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**Exchange Rate–Based Stabilization in Western Europe: Greece, Ireland,  
Italy and Portugal**

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**Abstract**

This paper compares the experience with exchange-rate–based stabilization (ERBS) of four Western European countries with that of high-inflation developing countries. In general, the behavior of key macroeconomic variables—inflation, output, demand, the real exchange rate and the current account—in the four countries examined did not correspond to the pattern observed in developing countries, although some resemblance to this pattern could be found in Italy in 1987–92 and Greece in 1994–96. The experience with ERBS in Western Europe highlights the importance of incomes policy as an ingredient of a successful stabilization program and shows that the adoption of a looser anchor does not necessarily reduce the output cost of disinflation.

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## SUMMARY

The paper reviews the experience with exchange-rate-based inflation stabilization (ERBS) of Italy, Ireland, Portugal, and Greece in 1980–96. At the beginning of the 1980s, these countries had inflation rates well above the rest of Western Europe, and, partly owing to their broader goal of economic and monetary integration within the European Union, they implemented inflation stabilization programs centered on commitment to an exchange rate target.

Programs of this sort have been used in developing countries with chronic high inflation (mainly in Latin America), and extensive research has focused on their effects on the economy. In high-inflation countries, ERBS programs tend to give rise to a well-defined pattern, including an appreciation of the real exchange rate, a boom–bust output cycle driven by private consumption, and a current account deterioration. Also, after some initial success, most of the programs have failed.

The stabilization plans reviewed in this paper share only a few of the elements of the general pattern identified by the literature: real exchange rates did appreciate in the early years, albeit without leading to sizable current account deteriorations; disinflation was successful despite occasional devaluations and—in one case (Italy)—the abandonment of the exchange rate peg; and most programs were not accompanied by an initial expansion, as disinflation tended to be contractionary. Italy in 1987–92 and Greece in 1994–96, however, exhibited most of the elements of the ERBS syndrome identified in developing countries.

Aside from the common features mentioned above, the four programs reviewed here differed among themselves in terms of both the strength of the exchange rate commitment and the policies that accompanied stabilization. The paper details these differences and attempts to draw some policy lessons and directions for future research.

## I. INTRODUCTION

An extensive literature has studied exchange rate-based inflation stabilization (ERBS) in chronic, high inflation countries (mainly in Latin America). This work shows that economies tend to respond to stabilization along broadly similar lines, but the theories that have been proposed and tested to explain the observed pattern still leave many aspects of the ERBS “syndrome” unexplained.<sup>2</sup> Of special concern is the observation that, after some initial success, often programs are abandoned with dire consequences for the economy, including a deep recession and a return to high inflation.

While the effects of ERBS in high inflation countries are well known, the question of whether the same pattern occurs when the initial level of inflation is moderate has not been investigated yet. The purpose of this paper is to bring to the attention of ERBS theorists and of policy makers the experience of four moderate inflation Western European countries: Italy, Ireland, Portugal, and Greece. Although low by Latin American standards, inflation in these countries was substantially higher than in the rest of Western Europe at the beginning of the 1980s. Since inflation stabilization was a necessary step towards the broader goal of economic and monetary integration within the European Union, in the following decade inflation stabilization programs centered on the commitment to an exchange rate target were undertaken in all four countries. Thus, Western Europe had its own experience with ERBS.<sup>3</sup> In our brief chronicle of this experience, we have tried both to ascertain the extent to which key macroeconomic variables in these countries behaved as predicted by the ERBS literature, and to highlight the broader set of policies that accompanied inflation stabilization and that, ultimately, were key factors in determining the outcome.

We find that the four Western European stabilizations differed considerably among themselves, and that, generally, they did not follow the pattern made familiar by the ERBS literature. Three outcomes are shared by all the four programs: they succeeded (at least so far) in reducing inflation substantially, in contrast with a high rate of failure for ERBS in chronic inflation countries;<sup>4</sup> disinflation was achieved at the cost of lower output growth, as predicted by the traditional literature on money-based inflation stabilization in developed countries.

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<sup>2</sup>Among others, important contributions to this literature are Calvo (1986), Drazen and Helpman (1988), Kiguel and Liviatan (1992), Végh (1992), Rebelo and Végh (1996), Reinhart and Végh (1995).

<sup>3</sup> Other Western European countries, such as Spain and the United Kingdom, entered the ERM in the period under consideration partly as a way to control inflationary expectations. We have chosen not to include these countries in our study because their level of inflation at the time of the peg was relatively low.

<sup>4</sup>As inflation remains relatively high in Greece, the success of the Greek program should probably be considered as not fully secured yet.

As in the standard ERBS case, however, the real exchange rate appreciated in the early years of the program. We find that incomes policies were important in securing success, that occasional (small) devaluations did not destroy the credibility of the exchange rate commitment, and that in one case (Italy after 1992) disinflation survived even though the peg had to be abandoned. The Western European experience also suggests that a more gradual approach to disinflation (through a looser peg) does not necessarily pay off in terms of better output performance, and that the ultimate success of the disinflation program is a function of the long-term sustainability of the fiscal position rather than of the magnitude of the fiscal adjustment effort in the short-run.

The paper is organized as follows: in the next section, the literature on ERBS is briefly surveyed; Section III reviews the stabilization programs in Greece, Ireland, Italy and Portugal; in Section IV we compare the programs with the ERBS stylized facts; and Section V concludes.

## II. THE LITERATURE ON EXCHANGE RATE-BASED STABILIZATION

A large literature exists on ERBS, mostly focussed on the experience of countries plagued by high and chronic inflation (inflation rates above 30–40 percent a year) and by severe macroeconomic instability. These experiences have several common elements that set them apart from the prototypical outcome of money-based stabilization in developed countries: after the exchange rate is fixed or an exchange rate target is announced, inflation usually falls regardless of the accompanying policies, but convergence to the inflation rate of the peg currency is slow and incomplete; as a result, the CPI-based real exchange rate appreciates considerably, and the trade balance deteriorates. Domestic demand rises quickly, driven mainly by a boom in private consumption (especially consumption of durable goods) and, to a lesser extent, by an increase in domestic investment. Output expands, in stark contrast with the recession typical of money-based inflation stabilization.<sup>5</sup> National saving tends to decline even in cases in which there is substantial fiscal consolidation and, thus, the current account deficit widens, leading to an increase in foreign liabilities of the private and/or public sector. Nominal interest rates fall, while real rates fall in some cases (the Southern Cone "tablitas" of the 1970s) and increase in others (the stabilizations of the 1980s and 1990s). Strong domestic credit expansion usually accompanies the growth of consumption and investment.

Another striking feature of the ERBS's in chronic inflation countries is that most of the programs proved to be unsustainable, eventually leading to the abandonment of the currency

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<sup>5</sup>A recent study by Easterly (1996) finds that countries moving from high to moderate inflation tend to experience an output expansion even if they adopt a money-based stabilization program. This evidence suggests that the output response may depend more on the initial level of inflation than on the nature of the nominal anchor.

peg (usually after a speculative attack) and to the resumption of high inflation and macroeconomic instability. Typically, the initial economic expansion is reversed after the plan is abandoned, and a severe contraction follows. The duration of the expansionary phase varies considerably across stabilization episodes.

Various theories have been put forward to explain the cycle that accompanies ERBS programs and to identify the forces that have led to so many failures. Earlier theories Rodriguez (1982) focused on the effects of inflation inertia, which leads to an expansionary fall in the real interest rate first, and then to a contractionary real appreciation. Later, Drazen and Helpman (1988) and others suggested that the expansion is due to the wealth effects of fiscal consolidation. Calvo (1986) first introduced lack of credibility of the stabilization plan as the driving force of the cycle: as consumers expect the government to resume inflationary policies in the near future, they increase their current consumption and reduce their future consumption to take advantage of the low opportunity cost of holding cash balances during stabilization. Roldós (1995) and others explore the supply-side effects of lack of credibility, focussing on the investment response to disinflation. Mendoza and Uribe (1996) propose a model in which the business cycle associated with ERBS is due to the uncertain duration of the program. Recently, Rebelo and Végh (1996) have simulated a general model in which most of the above effects are present; they conclude that the more promising theories are those based on credibility and on inflation inertia, although even these theories seem unable to fully capture the empirical magnitude of the phenomena. Thus, in spite of the extensive research efforts and of the importance of the subject to policy makers, the ERBS "syndrome" remains only partially understood.

### III. EXCHANGE RATE BASED STABILIZATION IN FOUR EUROPEAN COUNTRIES

Ireland and Italy joined the European Monetary System at its inception in 1979, thereby committing to a fixed central parity with the ECU.<sup>6</sup> Although frequent realignments made the peg rather loose initially, around the middle of the 1980s the system became more stable, so that the exchange rate anchor became considerably stronger. Portugal did not formally join the EMS until April 1992, but the escudo was pegged to a basket of five main European currencies after October 1990. Greece was the last of the group to undertake an exchange rate commitment on the road to inflation stabilization. In 1989 the Bank of Greece began to follow the so-called "hard drachma" policy, by which the currency was allowed to depreciate relative to the ECU by less than the full inflation differential. Starting in 1995 the target exchange rate for the year was announced publicly, and in 1996 the drachma was targeted to remain stable relative to the ECU. In all these countries the exchange rate commitment was seen as the central policy tool for achieving nominal convergence with the other members of the European Union.

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<sup>6</sup>Until that date the Irish pound was pegged to the pound sterling.

In this section, we review the four stabilization episodes in chronological order. To help comparison across countries, the narrative is accompanied by charts presenting the evolution of the same key macroeconomic indicators for each country beginning two years before stabilization started.

### **A. Italy (1980–92)**

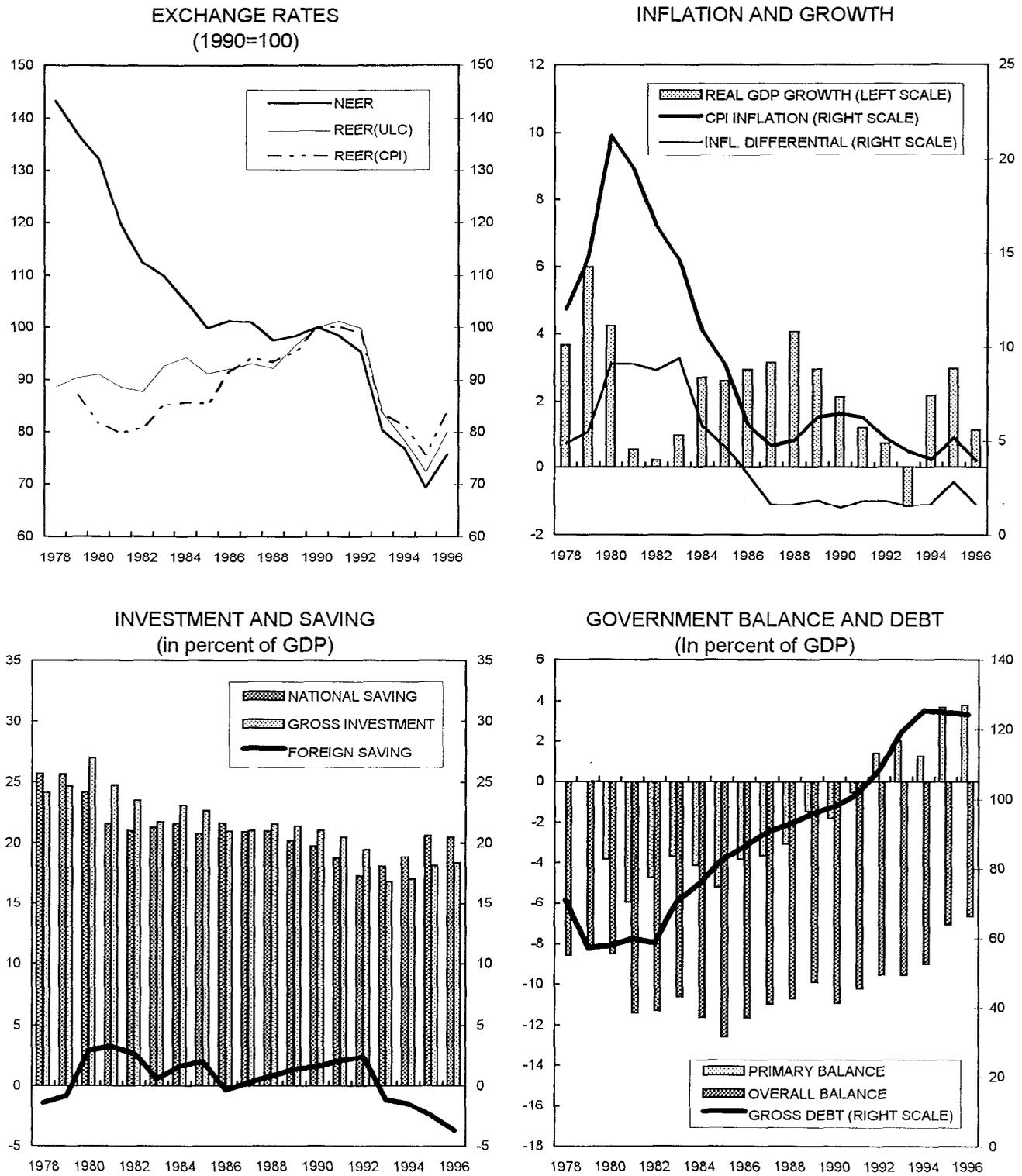
Italy joined the EMS at its inception in 1979 and remained in it until 1992. During this period, CPI inflation was reduced from a peak of 22.1 percent in August of 1980 to a low 4.1 percent in March of 1987 and, although there was a moderate pickup later on, inflation fell below 6 percent again in 1991. The inflation differential vis-à-vis industrial countries followed a similar pattern (Figure 1). The initial period of the EMS was characterized by numerous realignments involving one or more currencies, and the lira was devalued several times. Thus, the formal commitment to the EMS should not necessarily be regarded as an obvious starting point for the exchange-rate based stabilization strategy in Italy. For example, Ronci and Tullio (1994) find that March 1983, following a general realignment and a drastic change in French monetary policy, represents a turning point in terms of inflation determination in Italy, with German inflation becoming a key determinant. Spinelli and Tirelli (1993), on the other hand, point to 1984, when the Bank of Italy began announcing targets for M2, as the beginning of a new regime. Finally, Passacantando (1995) and Visco (1995) agree on distinguishing two periods (1980–86 and 1987–92) during the time of EMS participation, both characterized by the use of the exchange rate as a key policy tool for disinflation, but with distinctively different emphasis. Details below follow their period selection.

#### **1980–86: Weak commitment to the exchange rate target**

During this period the government pursued a flexible exchange rate policy, as the lira was realigned on five occasions between 1981 and 1985; these adjustments, however, were less than fully accommodative. As shown by Gressani *et al.* (1994), disinflation in this period was the result of (1) a combination of policies including exchange rate, monetary, and incomes policies, as well as management of regulated prices; and (2) exogenous factors such as a gradual decline in oil prices, particularly in 1985.

Among the most important changes in the policy stance during this period was the adoption of a restrictive monetary policy stance, conducted largely through nonmarket-based instruments: between 1980 and 1981 the discount rate was increased from 15 percent to 19 percent; credit ceilings were tightened and the share of total assets that commercial banks were obliged to invest in T-bills was increased. In subsequent years the tight monetary stance was accompanied by a move toward market-based instruments of monetary control. Also, in July of 1981 the Bank of Italy ceased to play the role of residual buyer of T-bills issued to finance the budget deficit and in 1984 the Bank began announcing targets for M2, which were exceeded only slightly in 1984–85 and met in 1986. Capital controls provided room for monetary targeting in the short run.

Figure 1. Italy: Key Macroeconomic Indicators During Disinflation



Sources: WEO, IFS and authors' estimates.

The wage setting framework changed substantially during this period, and moderate wage growth provided important support to the disinflation effort. In December 1981 the trade unions agreed to restraining wage growth the following year in exchange for a government commitment to adopt certain fiscal measures and to limit growth in publicly regulated prices. In 1983 an agreement was reached which linked wage increases for 1983–84 to the government's announced inflation targets for those years, and reduced by 15 percent the coverage of wage indexation. In 1984 a proposal by unions to restore the previous indexation mechanism was rejected by referendum and a new system was enacted by the government in 1986. This system reduced the frequency of adjustments from four to two a year and limited full indexation to the minimum wage, while the excess of actual over minimum wages was to be adjusted only partially.

Regulated prices increased faster than inflation in 1980–84, largely due to the need to improve the financial situation of public enterprises. However, from 1984 onwards, increases in regulated prices had to be limited at or below the targeted inflation rate as a result of the commitments made by the government in the context of the 1983 and 1984 wage agreements.

In spite of the loose exchange rate anchor, most of the disinflation was achieved in this period. Inflation had reached a peak of 22.1 percent in August 1980, amidst the second oil shock, and began a gradual fall thereafter, aided by the gradual decline in international oil prices, reaching 4.2 percent at the end of 1986.<sup>7</sup>

The Italian economy did not experience the typical cycle identified in other ERBS episodes during this period. Given the numerous realignments, real appreciation between 1980 and 1985 was limited to 4.5 percent in terms of CPI and to less than 1 percent in terms of unit labor costs (ULC). In 1986, and largely due to an appreciation of the nominal effective exchange rate (NEER) brought about by the depreciation of the U.S. dollar, the CPI-based real effective exchange rate (REER) appreciated by 7 percent while, as before, the ULC-based REER appreciated only slightly. In addition, GDP growth averaged 2 percent in 1980–86 (down from an average 4.8 percent in 1978–79), and remained below the industrial countries' average for most of this period. The current account balance, which averaged 0.8 percent of GDP in 1977–79, worsened to a deficit of 2.9 percent in 1980 and to 3.3 percent in 1981, but improved gradually to a small surplus of 0.3 percent in 1986. The worsening of the current account in 1980–81 reflected mainly a fall in national saving. From 1982 on, national saving hovered around 21 percent of GDP, reflecting stable private and public saving rates. Real investment actually registered negative growth rates during the worldwide recession of 1981–83 leading to a decline in the investment rate from over 27 percent in 1980 to 23½ percent in 1982, and remaining roughly at that level until 1986.

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<sup>7</sup>The international price of oil imported by OECD countries decreased from US\$36.5 in 1980 to US\$27.5 in 1985, and it fell below US\$10 in 1986.

### **1987–92: Strong commitment to the exchange rate target**

According to the work by Passacantando and Visco cited above, 1987 marks the beginning of a “credible” exchange rate commitment. During the period 1987–92, the lira remained broadly stable within the EMS, and the government signaled its stronger commitment to stabilization with the adoption of narrower bands for the exchange rate in January 1990 and the liberalization of capital movements. Monetary policy remained tight and was conducted mainly through market-based instruments. The period was also characterized by financial innovation and capital deepening, including the introduction of competitive-bid auctions for government paper, screen-based secondary markets for government securities and interbank deposits, electronic systems for clearing, and the introduction in 1991 of 10-year Treasury bonds. Moreover, additional steps were taken in the area of central bank independence, as the governor of the Bank of Italy was entrusted with the responsibility to set the discount rate independently (1992). Overall, monetary policy was effective at sustaining the exchange rate, although the task was facilitated in part by the relative relaxation of the German monetary policy stance after the stock market crash of October 1987 (Bini Smaghi and Micossi, 1989).

Although the government managed to reduce somewhat the primary deficit, the public debt continued to grow throughout the period and government dissaving remained broadly unchanged at around 6 percent of GDP.<sup>8</sup> Similarly, incomes policy was not restrictive enough. Very generous public sector wage increases in 1990 and 1991 were imitated by the private sector, and the effort to further reform the wage indexation mechanism registered no concrete achievements until the formal start of new negotiations in June 1991. Thus, the stronger commitment to the exchange rate and the relatively tight monetary policy stance were not accompanied by an increased fiscal effort and a sufficiently tight incomes policy. These imbalances in the policy framework slowed down the pace of disinflation and contributed to fuel an expansionary cycle triggered by sizeable capital inflows Sarcinelli (1995).

Inflation actually accelerated from 4.1 percent in March of 1987 to 6.8 percent in October of 1990 and declined gradually to 5.1 percent in August of 1992, right before the lira was forced out of the ERM. Real appreciation was more pronounced this period: the CPI-based REER appreciated by more than 10 percent between the end of 1986 and August 1992, while the ULC-based REER appreciated by almost 8 percent. At the same time, GDP growth accelerated, mainly on account of fast growing consumption and investment (especially in 1987–88). The national saving rate fell gradually throughout the period and, despite a

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<sup>8</sup>As pointed out by Visco (1995), not only was fiscal adjustment slow and incomplete but, more importantly, resolute structural measures to curb expenditure items greatly in need of reform (pensions, medical care, public employment and local governments) were repeatedly delayed.

moderate decline in the investment rate in 1991–92, led to a continuous, albeit moderate, widening in the current account deficit from 0.3 percent of GDP in 1987 to 2.3 percent in 1992.

In the fall of 1992, following the rejection of the Maastricht treaty by Denmark, strong exchange rate pressures arose that culminated with the exit of the Italian lira and pound sterling from the ERM. A large nominal depreciation of the lira followed the speculative attack; the weakness of the lira—fueled also by extreme political uncertainty—persisted in the following years, and has begun to reverse only recently. Despite the lira's dramatic exit from the ERM and the large exchange rate depreciation, the success in the fight against inflation achieved through the first phase of ERBS was not lost. Thanks to strengthened fiscal adjustment and to wage moderation in the context of the 1993 agreement, and partly due to the European recession of 1992–93, the effects of the depreciation were not passed on to prices. Furthermore, inflationary pressures remained under control also after economic growth resumed in 1994–95. By the end 1996 inflation in Italy had reached 2.6 percent, and the lira was back in the ERM.

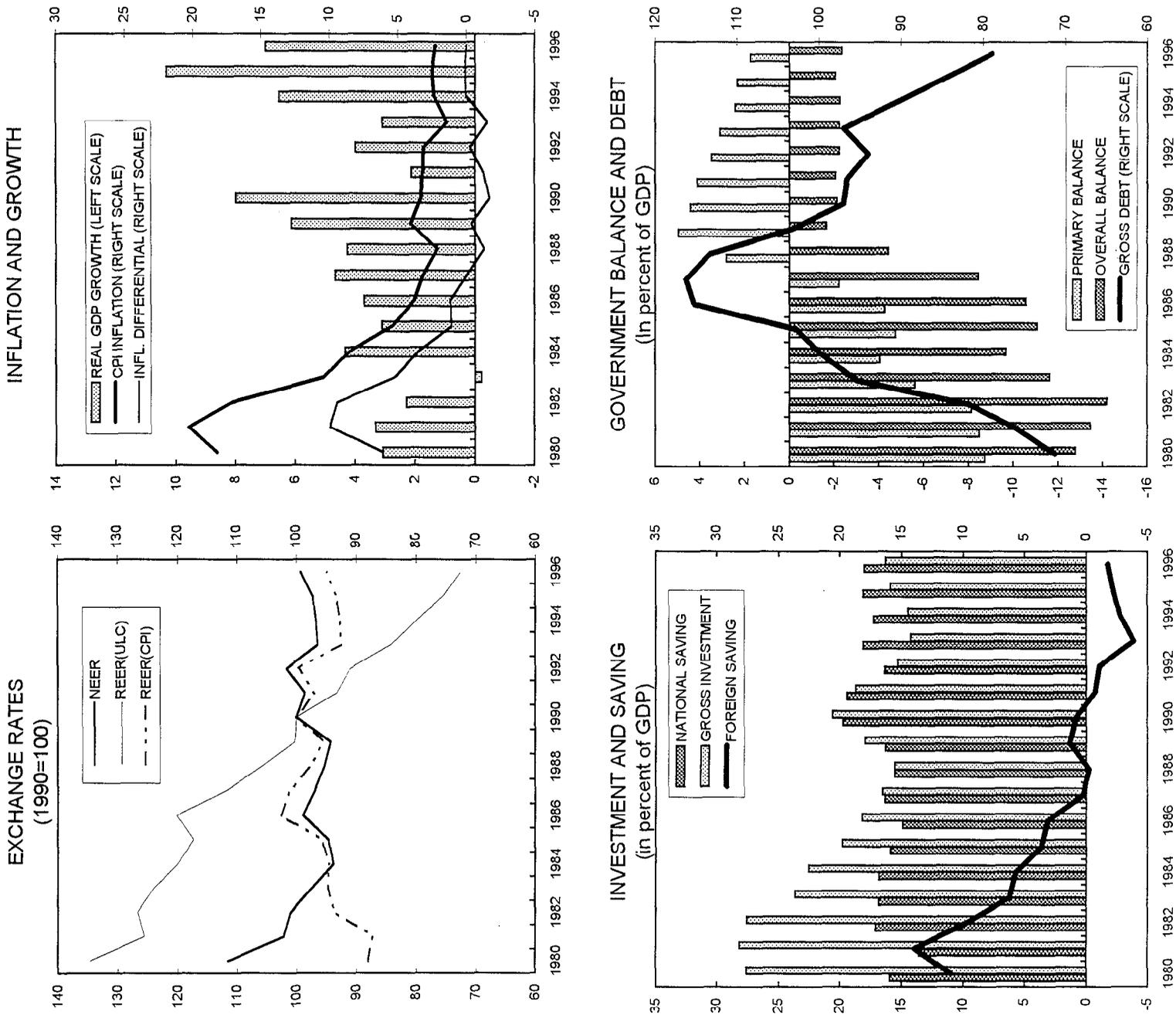
### **B. Ireland (1982–present)**

At the beginning of the 1980s Ireland had an inflation differential with industrial countries of about 10 percent, a current account deficit of 10–15 percent of GDP and a government deficit of 13–15 percent (Figure 2). The Irish pound had joined the EMS at its inception in 1979, but until 1982 the exchange rate peg did not provide a strong nominal anchor: the Irish currency depreciated slightly relative to the ECU as the Deutsche mark was revalued in 1979, 1981, and 1982. Furthermore, the strength of the pound sterling and of the U.S. dollar during this period led to a substantial depreciation in nominal effective terms.

#### **The "failed stabilization" (1982–85)**

In 1982 a political consensus emerged around the need for macroeconomic stabilization. When the government fell after the rejection of a proposed tight budget by Parliament, the successor government implemented an equally strong package centered on revenue increases. The primary deficit of the general government, which was 7.1 percent of GDP in 1982, was reduced to 3 percent in 1986, while the overall deficit fell from 14.2 percent of GDP in 1982 to 10.6 percent in 1986. Until August 1986 the currency remained stable within the EMS, and it did not participate in the frequent realignments within the system. In nominal effective terms, the Irish pound depreciated in 1983–84, but the depreciation was reversed in the following two years. To support the exchange rate, the monetary stance became much tighter, with real interest rates turning from negative to positive and remaining high. These policies succeeded in bringing about a rather quick decline in the rate of inflation: by 1985 the inflation differential with industrial countries was down to 1 percent.

Figure 2. Ireland: Key Macroeconomic Indicators During Disinflation



Sources: WEO, IFS and authors' estimates.

As in the ERBS experiences studied in the literature, in spite of a relatively rapid decline in inflation the real effective exchange rate in terms of CPI appreciated significantly (a cumulative appreciation of 17 percent in 1982–86). However, thanks to wage moderation, competitiveness measured by the ULC–based real exchange rate continued to improve.<sup>9</sup> Also, in contrast with the ERBS syndrome, the early phase of stabilization was accompanied by a recession: GDP growth was only 1.4 percent on average in 1982–86 (below the industrial countries' average), and it was accompanied by a massive increase in unemployment and emigration (Dornbusch, 1989). Thus, in Ireland disinflation was achieved at a substantial output cost. Also in contrast with the Latin American experiences, the current account deficit improved strongly, thanks to a decline in the investment rate. In spite of the improvement, however, the deficit still stood at 3 percent of GDP in 1986. National saving grew in 1982, but then it declined somewhat in 1983–86 despite increased public sector saving.

Besides its high output cost, the first phase of the Irish stabilization was disappointing also along another dimension: slow GDP growth and high real interest rates undermined the fiscal stabilization effort, so that in spite of the strong primary adjustment the debt–to–GDP ratio continued to grow, reaching over 125 percent of GDP in 1986.

#### **The “expansionary” fiscal contraction (1986–present)**

A new phase of the stabilization program began in 1986, centered around a new budget involving strengthened fiscal adjustment. This time, the adjustment was to come mainly through expenditure cuts instead of revenue increases, including a partial hiring freeze in the public sector, cuts to the public investment program, and cash limits on public sector spending Honohan (1992). A tax reform was also enacted which expanded the tax base and lowered marginal tax rates. The net effect was a small reduction in tax revenues.

Another element of the second phase of stabilization was an exchange rate realignment: after sterling experienced substantial losses relative to EMS currencies, in August 1986 the Irish pound was devalued by 8 percent relative to the ECU. The devaluation—which was quite small in effective terms—did not lead to a revamping of inflation. To the contrary, the rate of price growth continued to fall, and by 1988 it was below the industrial country average.<sup>10</sup> After the realignment, the CPI–based real exchange rate began to depreciate, and by 1993 the index was back to its 1982 level. The real appreciation that occurred at the inception of the stabilization program was thus completely reversed.

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<sup>9</sup>Due to measurement problems, however, the ULC–based REER is likely to underestimate the real appreciation of the Irish pound.

<sup>10</sup>The central parity of the Irish pound relative to the ECU was devalued again by 10 percent in January 1993 after sterling was forced out of the ERM. As in 1986, the devaluation had little effect on domestic inflation.

During the second phase of the Irish stabilization, labor cost competitiveness improved dramatically, as confirmed by the strong depreciation of the ULC-based real exchange rate during 1986–90. Both wage moderation and strong gains in labor productivity contributed to this outcome. In spite of the strong fiscal contraction, GDP growth accelerated substantially after 1986, although there was a temporary slowdown in 1991–93 during the European recession (which in Ireland, as in the United Kingdom, started in 1991 and not in 1992). The average growth rate in 1987–95 was 5.8 percent. Unemployment started to decline, while investment recovered somewhat in 1988–90 and then fell again afterwards. Thus, GDP growth did not come primarily from increased capital accumulation, but rather from improved capacity utilization, increased employment, and higher factor productivity.<sup>11</sup> Also, this period saw a marked shift in the structure of manufactured production away from the traditional sectors toward new, high technology activities initiated by direct foreign investment. In these new activities, which are concentrated mainly in computers, pharmaceuticals, medical technology, electrical engineering, and food, labor productivity is more than twice that of the rest of the manufacturing sector (OECD, 1995).

On the fiscal front, after the strong expenditure measures of 1987, the government primary deficit moved into a surplus in 1988, and kept improving thereafter. The overall deficit also showed a drastic improvement, stabilizing around 2 percent of GDP after 1988. The current account moved to near balance in 1987, and started registering increasing surpluses in 1990. This was due to increases in the saving rate that began in 1990: the average national saving rate rose from 15.8 percent in 1982–89 to 19.9 percent in 1990–95. Real short-term interest rates fell somewhat in 1987–89, but rose again in 1990–93 also because of the pressure on the Irish pound within the EMS.

The Irish stabilization shares few of the distinctive features of the ERBS's studied in the literature, and it appears more similar to conventional inflation stabilization episodes in industrial countries. Although initially there was a real appreciation, the expansionary effect on output was completely absent: both output and investment fell, and unemployment skyrocketed after the first round of measures in 1982. National saving fell, but investment fell even more rapidly, so the current account improved rather than deteriorated. In contrast with the Latin American experiences, the threat to the sustainability of stabilization did not come from current account vulnerability, but rather from the continued increase in the debt–GDP ratio and from the high rate of unemployment. What is perhaps most interesting about the Irish experience is the effect on the economy of the “second dose” of the fiscal stabilization medicine administered in 1987: in this case, the new fiscal measures were followed by strong and sustained output growth, which reinforced the fiscal adjustment and by and large removed threats to sustainability. Monetary policy did not appear to ease much during this second phase. Why, then, did more fiscal adjustment have an expansionary effect in 1987?

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<sup>11</sup>It should be pointed out that in Ireland GDP growth has typically exceeded GNP growth, as a result of relatively higher growth in the mostly foreign-owned modern sector.

According to Alogoskoufis (1992), two factors were crucial: the devaluation of the Irish pound within the ERM in 1986 reversed the real appreciation of 1982–86, and led to growth in the tradeable sector; and the second round of fiscal measures involved expenditure cuts and even a small tax reduction instead of tax increases. Expenditure cuts led to increased private saving, and therefore to higher growth. The problem with the latter explanation is that higher savings did not really materialize until 1990, and that, once they emerged, they financed an improvement in the current account and not an investment boom. Giavazzi and Pagano (1990) propose a slightly different explanation: in their model, a severe fiscal contraction leads to the expectation of lower taxes in the future, which raises permanent disposable income. If consumers are not credit constrained, an increase in permanent income leads to an increase in current consumption which stimulates aggregate demand. When taxes are strongly distortionary (as in the case of Ireland, where marginal income tax rates were very high after the revenue increases of the first package), the increase in private demand more than offsets the decline in public spending, and the net effect is expansionary. This explanation is supported by the fact that financial liberalization and the removal of capital controls in the mid–1980s considerably expanded the ability of Irish consumers to borrow, presumably increasing the response of current consumption to changes in future income.

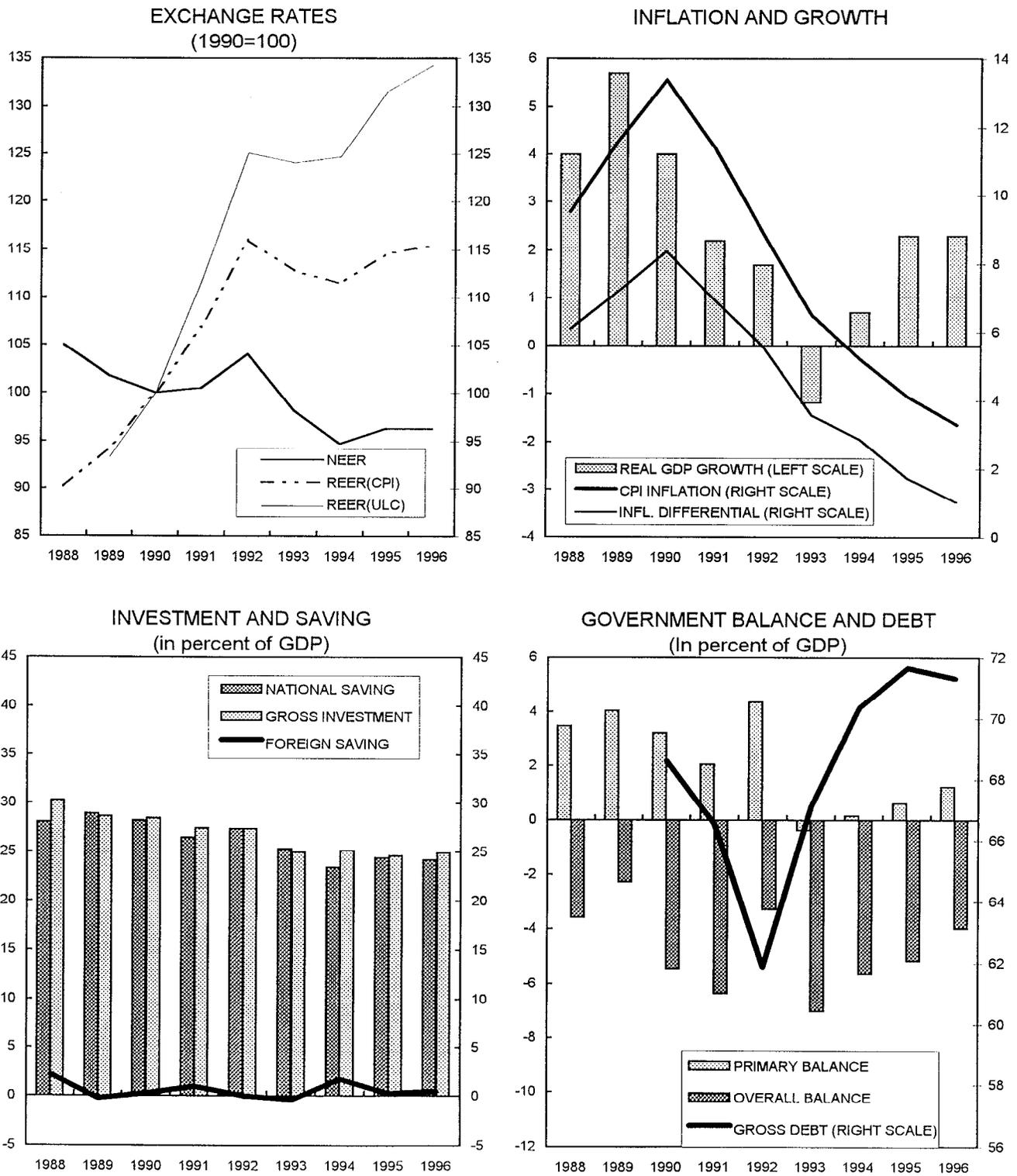
Another factor that contributed to the expansion was the fall in nominal and real interest rates favored by the credibility of the exchange rate commitment. The devaluation of 1986 helped credibility by making the exchange rate level sustainable. Finally, the drastic improvement in labor cost competitiveness beginning in 1987 has certainly benefitted the Irish tradeable sector by restoring and strengthening competitiveness, as witnessed by the excellent performance of the export sector.

### **C. Portugal (1990–present)**

After accession to the EU in 1986, Portugal experienced a period of fast economic growth sustained by large EU transfers and private capital inflows. At the end of the decade, the income gap with the rest of Europe was considerably reduced, but the expansion had been accompanied by a sizeable real appreciation. Inflation stood at 13.4 percent, 8.4 percentage points above the average of industrialized countries (Figure 3). In contrast with Ireland, Italy, and Greece, Portugal did not have a serious fiscal problem at the beginning of stabilization: the general government was running a primary surplus of 3–4 percent of GDP, the deficit was between 2 and 5 percent, and the stock of debt-to-GDP ratio was below 70 percent.

In an attempt to fight inflation more decisively, and in preparation for the escudo's entry in the EMS, in October 1990 the Portuguese authorities pegged the currency to a basket of five main European currencies (Tavares Moreira, 1992). The monetary policy stance

Figure 3. Portugal: Key Macroeconomic Indicators During Disinflation



Sources: WEO, IFS and authors' estimates.

became quite restrictive, and interest rate differentials with Europe were kept high.<sup>12</sup> The shift in monetary policy was aided by the “divorce” of the Central Bank from the Treasury, which took place in 1989 (Macedo, 1990). In the following two years, the escudo remained stable and even appreciated somewhat in nominal effective terms; nonetheless, inflation declined only gradually, and by 1992 it was still at 8.9 percent. As in other ERBS experiences, inflation was fueled by price growth in the nontradeables sector, while the tradeable sector, under the pressure of foreign competition, was forced to reduce the pace of price increases (OECD, 1993). The CPI-based real exchange rate appreciated by a cumulative 16.5 percent between 1990 and 1992. The real exchange rate measured on the basis of unit labor costs appreciated over 30 percent, as strong wage growth continued in spite of the stabilization plan. In contrast with the pattern typical of ERBS's, in Portugal the real appreciation did not lead to a marked deterioration of the external accounts: the current account registered a small deficit in 1991 and was in balance in 1992. Also, the ERBS was not accompanied by a strengthening of output growth; rather, real GDP growth—albeit still above the average of industrial countries—began to slow down in 1990, and reached an 8-year low of 1.7 percent in 1992.

Rebelo (1992) investigates the sources of the real exchange rate appreciation in the early stages of the Portuguese stabilization by simulating a simple general equilibrium model. The hypothesis behind the study is that the appreciation was an equilibrium phenomenon determined by three separate factors: the transitional growth of the Portuguese economy toward a steady-state with a higher capital-labor ratio,<sup>13</sup> stronger productivity growth in the tradeable sector than in the nontradeable sector (the Balassa-Samuelson effect); and an increase in government consumption biased toward nontradeable goods.<sup>14</sup> Rebelo finds that these three factors together can explain an appreciation of at most 2.5 percent in the year following the stabilization. In practice, the appreciation in 1991 was of 6.8 percent, suggesting that other forces were also at work, including possibly distortions in the price and wage-setting mechanisms and/or lack of credibility of the plan.

The Portuguese ERBS entered a new stage in April of 1992, when the escudo formally joined the ERM with a fluctuation band of 6 percent. This move, however, was followed by three separate devaluations of the central parity in November 1992, May 1993, and

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<sup>12</sup> Control over domestic monetary policy was maintained with the help of restrictions on short-term capital flows. These restrictions were used to limit capital inflows in the early phases of the Portuguese program (Gros, 1993).

<sup>13</sup> If factor markets are competitive, as the capital/labor ratio grows, so does the wage/rental rate ratio. If, in addition, the nontradeable sector is relatively labor-intensive, then the relative price of nontradeable goods (the real exchange rate) increases during transitional growth.

<sup>14</sup> This latter determinant of real exchange rate appreciation has also been explored by Froot and Rogoff (1992) for EMS countries.

March 1995. The realignments took place in the context of widespread turmoil on European foreign exchange markets, and were not associated with a specific weakness of the Portuguese currency. The devaluations of 1992–93 led to a cumulative depreciation of the nominal effective exchange rate of 12 percent relative to the 1992 peak. As in the Italian and in the Irish case, inflation was not affected by the depreciation and continued its steady decline; the net effect on the real exchange rate was a partial reversal of the appreciation of the previous years. By 1995, however, the CPI-based index was still 13 percentage points above its 1990 value.

As in Italy, the devaluation of 1993 was accompanied by a deep recession. Employment declined for the first time since 1986, the unemployment rate reached 5½ percent, and wage growth slowed down substantially. The real exchange rate measured in terms of relative labor costs was essentially stable in 1992–94. The combination of a weak economy, wage moderation, and improved competition in the retail and financial services sectors resulted in a decline in the rate of inflation in the nontradeable sector, which, in turn, brought about a decline in the overall inflation rate (OECD, 1995). The 1993 recession was accompanied by a deterioration in the fiscal position due to a decline in tax receipts and to the unwillingness of the government to further weaken domestic demand through expenditure cuts. The primary balance of the general government, which had been in a surplus since 1984, registered a small deficit in 1993, while the overall deficit reached 7 percent of GDP. In 1994 and 1995 output growth resumed, but it remained low by Portuguese standards and the debt-to-GDP ratio continued to grow. A further improvement in the primary balance in 1996 stabilized the debt-to-GDP ratio that year.

The Portuguese stabilization shares some important features with the early Irish experience: the real appreciation was significant in spite of a steady decline in domestic inflation, output growth was negatively affected, and no deterioration of the current account took place. However, in Portugal the exchange rate realignments of 1992–93, while they partially reversed the real appreciation of the earlier years, did not bring about a spectacular resumption of growth as in the Irish case. One of the reasons may be that labor cost competitiveness, while it ceased to deteriorate, did not register the marked improvement experienced in Ireland. Also, the fiscal policy stance was quite different: while Ireland enacted strong expenditure cuts with immediate positive effects on the deficit, the debt-to-GDP ratio, and domestic interest rates, in Portugal the fiscal deficit deteriorated during the recession of 1993. Thus, the main long-term benefit of the Portuguese stabilization program appears to be on the inflation front, where the differential with inflation in industrial countries has continued to decline, reaching a low of 1 percent in 1996.

#### **D. Greece (1990–present)**

In the 1980s the Greek economy was characterized by increasingly large budget and current account deficits and an inflation rate well above that of other European countries that reached a peak of 15 percent in 1990. In 1985–87 an attempt at stabilization lost political support and was abandoned, and macroeconomic imbalances worsened in the following two

years. In a renewed attempt at stabilization, in the middle of 1989 the Bank of Greece began to follow the "hard drachma" policy, by which the drachma was allowed to depreciate relative to the ECU by less than the full inflation differential.

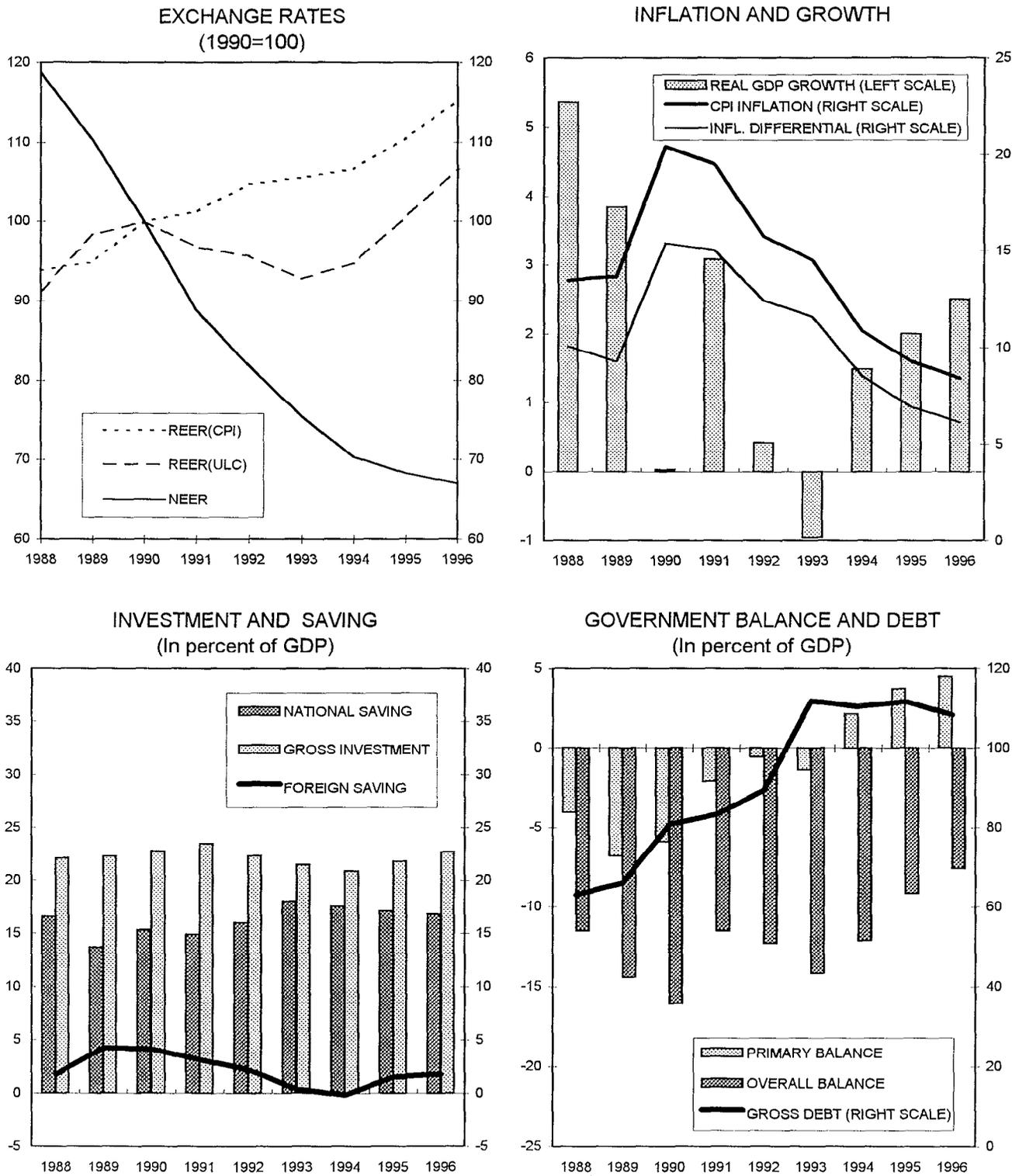
The "hard drachma" policy has at its center both fiscal consolidation and an exchange rate peg. Although the Bank of Greece has continued to announce targets for other monetary aggregates as well, the exchange rate has increasingly become the primary nominal anchor for the economy. As shown in Figure 4, until 1994 the policy provided Greece with a relatively loose nominal anchor: the drachma continued to depreciate at fairly fast rates (ranging from 11.5 percent to 7.2 percent) both relative to the ECU and in nominal effective terms. Although inflation began to fall in 1990, progress was slower than in the other three countries, and in 1994, four years into the stabilization, the differential vis-à-vis industrial countries still stood at 8.5 percent. The weaker currency peg allowed Greece to avoid the strong real appreciation typical of ERBS programs: after four years of stabilization, the real effective exchange rate of the drachma (CPI-based) had risen by a modest 4.4 percent.

On the fiscal front, after the elections in April 1990, an economic plan was enacted that aimed at stabilizing the debt/GDP ratio by turning the primary deficit into a surplus mainly through revenue measures. Also, wage indexation was abolished, and an austere incomes policy was put into effect. The program was partially successful, as the primary deficit fell from 6 percent of GDP in 1990 to 1.4 percent in 1993, and by 1994 it had turned into a surplus of 2.1 percent. This turnaround was comparable to the Irish and the Italian (post ERM) ones. As in Ireland and Italy, however, the strong primary adjustment accompanied by disinflation did not lead to a definite improvement in the fiscal accounts: the overall deficit fell somewhat, but by 1994 it was still at 12.7 percent of GDP (down from 16.1 percent in 1990), and the debt-to-GDP ratio continued to climb. This was because nominal interest rates remained high and real rates increased due to the tight stance of monetary policy and to the abandonment of "financial repression" as a form of government financing. Furthermore, in Greece the burden of interest payments grew because of additions to the stock of public debt through the assumption of publicly-guaranteed liabilities of the private sector (IMF, 1995).

GDP growth was dismal throughout the stabilization period: after zero growth in 1990, economic activity picked up in the following year, but output was virtually constant again in 1992 and fell by 1 percent in 1993, when most of Europe went into a recession. Growth resumed but at a fairly slow pace in 1994. Thus, the more gradual approach to disinflation adopted by the Greek authorities relative to Ireland, Portugal, and Italy does not appear to have led to a more favorable growth outcome. Labor cost competitiveness improved in the first three years of stabilization thanks to a tight incomes policy and to a weak labor market, but it started to deteriorate in 1994 when growth resumed and labor market conditions became tighter.

The Greek experience with ERBS entered a new phase in 1995, when the Bank of Greece, in line with the government's convergence program, further tightened the exchange rate anchor. The exchange rate target was announced officially, and the drachma was allowed

Figure 4. Greece: Key Macroeconomic Indicators During Disinflation



Sources: WEO, IFS and authors' estimates.

to depreciate relative to the ECU by only 3 percent; the target for 1996 and beyond is of near stability. In spite of the tighter exchange rate target, the rate of inflation continued to fall along its previous trend in 1995, and even began to rise in early 1996. Correspondingly, the real appreciation of the exchange rate accelerated. Nominal and real interest rates fell, and output growth accelerated led by strong investment growth. On the fiscal front, the primary adjustment continued in 1995–96, but it is expected to slow down somewhat in the following years. The deficit fell more substantially in 1995 thanks to sharply lower nominal interest rates. In spite of the improved government savings, however, the national saving rate fell, and the current account returned to a deficit. Tighter conditions in the labor market and strong firm profitability led to generous wage settlements which worsened labor cost competitiveness, reversing some of the gains achieved in the first phase of stabilization.

Thus, as the exchange rate peg was tightened beginning in 1995, the Greek stabilization is beginning to show some of the characteristics of the standard ERBS programs described in the literature and shared by the Italian experience in 1987–92: faster output growth led by domestic demand, strong real exchange rate appreciation, and a widening current account deficit.

#### IV. A COMPARISON AMONG THE FOUR PROGRAMS

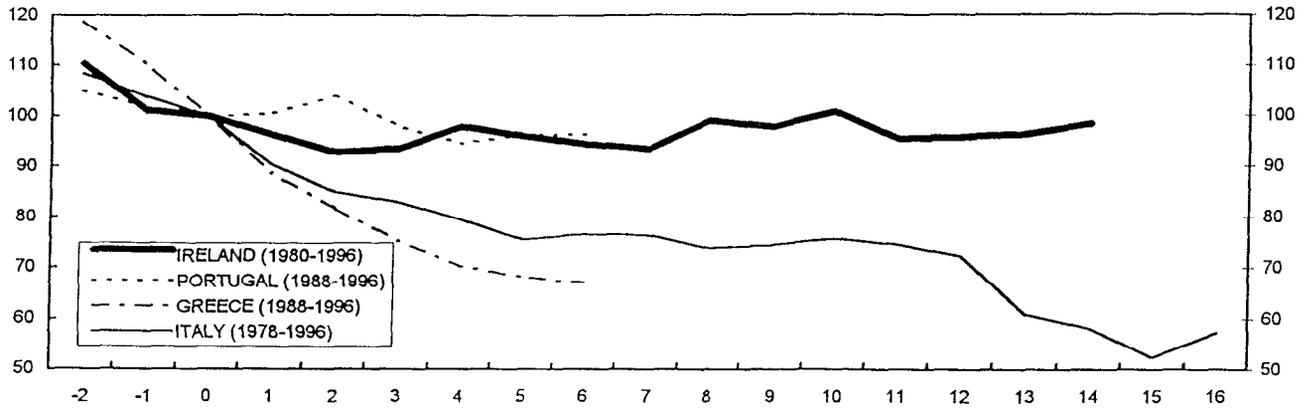
Figures 5 and 6 facilitate a direct comparison of the four stabilization programs. Each panel shows the behavior of a key macroeconomic variable in all four countries in “stabilization time”, starting two years before the program begins.

As shown in Figure 5, the exchange rate commitment did provide a tight nominal anchor, but in Greece and Italy it did so only after being strengthened 4–5 years into the program. Portugal and Ireland devalued at various stages of the program, but the devaluations were small in nominal effective terms and did not significantly weaken the anchor. In contrast, in Italy the depreciation that followed the forced exit of the lira from the ERM in 1992 was substantial and protracted. Hence, Italy is the only country in the group where the exchange rate commitment was abandoned before inflation had fully converged to the level of other industrialized countries. In contrast, of the 12 programs in high inflation countries reviewed by Reinhart and Végh (1995), 8 programs ended in a foreign exchange crisis that led to the abandonment of the exchange rate peg.

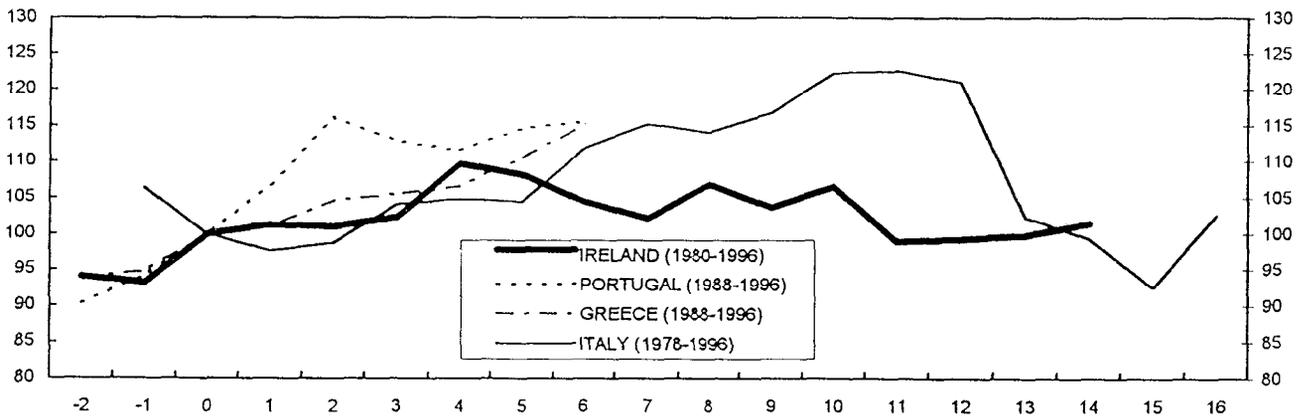
All four Western European programs succeeded in drastically lowering the inflation differential with other industrialized countries (Figure 6). Only Greece, whose program is the most recent and whose initial inflation was the highest, still has an inflation differential of 6.1 percentage points. In contrast with the typical pattern of ERBS, the decline in inflation was not reversed at a later date in spite of exchange rate realignments in Ireland and Portugal and of the abandonment of the anchor in Italy. What can explain this success? As noted above, in Ireland and Portugal the devaluations were small in nominal effective terms, so they

Figure 5. Italy, Ireland, Greece and Portugal: Exchange Rates

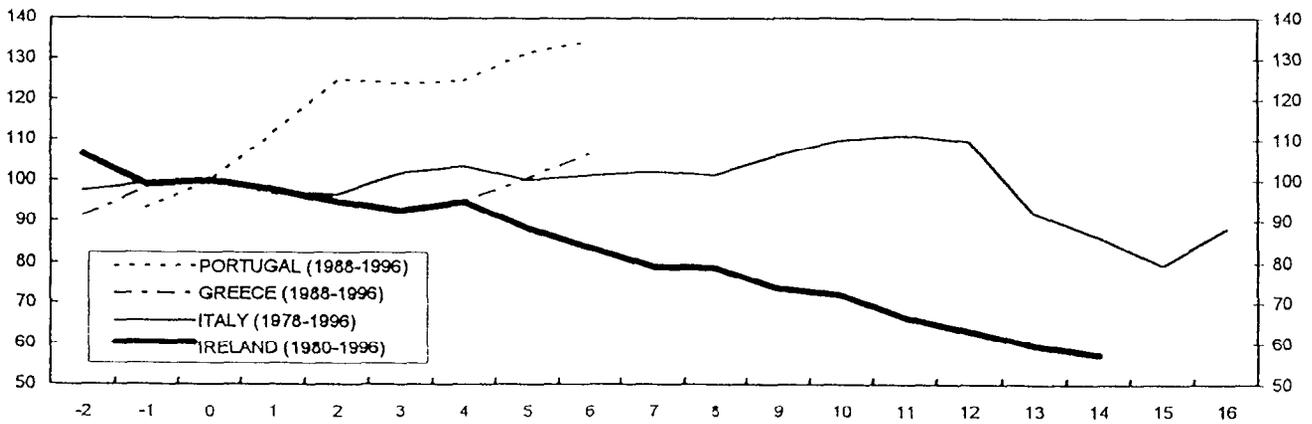
Nominal Effective Exchange Rates



CPI-based Real Effective Exchange Rates

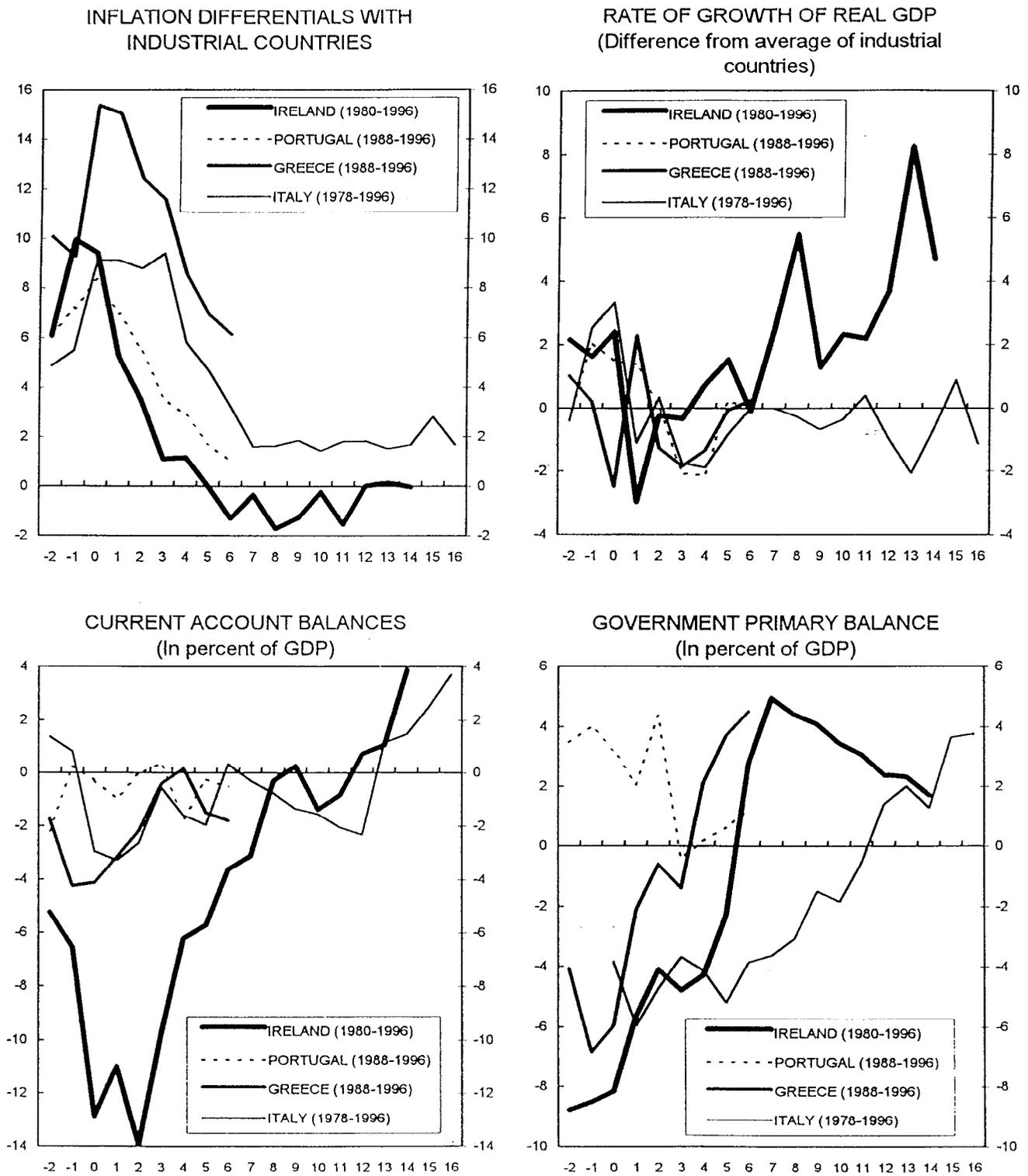


ULC-based Real Effective Exchange Rate



Sources: IFS and authors' estimates.

Figure 6. International Comparison of Key Macroeconomic Indicators



Sources: WEO, IFS and authors' estimates.

probably had little direct effect on domestic prices. Furthermore, they took place during periods of general turbulence in the EMS, and were not prompted by a specific weakness of the currency. Thus, the credibility of the exchange rate commitment and, more broadly, of the stabilization effort was probably not called into question.

These factors, however, cannot explain the case of Italy, where the speculative attack against the lira was particularly severe and the devaluation was quite large. Other elements were at work in securing the progress of disinflation after 1992: first, wage indexation had been substantially reduced, especially after the accord of 1993. Second, Central Bank independence—strengthened in 1981 and again in 1992—effectively put an end to the monetization of fiscal deficits. Third, because of the negligible share of public debt denominated in foreign currency the devaluation did not have an immediate negative fiscal impact as it did, for instance, in Mexico in 1995. Fourth, thanks to a newly-found political consensus (perhaps induced by the foreign exchange crisis itself), fiscal adjustment was strengthened; thus, domestic demand was kept in check while an export-led recovery began in 1994, and pressures on prices remained modest.

The Western European experience shows that small devaluations, such as those experienced by Ireland and Portugal, while they can be effective in reversing some of the real exchange rate appreciation, need not undermine the credibility of the exchange rate peg. Furthermore, the Italian case suggests that, when the right policies are in place, the gains achieved in the fight against inflation need not be lost even if a traumatic exit from the peg occurs.<sup>15</sup>

The Western European programs conformed with the stylized facts about ERBS in terms of the real appreciation of the exchange rate: as shown in the second panel of Figure 5, all four countries experienced a real appreciation in the initial phase of the stabilization; in Greece and Italy the appreciation was modest in the beginning, but it accelerated once the exchange rate anchor was tightened. In contrast, the response of output to stabilization was not positive as emphasized by the ERBS literature except in Italy in 1987–92 and in Greece in 1994–96: in the early years disinflation in the countries examined here was achieved at the expense of output growth, consistent with the outcome of standard money-based stabilizations (Figure 6).<sup>16</sup> Furthermore, weak output growth kept the current account imbalances quite small in spite of the real appreciation. Thus, in these cases the real appreciation was not a consequence of domestic demand expansion, as suggested by credibility models of ERBS (see, for instance, Calvo, 1986). Another interesting lesson is

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<sup>15</sup> During this period, also the United Kingdom and Sweden succeeded in curbing the inflationary effects of a devaluation through appropriate policies.

<sup>16</sup> In contrast with Figures 1–4, in Figure 6 output growth is measured as the difference from the average rate of growth of industrialized countries in an (admittedly crude) attempt to isolate the effects of the international business cycle from those of the stabilization program.

that adopting a looser anchor, although it may curb the real appreciation, does not necessarily result in better growth performance.

As mentioned above, in Italy and Greece an expansionary phase reminiscent of the typical ERBS cycle did take place after the exchange rate commitment was tightened: GDP growth resumed led by domestic demand, the real appreciation accelerated, private saving began to decline, and the current account worsened.<sup>17</sup> A factor that may explain these developments is that—while wage growth was moderate in the first phase of the program—generous wage increases (in the public sector in Italy and in the private sector in Greece) were granted when the second phase began. This underscores the key role of incomes policies in determining the outcome of the stabilization program. Also, the elimination of control on short-term capital movements contributed to fuel foreign capital inflows which may have strengthened the expansion of domestic demand.

Finally, the last panel of Figure 6 records the fiscal adjustment effort that accompanied inflation stabilization. As emphasized in the ERBS literature, the experience of the four Western European countries indicates that there is no simple connection between the contemporaneous fiscal policy stance and disinflation. In Italy the largest decline in inflation took place at the beginning of the program when the primary budget deficit was still large; however, decisive fiscal cuts—together with wage moderation and a tight monetary policy—are likely to have played a major role in preventing the resumption of inflation after the lira was devalued in 1992. In Portugal the declining trend in the rate of inflation continued even after fiscal policy became expansionary during the recession of 1993. The expansion, however, was modest, and the debt-to-GNP ratio resumed its downward trend in 1996. Here the lesson is perhaps that what matters for the credibility of the stabilization program is more the sustainability of the fiscal position as measured by the stock of debt rather than the “intensity” of the fiscal adjustment effort.

## V. CONCLUDING REMARKS

This brief overview of recent inflation stabilization programs in four moderate-inflation Western European countries shows that, while the exchange rate commitment was at the center of the policy package, the economies did not respond along the lines described by the literature on ERBS in chronic inflation developing countries. Thus, our evidence raises the question of what may explain such differences. The question is hardly just an academic one: the four programs that we review have all been successful (at least so far), while the history of ERBS in chronic inflation countries is littered with often spectacular failures.

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<sup>17</sup> Although national saving fell in both cases, the driving force behind the deterioration of the current account in Greece was an increase in investment.

It would be tempting to conclude that the European programs succeeded simply because the task that they had to accomplish (a reduction in inflation of 10–15 percentage points) was much more limited than in chronic inflation countries. Yet, the history of hyperinflations shows that bringing down a very high rate of inflation is usually easier than reducing moderate inflation, suggesting that the size of the problem may not be the end of the story. Another conjecture may be that policy makers in Western Europe did not have to face as strong a credibility problem as policy makers in high inflation countries, partly because stabilization in Western Europe was an element of a broader commitment to economic integration within the European Union, and partly due to the long history of macro-economic mismanagement in high inflation countries. Because more credibility could also explain why the European programs did not exhibit a temporary output expansion at the beginning of stabilization, this conjecture certainly deserves more careful scrutiny.

Finally, it may be that the differences between the experiences surveyed here and the ERBS syndrome in high inflation countries are due to differences in the set of policies that accompanied the exchange rate commitment. The four countries under consideration used various combinations of policies, including fiscal consolidation, changes in the instruments of monetary control, reform of the wage-setting mechanism, capital account and financial liberalization, and others. The extent to which the nature of the supporting policies, their timing, and their implementation were more important in determining the final success of disinflation than the exchange rate anchor itself is a promising topic for future research.

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