a "turbulent period" (capital controls have been binding for inflows rather than outflows) because of her shadowing of the EMS. Since the escudo follows a crawling-peg, CIP might translate the Portuguese shadowing (see Macedo and Torres (1989)).

13. Gros (1989b, pp. 21-22) computes the critical value of  $\beta$  (debt to GDP ratio) that would make it optimal for a country to join a zero inflation EMS; the resulting condition translates approximately into a higher than 1 ratio of public debt to monetary base. We can then say that the higher is this ratio the more advantageous is for a "fiscally weak" country to join a zero-inflation EMS. This ratio was 2.6 for Italy in 1979 and 3.6, 4.6 and 2.1 for Greece, Portugal and Spain, respectively, in 1988.

14. This is already the case for 1987 if we recall the large inflow of unrecorded short-term capital and the amounts of uncontrolled credit (non-monetary financial institutions and some banking categories of credit exempted from ceilings).

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