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Alternative exchange-rate regimes, the EMU, and Sweden: the fiscal constraints

Ronald I. McKinnon*

Summary

This paper analyzes the benefits and costs for a European country of joining the EMU, that is, giving up money-issuing authority at the national level in favor of a common currency. It assesses the fiscal constraints on any European national government that loses its money-issuing authority by looking at the debt positions of American state governments. Could joining EMU provoke a self-fulfilling fiscal crisis? What fiscal adjustment would countries like Sweden have to make? For those countries deciding not to join the EMU, or if the EMU fails to materialize, a new system of fixed-exchange parities becomes necessary. What should these new exchange-rate mechanisms (ERMs) look like?

This paper then suggests new rules of the game—ERM II—for the relations between the currencies of the *out* countries and the euro. It develops new rules of the game—ERM III—for replacing existing European monetary arrangements if EMU fails to come into existence. It ends by introducing the concept of virtual exchange-rate stability. Under either ERM II or ERM III, could a country avoid an inadvertent competitive devaluation even when a self-fulfilling speculative attack forces it to suspend its parity obligation?

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Ronald I. McKinnon*

A key political question facing Sweden is whether to join the EMU. Without knowing whether the definitive Stage Three of the EMU with the introduction of the euro will proceed on January 1, 1999 as planned, the Swedish parliament must make a decision in the autumn of 1997. But even if Sweden decides not to join the EMU at the outset, the Swedish government is still committed to fulfilling the Maastricht Agreement's fiscal and monetary goals for converging with those of its European trading partners.

Suppose first that EMU does materialize. France, Germany, and Benelux and possibly other European countries establish a common currency among themselves: the euro becomes their sole money. To properly assess the advantages and disadvantages of Sweden's joining EMU, this paper lays out a menu of exchange-rate and monetary options and the associated fiscal constraints. What would be the benefits and costs if Sweden decided to join, and what fiscal and other measures would it have to take to ensure that the benefits exceed the costs? If Sweden stays out, what should the range of variation between the Swedish crown and euro be—from the Swedish perspective and to alleviate the European concern with possible competitive devaluations of the crown?

In short, when national *monies* remain in separate circulation, some kind of cooperative monetary regime for establishing bands of exchange-rate variation will still be necessary. This ERM II would apply to all European countries who defer their date for joining EMU.

> The new exchange-rate mechanism would be based on central rates around which margins for fluctuations would be set. The euro would be the anchor of what would in practice be an asymmetrical system. Thus there would be no basket unit and no divergence indicator. Intervention would be obligatory on

* *I thank Neil Gilfedder and Paul Krugman for their help in preparing this paper.*

> both parties when a margin is reached, backed up by corresponding credit facilities. But neither the European Central Bank (ECB) nor the central banks in charge of the other currencies in the new mechanism, would be committed to supporting currencies if this conflicted with their primary objective of maintaining price stability (*The Council of the European Union*, Brussels, 4 June 1996).

Alternatively, if the EMU fails, what new multilateral exchange-rate arrangements among European countries—Sweden included—would be desirable? If the European common market is to be preserved, countries outside any exchange-rate agreement need to be constrained from devaluing in real terms against a more stable inner core, and the stable inner core must coordinate its monetary policies to anchor an (almost) common price level. Even high exchange-rate volatility per se, not necessarily accompanied by persistent undervaluation, would interfere with economic integration. Since 1991, exchange-rate volatility has already upset trade in European agriculture products.

This paper reviews and discusses:

- The state of academic thinking—more accurately, academic pessimism since the exchange-rate turmoil of 1992-93—on whether fixed exchange rates within narrow hard bands, where national currencies remain in separate circulation, are even feasible. Even if a country's secular inflation rate does not differ significantly from those of its trading partners, an insightful new line of thought—described later on—suggests that currency crises can be self-fulfilling over the course of *normal* business cycle fluctuations. Unless the country moves forward to full-scale monetary union, or backward to reimpose exchange controls on capital account, the new view has it that such a country will be subject to speculative attacks on its exchange rate that are often successful.
- The fiscal constraints on an individual country joining EMU, and then on managing its public finances subsequently. Do these fiscal constraints bind differently in a full-scale monetary union as compared to a somewhat weaker, but still serious, fixed exchange-rate agreement? The case for Sweden and other countries that join the EMU hinges on whether the necessary fiscal adjustments can be made. If they are made, would the benefits of joining EMU exceed the costs? The experience of state governments within the American monetary union turns out to be very instructive.

- If the EMU succeeds, but a few individual EU countries opt out (at least initially), a version of ERM II could still apply to ensure *virtual* exchange stability—where any lapses from traditional euro parities are only temporary.
- A proposed new and improved version of the old European Monetary Mechanism—ERM III—if the EMU fails altogether. By rationalizing Germany's special position as the monetary anchor, and allowing greater flexibility in managing monetary affairs in the other member countries, ERM III, unlike its unhappy predecessor, could sustain virtual exchange stability indefinitely.

1. The impossibility of fixed exchange rates between national currencies with free capital mobility

Here is a brief review of the sources of exchange-rate turmoil within the old ERM in the 1990s: Under the Single European Act of 1986, the then members of the EU removed their remaining capital controls in 1987—while pledging to keep exchange rates fixed henceforth. This proved to be a bridge too far. Speculative attacks against the exchange-rate pegs in 1992 and 1993 forced some members out of the ERM while others had to accept dramatically wider exchange-rate bands-from ± 2.25 percent to a virtually meaningless 15 percent band. The British, Italian, Spanish, and Swedish currencies depreciated about 20 percent or more against the German mark in real terms, and the French franc was unsettled—although negligible actual devaluation occurred.

All too easily, one can draw strong lessons from these unfortunate episodes. Several writers, most particularly Eichengreen (1993), argued that fixed exchange rates can only be secured by complete monetary unification under a common currency. Portes (1993) puts this now prevailing view most strongly: "Permanently fixed exchange rates is an oxymoron."

In the absence of capital controls, official par values for exchange rates between national currencies will invite speculative attacks that eventually undermine the currency pegs themselves.

In their paper provocatively entitled "The Mirage of Fixed Exchange Rates", Obstfeld and Rogoff (1995) survey exchange-rate regimes throughout the world and find that only five *major* countries succeeded in maintaining a fixed exchange rate—defined as a band

with ±2 percent margins—for as long as five years up to June 1, 1995. They are Hong Kong, Thailand, and Saudi Arabia against the U.S. dollar and Austria and the Netherlands against the German mark. An example of a small country is Luxembourg against the Belgian franc. Obstfeld and Rogoff conclude:

> The striking conclusion is that, aside from small tourism economies, oil sheikdoms, and highly dependent principalities, there is literally only a handful of economies in the world today that have continuously maintained tightly fixed exchange rates *against any currency* for five years or more (p. 87).

The failure of the EU countries to secure their exchange rates against speculative attack in the 1990s seems to vindicate this new wisdom. Going one step further, Eichengreen (1993) argues that the gains from having a common currency are not that great anyway. Among other things, lower level national governments would be inhibited from taking counter-cyclical action against region-specific downturns; while the taxes and expenditures by the EA central government remain too small to provide automatic regional stabilization.[1] In contrast, the U.S. federal government's much larger flow of revenues and expenditures substantially cushions downturns in American regional incomes (Sala-i-Martin and Sachs, 1992). Thus Eichengreen concludes (p. 1353):

> There is no technical reason why a single currency is required to reap the benefits of a single market. In principle, factor- and product-market integration can proceed under floating exchange rates as well as under a common currency ... [2]

[1] Eichengreen also criticized the Maastricht Agreement for not specifying how the putative European Central Bank's open-market and discounting operations would be conducted, that is, which financial instruments would be chosen to avoid discriminating against one country or another. Responsibility for the prudential supervision for community-wide banking institutions was left in limbo.

[2] But Eichengreen's position on the compatibility of floating exchange rates with economic integration is questionable. After 1993, the French government petitioned the EU court to compensate French exporters for losses stemming from the competitive—albeit forced—devaluations of their neighbors. Although in 1996, the court ruled against the French position, the burgeoning unemployment in France

In effect, the new wisdom goads authorities to push forward to the common-currency ideal without an exit option, to maintain quasi-fixed exchange rates by reimposing capital controls, or to live with virtually no-par floating—perhaps within very wide *soft* bands. And it suggests that the common currency ideal is not all that worthwhile. "the one alternative that is not viable is fixed exchange rates between distinct national currencies" (Eichengreen, p 1354).

What is the theoretical basis for this new impossibility theorem?

1.1 Self-fulfilling exchange-rate crises

The old literature on speculative attacks (Salant and Henderson, 1978; Krugman, 1979) presumed that the monetary fundamentals were not right for preserving a fixed exchange rate. Indeed, Krugman began his analysis by assuming an unsustainable expansion of central bank credit by one of the countries. Because a speculative attack was obviously inevitable if monetary conditions did not change, the theoretical problem in the old crisis models was simply one of pinning down *when* it would occur.

But the theoretical basis for the new crisis models—and corresponding deep pessimism over the viability of fixed exchange rates—is quite different. Writers in this new vein start with the presumption that monetary and current-account fundamentals could be more or less right, with no shortage of exchange reserves or credit lines for defending the fixed exchange rate. Even so, this new wisdom has it that any country, with an independently circulating money, may still be vulnerable to a *self-fulfilling* speculative attack on its exchange rate.[3]

Krugman (1996) neatly summarizes the essential elements of the new approach. Although the government normally would prefer to honor its prior commitment to a fixed exchange rate, in reality politicians need to minimize a more complex social-loss function if they are to stay in office. For example, an unexpected cyclical downturn could lead both to an upsurge in unemployment when wages are sticky and to a burgeoning of the government's debt and deficit posi-

was clear evidence that these devaluations had put severe stress on the common market itself.

[3]This new view seems to have a long genesis. But recent statements of self-fulfilling exchange rate crises, which include lengthy citations to other writers, are Obstfeld (1994), Eichengreen *et al.* (1995) and Ozkan and Sutherland (1995).

tion, as with Sweden in 1990-1992. A devaluation *cum* monetary expansion could be seen and indeed was seen in the Swedish case as simultaneously stimulating economic activity to mitigate the unemployment problem and the fiscal deficit.

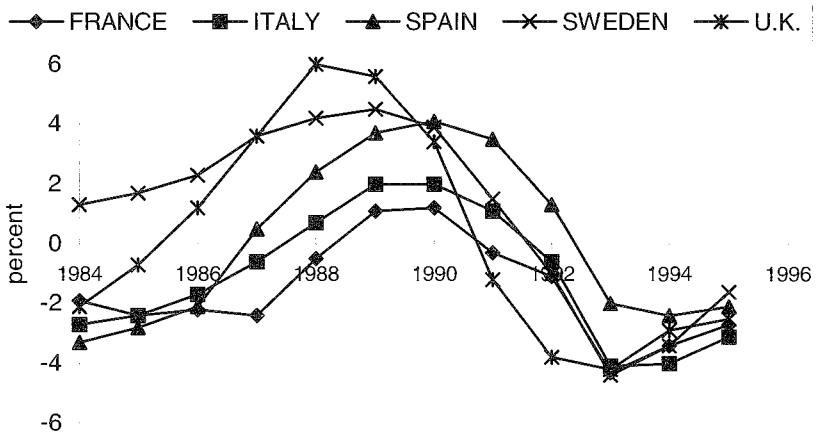
The higher the cost of remaining with a fixed exchange rate (the steeper the economic downturn), the greater the depreciation that the markets come to expect. The defense of the exchange rate then requires an even sharper increase in nominal interest rates. But with domestic prices and wages fairly sticky, the consequential increase in real interest rates impedes recovery of the private economy. Public debt could then spiral upward because (1) the government's primary deficit increases from the fall in net tax revenue, and because (2) service charges on the public debt escalate when it is rolled over at the higher interest rates. Item 2 can be particularly acute if the maturity structure of the debt is very short. As Krugman (1996) and the others point out, when everyone expects depreciation sooner or later, it becomes increasingly expensive *not* to depreciate. Although probing attacks against the currency to test the governments resolve need not initially be successful, the economic costs cumulate and eventually become overwhelming.

Again, the Swedish story nicely illustrates the more general theory behind the new wisdom. After a boom that had overheated the economy by the late 1980s, the property crash and associated banking crises of 1990-1991 provoked a cyclical downturn in the Swedish economy and uncovered larger than expected public-sector deficits.

The basket peg for the Swedish crown exchange rate was subject to probing attacks during 1990-1992. (Initially, the basket was weighted more toward the dollar, but after May 1991, the crown was pegged to the ecu, with the mark getting a heavier direct and indirect weight.) By 16 September, 1992, the *Riksbank* could only beat back a strong speculative attack by increasing overnight interest rates to an extraordinary 500 percent—now a very well-publicized landmark in the annals of international finance! But by impeding Sweden's recovery and by increasing debt service costs, this high-interest strategy proved too costly. So when another attack came two months, later on 19 November, the *Riksbank* rather quietly gave up and floated the currency. By year end, the crown had depreciated by 15 percent against the ecu, and by the end of 1993 it had depreciated another 9 percent.

Sweden is not the only example of the new wisdom to which various authors point. From the late 1980s to the early 1990s, Britain, Italy, Spain, and to a lesser extent France went through very similar cycles of boom and bust (see Figures 1a and 2a), followed by frantic attempts to defend their exchange rates with the core European currencies. This proved expensive regarding lost output and lost exchange reserves, and self-fulfilling speculative attacks led to the effective breakdown of the ERM in 1992-1993 (Figure 3). Without controls over international capital movements, and in the face of normal business-cycle fluctuations, the new theory has it that no fixed exchange-rate regime can be easily sustained short of full-scale monetary integration.

Figure 1a. Output gap (annual observations)

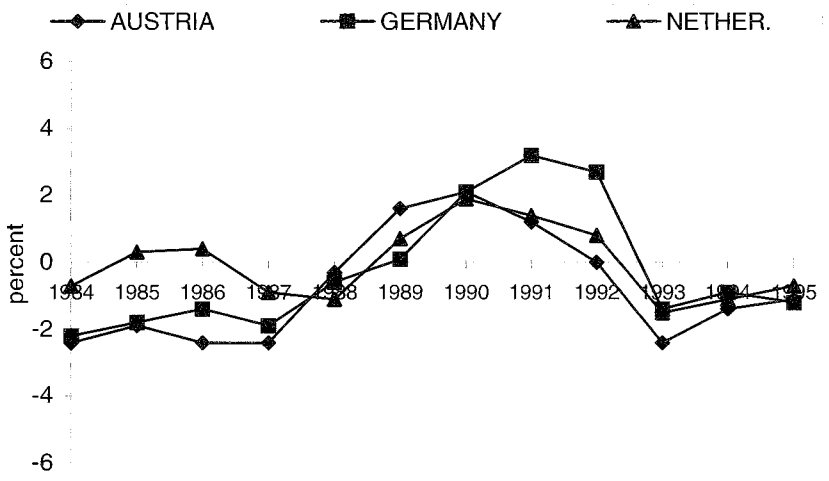


Source: *OECD Economic Outlook*, 58, Dec. 1995, Annex Table 11 (1995 preliminary).

1.2 A new theory of secular economic stagnation?

This new view of self-fulfilling currency crises helps explain ongoing economic stagnation in Europe. Suppose, in the absence of either tight controls on capital account or full monetary integration, a group of countries attempts to mutually peg their exchange rates by choosing one country's currency as the anchor and *numéraire*. In the simplest format, they might all peg directly to the center currency. This asymmetry in currency arrangements implies that all but the center country will be vulnerable to speculative attacks on their exchange rates. From time to time, they must raise their interest rates sharply, or devalue, or some combination of the two.

Figure 1b. Output gap (annual observations)



Source: *OECD Economic Outlook*, 58 Dec. 1995, Annex Table 11 (1995 preliminary).

Understanding this vulnerability, international portfolio managers will demand a permanently higher interest rate for holding securities not denominated in the center country's currency. Part of this interest differential with the center country, say Germany, is compensation for expected devaluation against the mark—possibly amortized over a long period of time. But another substantial part is a risk premium. The timing of any devaluation is uncertain, and the whole term structure of interest rates in any peripheral country is more volatile. Even if not successful, speculative attacks will continually roil the peripheral country's interest rates and will thus increase the risk seen from holding securities denominated in that currency. Their interest rates must then increase by more than any anticipated devaluation.

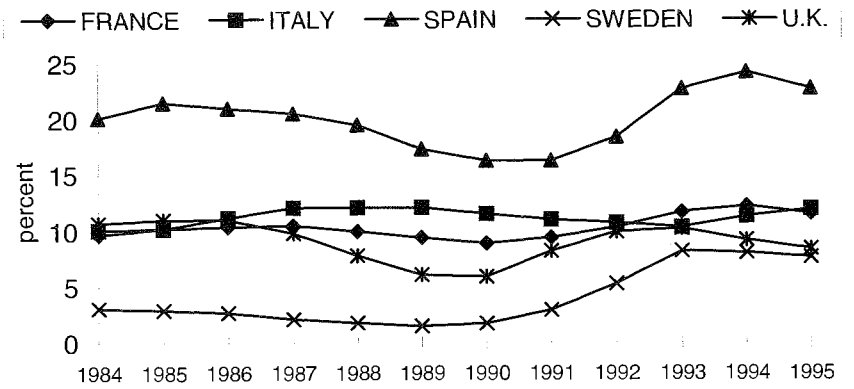
This problem of risk *premia* in the interest rates of *out* countries was nicely illustrated by market reactions to the announcement on August 28, 1996 by Mr. Erik Åsbrink, Sweden's Finance Minister who was supported by the Prime Minister, that the EMU carried both disadvantages as well as advantages, and that Sweden could delay a decision on membership.

> Financial markets reacted immediately, seeing Mr. Åsbrink's comments as a retreat in the face of strong opposi-

> tion to EMU among the ruling Social Democrats and the public. Long-term bond yields rose by 100 basis points to 8.135 per cent and the crown weakened against the German mark *(Financial Times*, August 29, 1996)

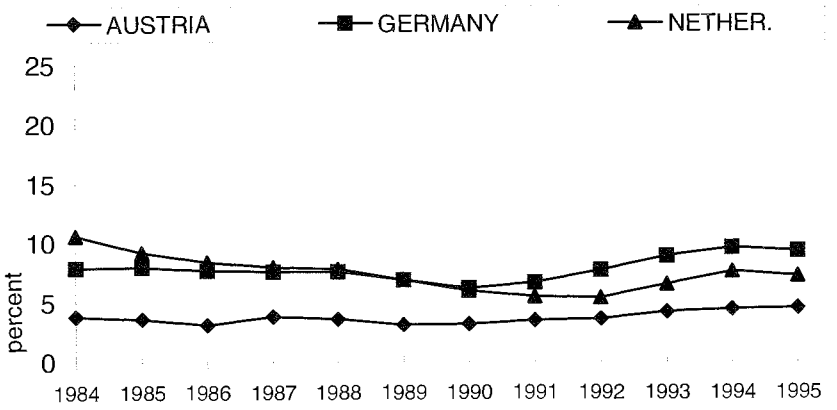
Subsequently, Mr. Åsbrink's successful efforts to reduce Swedish fiscal deficits (as if he wanted to fulfill the Maastricht conditions anyway) have, in late 1996 and early 1997, caused Swedish interest rates to fall sharply.

Figure 2a. Unemployment rates (annual observations)



Source: *OECD Economic Outlook*, 58 Dec. 1995, Annex Table 21 (1995 preliminary).

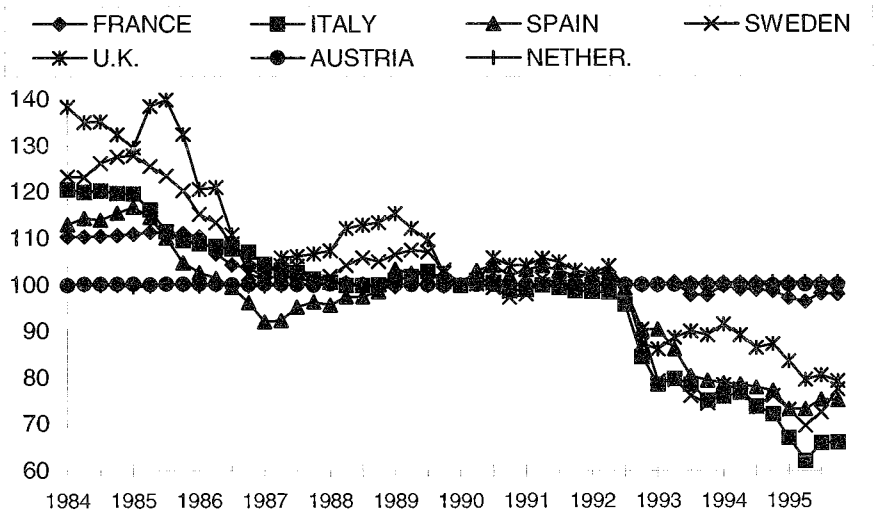
Figure 2b. Unemployment rates (annual observations)



Source: *OECD Economic Outlook*, 58, Dec. 1995, Annex Table 21 (1995 preliminary).

The center country—or those few countries that have virtually integrated their monetary policies with the center's—is relatively immune from this problem. Because the center country formulates its monetary policy independently and largely ignores speculative pressure coming through the foreign exchanges, it enjoys lower interest rates on average. The Netherlands and Austria—two countries on Obstfeld and Rogoff's short list of successful fixers—have succeeded in integrating their monetary policies with that of Germany in a credible fashion, and thus enjoy similarly low interest rates. Figures 4a and 5a show Dutch and Austrian short- and long-term interest rates that track German rates remarkably closely. Since 1989, France has done almost as well in keeping the franc close to the mark (Figure 3) so that its long-term interest differential with Germany became less than a percentage point (Figure 5a).

Figure 3. Nominal exchange rates vs. German mark, 1990 Q1 = 100 (quarterly observations)



Source: IMF International Financial Statistics CD ROM, Mar. 1996, line rf

Before 1996, other EU countries had long-term interest rates about 1 to 4 percentage points higher than those in Germany—as Figure 5b shows for Sweden, Spain, Britain, and Italy. The resulting burden on the public finances of theses peripheral countries was one reason for economic stagnation in Europe. (Subsequently, their strenuous efforts to meet the Maastricht fiscal conditions, and the

increased probability that the EMU might succeed, caused these risk *premia* to decline dramatically in 1996 into 1997.)

But there are also other reasons for the stagnation in Europe. Arthritic labor markets in all European countries may be more important. Indeed, the risk-premium argument and the arthritic-labor argument are related. A country such as Sweden, which has occasionally allowed nominal labor costs to climb too high, temporarily escaped stagnation by devaluing as in 1977, 1981-1982, and 1992-1993. By joining the EMU, Sweden would close this escape valve, which could be costly in employment rates even if the risk premium in Swedish interest rate came down.

In summary, the literature on self-fulfilling currency crises provides an important new macroeconomic argument in favor of a small country such as Sweden joining the EMU to reduce the risk premium in its interest rates. The traditional macroeconomic argument for joining the EMU is to anchor the domestic price level more securely so that inflationary expectations and nominal interest rates can be reduced. (Of course, the conventional microeconomic arguments for the EMU of improving the efficiency of trade and investment by eliminating exchange-rate risk remain important.) But by early 1996, most European inflation rates—Sweden's included—are close to Germany's. Thus arguing for the EMU to reduce the interest risk premium would seem to carry more weight than the traditional argument for reducing the threat of inflation.

2. Debts and deficits in a monetary union: fiscal lessons from the United States

For monetary union in Europe to succeed, the fiscal conditions must be right. Otherwise, self-fulfilling currency crises could *increase* risk *premia* in the interest rates on bonds issued by those highly indebted European governments that choose to join the EMU. To throw light on this important point, let us compare the debt positions of European nation states to those of states within the American monetary union.

The overhang of national debt in European economies now averages more than 70 percent of GDP (Table 1).

Table 1. Maastricht definition general government gross public debt[a] in Europe (as a percentage of GDP)

	1978[b]	1990	1991	1992	1993	1994	1995
Austria	33.9	58.3	58.7	58.3	62.8	65.0	69.4
Belgium	70.4	130.9	130.3	131.5	137.9	136.0	133.5
Denmark	21.9	59.6	64.6	68.7	80.1	76.0	72.0
Finland	13.5	14.5	23.0	41.5	57.3	59.5	59.5
Germany	30.1	43.8	41.5	44.1	48.2	50.4	58.1
France	31.0	35.4	35.8	39.8	45.4	48.3	52.4
Greece	29.4	81.6	83.1	99.1	111.7	110.4	111.5
Ireland	65.7	96.5	96.7	94.4	97.5	91.5	86.3
Italy	62.4	97.9	101.3	108.4	119.4	125.4	124.7
Luxembourg	..	5.5	4.9	6.1	7.6	7.37	7.4
Netherlands	40.2	78.8	78.8	79.4	81.1	77.6	79.1
Portugal	37.6	68.6	70.2	62.4	67.2	69.5	70.7
Spain	45.1	45.1	45.8	48.4	60.5	63.1	65.7
Sweden	43.5	43.5	53.0	67.1	76.0	79.3	79.9
United Kingdom			33.5	41.8	48.3	50.2	54.0

[a] General government gross debt according to the definition under the Maastricht Treaty is based on estimates in national currencies provided by the Commission of the European Communities for 1990 and projected forward in line with the OECD Secretariat's projection for general government financial balances and GDP. These data may differ from the gross financial liabilities figures in *OECD Economic Outlook*.

[b] Pre-Maasticht definition of general government gross debt in the *OECD Economic Outlook*.

Source: *OECD Economic Outlook*, June 1996.

Before any member country could enter the putative common currency arrangement, the target ceiling negotiated at Maastricht was only 60 percent. Fiscal conditions among the member countries are very different—as Table 1 also indicates. The ratio of debt to GDP is close to, or over, 100 percent for Belgium, Greece, and Italy. Why might even Maastricht's rules of thumb-keeping debt ratios below 60 percent, current fiscal deficits below 3 percent, and inflation negligible be insufficient to prevent currency crises after the EMU?

Once accumulated at this high level with no prospect for systematic retirement, public-sector debts can only be safely managed if the government in question retains ownership of its central bank. For a substantially indebted national government, control over its own central bank confers two major advantages for debt management:

1. In the short run, major rollovers of existing debt are less risky if the central bank acts as the government's banker, that is, it provides liquidity to the market should something go awry.
2. In the long run, the perceived risk of outright default becomes negligible because the government owns the means of settlement on its own debt. Thus the real interest cost of government debt finance is reduced.

Together, items 1 and 2 serve to reduce the risk of a run on a highly indebted national government.

The risk of future inflation and exchange-rate devaluation should be distinguished from the risk of outright default and debt repudiation. Joining a common currency might reduce inflation risk and eliminate the fear of future devaluation. But it could increase default risk at the national level. Why?

When the national government owns its own central bank, everybody knows that, in a crisis, the government can always print money, that is, use the inflation tax to pay interest and principal and thus avoid outright default on the face value of its obligations.[4] Because easy (potential) access to monetary *seigniorage* greatly reduces any risk of outright default, the government that owns the central bank can pre-empt the national capital market to issue treasury securities at lower interest rates than can high-quality private borrowers whose debt is also denominated in the national currency. Unlike the national government, private companies are subject to commercial risk, that is, the threat of bankruptcy. And holders of private securities (or those of local governments) face the same inflation risk as do holders of claims on the national government.

Consequently, in any country with an independent fiat money system, central government bonds are considered to be the safest financial instruments denominated in the national currency.[5] In the U.S.,

[4]Apart from the inflation tax, some residual incentive for a surprise default—or capital levy—on the national debt might remain if the government perceives that traditional methods of tax finance are becoming too expensive and too distortionary (Alesina et al., 1992). While certainly true in principle, such a default has, to my knowledge, almost never occurred historically by any government that had access to the printing press. Hence, I am treating this form of default risk to be negligible because governments will inflate before repudiating their debt outright.

[5]The situation could be quite different if there were an external convertibility constraint on domestic money issue, as under a full-fledged gold standard like that pre-

the highest grade AAA corporate bonds usually pay an interest rate a percentage point or so higher than on long-term U.S. Treasury bonds. And B-grade corporate bonds pay about 2 percentage points higher while unrated *junk* bonds may pay 3 or 4 percentage points or more. After allowing for tax differences, interest on the debt of American state and local governments is also substantially higher than that on federal debt. Because the U.S. federal government has a soft budget constraint on issuing debt *ex ante*, it also has very high federal debt outstanding *ex post* (Table 2)—in the mode of European national governments (Table 1).

Table 2. U.S. government gross debt (as a percentage of GNP)

Year	Total	Federal	State+local	State	Local
1929	32.1	16.3	15.9	2.2	13.7
1939	66.3	44.2	2.2	3.8	18.2
1949	105.1	97.7	8.0	1.5	6.5
1954	83.1	72.7	10.5	2.6	7.9
1959	70.4	57.4	12.9	3.4	9.5
1964	62.9	48.8	14.1	3.8	10.3
1965	59.3	45.2	14.1	3.8	10.3
1970	50.9	36.7	14.3	4.2	10.1
1975	48.3	34.3	13.9	4.5	9.4
1980	46.2	33.8	12.4	4.5	7.9
1985	59.4	45.2	14.1	5.2	8.9
1986	65.3	49.9	15.4	5.8	9.6
1987	67.7	51.9	15.9	5.9	10.0
1988	68.8	53.4	15.4	5.6	9.8
1989	70.1	54.9	15.2	5.6	9.6
1990	74.7	59.1	15.6	5.8	9.8
1991	81.1	65.0	16.2	6.1	10.1
1992	83.7	67.6	16.1	6.2	9.9

Source: Advisory Commission on Inter-Governmental Relations (ACIR) "Significant Features of Fiscal Federalism," Washington, D.C. 1994.

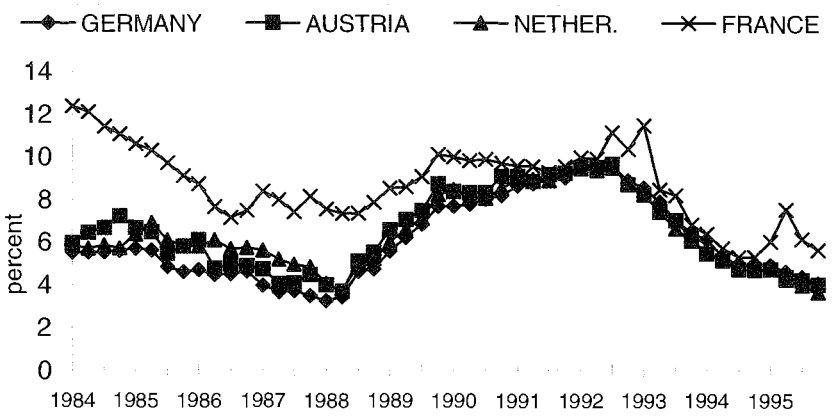
Note: Gross debt used by the ACIR differs somewhat from the OECD and Maastricht definitions.

More remarkable about Table 2 is the very low level of debt (as a share of GNP) of American state and local governments. Together state and local debt (because the localities are owned by the states, it makes sense to consolidate their debt positions) amounts to about 16

vailing before 1914. Then national governments, even if they owned their own central bank, were highly constrained in their ability to issue debt to cover current consumption, that is, they were effectively disciplined by the capital markets.

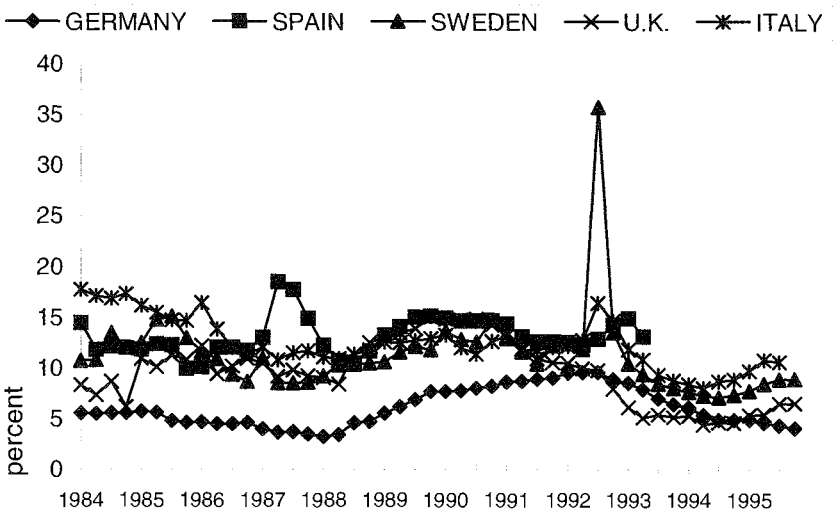
percent of GNP, and this ratio has been stable since the 1920s. (In contrast, since the late 1970s, the U.S. federal government's debt has ballooned to more than 65 percent of GNP, as have most European national debts.)

Figure 4a. Short-term interest rates (quarterly observations)



Source: IMF International Financial Statistics CD ROM, Mar. 1996, line 60b, money-market rate.

Figure 4b. Short-term interest rates (quarterly observations)



Source: IMF International Financial Statistics CD ROM, June 1996, line 60b, money-market rate.

American states, many of which are bigger than European nation states, are sovereign entities that are remarkably independent financially. They are constitutionally constrained from taxing (or interfering with) interstate commerce and foreign trade. Otherwise, state governments choose their own methods of taxation and are free to borrow as much or as little as they can from the capital markets. In addition, they do not receive unrestricted grants or revenue sharing from the central government.[6]

Unlike German *länder* or Canadian provinces, the wealthier American states do *not* make equalization payments to poorer ones. On the contrary, there is vigorous tax competition among them.

American state governments neither own nor influence the Federal Reserve Bank and have long since lost the power to charter note-issuing commercial banks or to force commercial banks to lend to them. So state and municipal bonds carry significant default risk on interest, or principal, or both. When issued in the domestic American capital markets (for tax reasons, they are not sold to foreigners), they are subject to the same strict credit ratings as are private bond issues.

For example, when California began to run current deficits in 1991-1993, its bonds were quickly downgraded from AAA to A. Despite the state's economy having fallen into recession, the legislature met in a crisis atmosphere to vote in curbs on current expenditures and to raise taxes. But because of tax competition from other states, much of the adjustment had to fall on reducing expenditures. If the legislature had not acted promptly to stem the fiscal bleeding, not only would California's bonds be downgraded further (with a significant increase in interest costs), but the state could have faced absolute capital rationing: no credible interest rate would exist at which it could sell more bonds.

True, 49 out of the 50 states have some kinds of statutory or constitutional restraint on running current deficits. Some restraints are mainly cosmetic, and some are fairly strong. But they were not imposed by the federal government or any outside agency like, say, the national bond council in Australia. Rather they were initiated in the 1840s after a series of defaults had undermined the credit ratings of several states—and had even imperiled the credit standing of those

[6]Except for some specific entitlement programs (such as medical care for the indigent) that are administered by each state government on a cost-sharing basis with the federal government.

that had not defaulted. Self-imposed legal limitations on borrowing were necessary to restore the credit standing of old states and to give newly created ones standing in the credit markets. These legal restraints were, and remain, an endogenous response to capital-market stringency.

Table 3 shows that the variance of the combined state and local debts (on a per capita basis) across states is not high.

Putting aside the District of Columbia, which is not a state but rather a municipal extension of the federal government, and the state of Alaska with a tiny population that has mortgaged its future oil production to borrow rather heavily, in 1992, state-local indebtedness ranges—from a high of USD 6,427 in New York—to a low of about USD 1,900 in Mississippi and Idaho.

The mean state-local indebtedness nationwide was just USD 3,847 in 1992, that is, 16.1 percent of per capita GNP. Because New York has a higher nominal per capita income than Mississippi or Idaho, the range of state-local indebtedness as a share of state GNP is even less than these dollar figures would suggest. The upshot seems to be that the capital market for state and municipal bonds has been a remarkably good disciplinarian in restricting debt issues right across the country. And the biggest problem state, New York, has gone through well-advertised difficulties in selling its bonds that forced substantial state and municipal retrenchments.

The propensity of politicians to deficit-finance current expenditures to win the next election is similar worldwide (Buchanan, 1987). Call this willingness to shift debts to future generations *political short termism*. The big difference is that American politicians at the state and local levels are much more tightly disciplined by the capital markets from borrowing to cover government consumption than are their counterparts in European nation states or their counterparts at the federal level of the U.S. government. The vertical separation of American state governments from the money machine, and the horizontal tax competition with each other, are jointly responsible for curbing political *short termism*.

Table 3. U.S. state-local debt, by type, per capita, FY 1992

Region and state	Total in USD	Exhibit: 7/1/92 population (thousands)	Region and state	Total	Exhibit: 7/1/92 population (thousands)
United States	**3,847**	**255,075**			
New England	**5,000**	**13,195**	**Southeast**	**3,252**	**61,103**
Connecticut	4,752	3,752	Alabama	2,719	4,138
Maine	3,295	1,236	Arkansas	2,117	2,394
Massachusetts	5,494	5,993	Florida	4,118	13,483
New Hampshire	4,864	1,115	Georgia	3,126	6,776
Rhode Island	5,908	1,001	Kentucky	4,233	3,754
Vermont	3,551	571	Louisiana	4,442	4,279
			Mississippi	1,943	2,614
			North Carolina	2,560	6,936
			South Carolina	3,198	3,603
			Tennessee	2,499	5,025
			Virginia	3,222	6,394
			West Virginia	3,500	1,809
Mideast	**5,136**	**44,117**	**Southwest**	**3,773**	**26,302**
Delaware	6,701	691	Arizona	5,049	3,832
DC[1]	8,136	585	New Mexico	2,945	1,582
Maryland	3,920	4,917	Oklahoma	2,806	3,205
New Jersey	4,451	7,820	Texas	3,853	17,688
New York	6,427	18,109			
Pennsylvania	3,964	11,995			
Great Lakes	**2,755**	**42,719**	**Rocky Mtn.**	**4,344**	**7,629**
Illinois	3,515	11,613	Colorado	4,693	3,465
Indiana	2,226	5,658	Idaho	1,847	1,066
Michigan	2,552	9,434	Montana	3,636	822
Ohio	2,354	11,021	Utah	5,861	1,811
Wisconsin	3,022	4,993	Wyoming	4,478	465
Plains	**3,947**	**17,920**	**Far west**	**4,137**	**42,090**
Iowa	1,927	2,803	Alaska	15,763	588
Kansas	2,870	2,515	California	3,758	30,895
Minnesota	4,376	4,468	Hawaii	5,329	1,156
Missouri	2,292	5,191	Nevada	5,071	1,336
Nebraska	4,062	1,601	Oregon	3,545	2,972
North Dakota	3,076	634	Washington	5,589	5,143
South Dakota	3,420	798			

[1] The Bureau of the Census classifies the District of Columbia as a municipality.

Source: U.S. Department of Commerce, Bureau of the Census, *Government Finance*: 1991-02 (Preliminary Report) Table 25.

What are the implications of the American experience for European countries that join the EMU? The low combined state-local debt in the U.S. (shown in Table 2) is an overly crude representation of the debt levels European countries could comfortably sustain in long-run equilibrium. But there are similarities. As in the American monetary union, an objective of the EMU is to separate vertically European nation states from any control over the European money machine. Moreover, the consolidation of the European common market—by removing all restraints on firms, capital and labor moving across different jurisdictions—will potentially make horizontal tax competition among European countries similar to that among American states.[7] Suppose that the EMU could have started from a clean slate fiscally with little or no debt at the national level, and with somewhat expanded authority for the central EU government in the American mode. Then, in long-run competitive equilibrium, the debt levels of the European national governments would not be so much higher than those observed today for American state governments.

True, in making this heroic (some would say outrageous) comparison, one should probably assume that more taxing and expenditure authority would continue to reside in European nation states—even in the long run—than what we currently observe for American state-level governments. So equilibrium debt levels in Europe could be greater than the 16 percent average we now observe for American states and localities combined. Nevertheless, the current debt positions of European countries—averaging 70 percent of GNP—are so much higher than their American state counterparts that, after the EMU, they would become *disequilibrium* overhangs. On bond issues denominated in euros, national governments would then pay a large risk premium compared to that paid by the central EU government or paid by premier private corporations.

2.1 Self-fulfilling speculative attacks within the EMU

The embodiment of these post-EMU risk *premia* is the possibility of runs on one or more European national governments. Once any government with high debts—like Sweden's—loses control over its central bank, that is, over the money-issuing authority, an internal speculative attack on its creditworthiness becomes possible. True, being

[7] McKinnon (1995) analyzes whether such competition is more benign than malign.

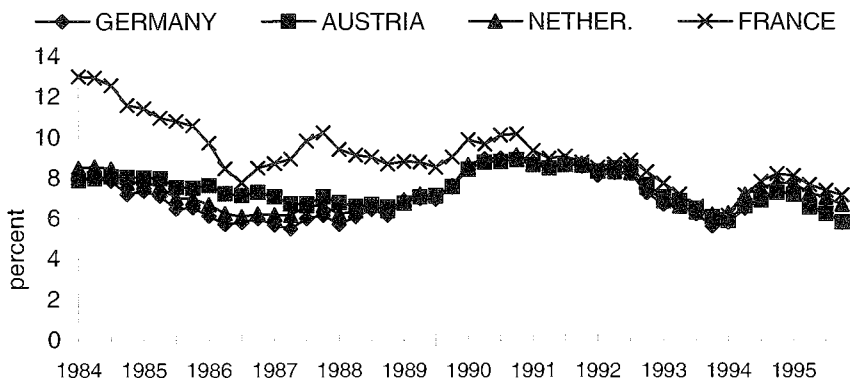
within the EMU puts exchange-rate devaluation out of the question, but also makes the possibility of an outright internal default by a national government more likely.

Such an internal speculative attack could be properly earned in the mode of the old-crisis literature, or self-fulfilling in the mode of the new. The old-crisis literature had assumed ongoing domestic bank-credit expansion that would ultimately exhaust exchange reserves and provoke a speculative attack on the exchange rate (Krugman, 1979). What is the fiscal analogy for internal debt default? In the simplest case, if a country has a steady-state primary fiscal deficit and its real interest rate exceeds the economy's rate of growth, the debt-to-GNP ratio will (potentially) rise without limit. Then, because the country in question does not own its own central bank, a speculative attack against the government will soon come. The question is just a matter of timing.

But there are other possibilities. Suppose a country not part of a common market or common currency starts with a substantial debt and flow of interest payments to service, and the real interest rate on the debt exceeds the rate of growth. If that country is prepared to run a sufficiently large offsetting primary surplus, then, in principle, the debt-to-GNP ratio can be stabilized at a sustainable level—even if that debt level and the primary surplus are quite high in the new steady state. But in a common market, horizontal tax competition occurs among middle-level governments. Thus the government with the high debt may well be inhibited from raising taxes or cutting public services sufficiently because it will lose resources (its tax base) to neighboring jurisdictions. The capital markets will understand this, and once the country in question loses its central bank and various forms of *seigniorage* derived therefrom, its debt position will be seen to be unsustainable, and a run on the government could ensue.

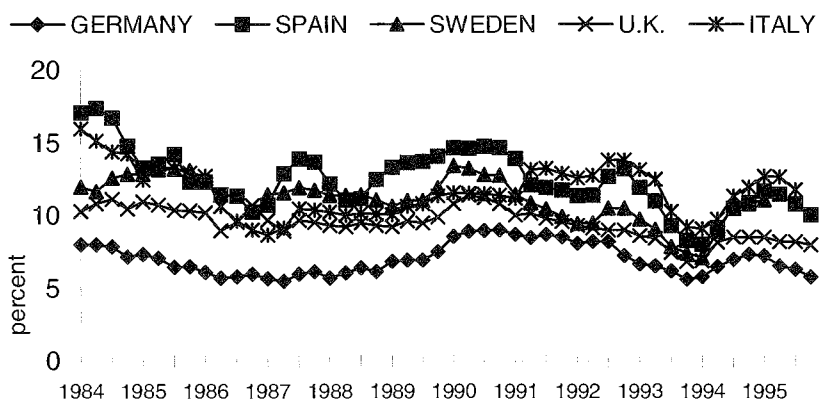
For countries in the EMU, what is the fiscal analogy to the new-crisis literature on self-fulfilling speculative attacks on the exchange rate? Suppose that a substantial steady-state debt-to-GNP ratio (with a correspondingly viable primary budget surplus) exists—provided that the economy stays on its full-employment growth path. But then some sharp regional downturn occurs—as happened to Sweden in 1990-1992.

Figure 5a. Long-term interest rates (quarterly observations)



Source: IMF International Financial Statistics CD ROM, Mar. 1996, line 61, government bond yield.

Figure 5b. Long-term interest rates (quarterly observations)



Source: IMF International Financial Statistics CD ROM, Mar. 1996, line 61, government bond yield.

The primary budget surplus declines and perhaps becomes negative because of the natural cyclical decline in net tax revenue, and the government comes under political pressure to embark on a discretionary Keynesian-style counter-cyclical policy. Because the option of devaluing the crown and engaging in a monetary expansion has been foreclosed, this Keynesian pressure may be greater in the EMU. As the debt balloons, interest rates begin to increase and raise the cost of its refinancing. Both the higher stock of debt and higher interest rate

then increase (perhaps dramatically) the primary budget surplus that is necessary to sustain the debt-to-GNP ratio. Because the government finds itself in tough tax competition with its neighbors, the markets see that engineering the necessary increase in the primary surplus has become unfeasible. Interest rates on debt rollovers rise further, leading to a speculative attack on the government, which may have to declare a moratorium on paying any interest if it does not default outright.

So the concern of many European governments of losing fiscal control once the EMU ensues, leading to some modest effort to comply with the weak Maastricht limits on debt and deficits, is well founded. Simply moving from a weak system of exchange-rate pegs to full EMU will not necessarily reduce the risk *premia* in the interest rates of national government bonds. And the very low equilibrium debt levels of American state and municipal governments suggest that the Maastricht debt limits themselves are too high.

But the EMU may have the advantage (over a weakly pegged exchange-rate regime) of allowing *private* corporations to borrow without paying a steep risk premium. Under an EMU without currency risk per se, the default risk is more or less completely lodged with the national government. In an uncertainly pegged exchange-rate regime, by contrast, the threat of devaluation from speculative attacks generates currency risk that increases the costs of private and government borrowing.

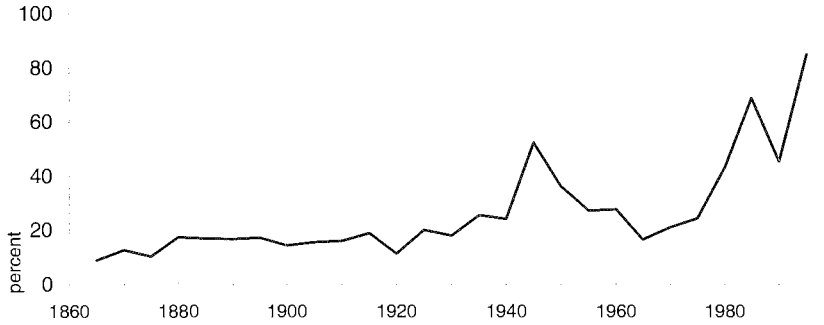
2.2 A fiscal program for sustaining the EMU

Implicit in the previous analysis, major fiscal adjustments would be necessary if Sweden opts for the EMU. Figure 6, courtesy of Mats Persson (1996), shows Swedish debt in a remarkably long historical perspective from 1865 to 1995. Except for a spike in the early 1940s associated with the dislocation of war, Swedish gross debt ranged from 10 to 20 percent of GNP until the early 1970s—a manageable level from the perspective of American state governments (see Table 2). But then the Swedish government, in common with industrial countries the world over, had a remarkable softening of its budget constraint in the early 1970s,[8] with debt reaching 40 percent of GDP

[8]Elsewhere I argue (McKinnon, 1996a) that this budget softening in the industrial countries was due to the collapse of the fixed-rate dollar standard in 1971.

in 1980, and then ratcheting up rapidly in the 1990s to approach 90 percent at the present time.

Figure 6. Swedish government debt 1865-1995 (percentage of GDP)



Source: Persson (1996).

This shift from low to high debt is quantitatively greater, and more rapid, than that in other OECD countries. Neither the level of Swedish debt nor its rate of change are compatible with Sweden entering the EMU in the first round planned for 1999. But other European countries also have had debt buildups which are uncomfortably high (Table 1).

So what should be the fiscal principles followed by European countries generally, but Sweden in particular, in preparing for the EMU?

First, a major fiscal consolidation, with the development of primary budget surpluses, to build down national debt levels is needed. By the standards of American states, even the permissible Maastricht debt level of 60 percent of GNP may not, after the EMU, be sustainable in the steady state. But a clear program for systematically working the debt down could have sufficiently favorable expectations effects to forestall a run on the government if other conditions, which are discussed later on, are satisfied.

Second, any such program must be sustained *after* the EMU. This raises the question of whether the Stability Pact, as proposed by Mr. Theo Waigel, the German Finance Minister, was not watered down too much in the Dublin Summit on December 13, 1996.

Waigel had earlier proposed that automatic fines be imposed on any member country whose budget deficit exceeded the Maastricht

limit of three percent of GDP unless the unlucky country had suffered a fall in GDP of two percent or more over the previous four quarters. Then it could pursue Keynesian counter-cyclical fiscal policy—free of sanctions and with possible budget deficits exceeding the three-percent rule.

At the Dublin summit, the Germans had to accept a compromise where the sanctions no longer are automatic if GDP only falls between 0.75 and 2.0 percent. Then, if the fiscal deficit exceeded three percent, the Council of Ministers would have to decide by majority vote whether the country in question was violating the Maastricht rules. In effect, the sanction was changed from being rules based and automatic to being discretionary and political. Nevertheless, as a rule, the presumption is that an errant country would be sanctioned.

Third, because of even greater tax competition within the EU after successful monetary union, the fiscal restraint—if it is to be sustainable—should come through expenditure cuts rather than tax increases. And since national government investment in infrastructure and education is an important part of competition with other European states, the bulk of the cuts would have to come in social welfare payments, which, anyway, are 60 to 70 percent of Swedish government spending.

Fourth, to minimize the possibility of a self-fulfilling speculative attack, the term structure of government debt should be lengthened.

On this last issue, Sweden appears to be doing much better than several other highly indebted European countries—particularly Italy. Despite the huge ballooning of debt in the 1990s, the average term to maturity of crown-denominated debt increased from 2.5 years in 1992 to 3.5 years in 1994 (Persson, 1996). The average term of German national debt is probably much higher because the *Bundesbank* successfully opposes *any* issues of short-term (less than one year) government debt.

But countries such as Sweden on the periphery, with higher nominal interest rates than in Germany, have a term-structure dilemma. If they intend to join the EMU in the future, after a successful fiscal consolidation (as previously discussed), their nominal interest rates should come down once, say, the Swedish government debt is converted from crowns to euros. But if the existing debt outstanding is long term, the government would benefit less from the post-EMU reduction in interest rates than if it had continually rolled over short-term debt.

Perhaps the best solution for a high-interest country such as Sweden, subject to self-fulfilling speculative attacks, is to proceed with lengthening the term structure of the existing debt denominated in crowns, but to do so by issuing callable bonds. Then if Sweden's entry into the EMU is successfully realized, the bonds can be called and converted into euros if a lower interest rate on euro-denominated assets prevails. To minimize the incremental cost of the call feature, the bond contract could limit conversion only to the case of refinancing in euros.

In summary, quite drastic fiscal consolidation must be taken by Sweden, and several other European countries, before joining the EMU. The creation of a politically independent, national-fiscal council—to set binding ceilings on current deficits and time lines on the building down of existing debt—could be the institutional embodiment of new government resolve to change old fiscal habits. The parallel idea would be that of an independent central bank, which is institutionally shielded from the immediate political pressures on today's government to conduct monetary policy with a high degree of autonomy.

Preparing for the EMU could be a useful catalyst to induce national governments to undertake fiscal reforms that are highly desirable anyway, particularly in protecting future generations. Indeed, this reform motive may be the strongest, if seldom made, economic argument for proceeding with a full-scale monetary union. The caveat is that the EU central government, now the proud owner of the new central bank, must be constrained somehow from abusing its new position as the preferred borrower in euros in the European-wide capital market (McKinnon, 1995). It would be tragic if the Commission's newly softened budget constraint led to a debt buildup like that of the U.S. federal government.

3. ERM II: exchange-rate arrangements for European countries outside the monetary union

Suppose an inner group of European countries succeeds in forming the EMU. Euros with reasonably stable purchasing power begin to circulate. For those EU countries not in the monetary union, perhaps only temporarily, the natural monetary anchor would be the exchange rate with the euro in a new ERM system (ERM II).

3. 1 An asymmetrical system

The clarity of purpose of ERM II would make it much easier to manage than the old ERM, where the ecu was a rather weak and seldom used monetary indicator, and where the old bilateral parity grid was overly cumbersome because each national central bank had become responsible for maintaining too many cross rates of exchange. Indeed, if a major purpose of the old ERM was to allow countries other than Germany to peg covertly to the German mark, implementing the bilateral parity grid could, and did, lead to inconsistencies with that objective (Pill, 1995a).

Instead, if each *out* (a European country not in the EMU) pegged its exchange rate unambiguously to the euro within, say, ±15 percent (which is the band width in the present ERM system), the whole constellation of exchange rates with other *outs* would be determined by triangular arbitrage in private markets. The range of exchange-rate variation between any pair of *outs* would be twice as wide (± 30 percent), which seems far too large. In that case, competitive depreciations could still pose serious problems.

Like the classical dollar standard, under ERM II, the conduct of monetary policy would be more purely asymmetrical. The European Central Bank (ECB) would formulate its monetary policy independently of the foreign exchanges. As discussed later on, the ECB should target the level (rather than the rate of change) of a producer price index (PPI) weighted across all the *ins* (countries in the EMU). Each *out* central bank would have the primary responsibility of bending its monetary policy toward maintaining its exchange rate with the euro, by unsterilized intervention if necessary. And, to honor its obligation to maintain a fixed exchange parity with the euro in the long run, the out-country's domestic credit expansion would still aim to stabilize the level of its producer price index (McKinnon, 1996b).

But the new euro standard would differ in some significant respects from the classical dollar standard, which functioned with exchange controls on capital account for most countries other than the U.S.

First, because of the single European act of 1986, most of the *outs,* including Sweden and Britain, would start off without exchange controls on capital account. (Less highly developed *outs* with a proclivity to inflate, such as those in eastern Europe—including Greece, could be excused from this obligation.) So in the short run, they would be

more vulnerable to self-fulfilling speculative attacks, as per the new crisis literature and to what Sweden actually suffered over 1990-1992.

Second, the *outs* would differ from the participants in the classical dollar standard insofar as they were aiming to converge to a common currency regime. Because they do not intend to inflate at a higher rate than those within the EMU, the *outs* would not avail themselves of the Bretton Woods' option of occasional controlled devaluations.
But how should they manage self-fulfilling attacks on their exchange rate? Can the rules of the game be established so that such speculative attacks, even when successful, are unlikely to fatally undermine the ERM II agreement itself?

3.2 Temporary suspensions of exchange parities: the restoration rule

The behavior of countries operating under the international gold standard before 1914 is instructive. In the face of a liquidity crisis, a country would sometimes resort to the use of gold devices, that is, it would raise the buying price for gold or interfere with its exportation. This amounted to a minor, albeit temporary, suspension of its traditional gold parity. In more major crises including wars, a few outright suspensions for some months or years occurred. But in the long run, the gold standard was very successful in having countries adhere to their traditional exchange parities while anchoring the common price level. In early 1914, exchange rates and wholesale prices were virtually the same as they had been in the late 1870s.

What gave the pre-1914 gold standard its long-run resilience? After any short-run crisis that forced the partial or complete suspension of a gold parity, the country in question was obliged to return to its traditional parity as soon as practicable. I dubbed this unwritten obligation of the classical gold standard the *restoration rule* (McKinnon, 1996b). Even during a currency crisis that undermined the government's ability to sustain convertibility in the near term, because of the restoration rule, longer-term exchange-rate expectations remained regressive regarding the country's traditional gold parity. Correspondingly, long-term interest rates showed little volatility by modern standards. And without significant financial risk, their levels also remained low: about 3 percent in the UK and 4 percent in the U.S.

The parallel for the case of the euro standard is quite clear. Each out country sets its long-run monetary policy to be consistent with maintaining a traditional exchange rate against the euro, which

amounts to having the same long-run rate of price inflation (optimally zero) in its producer price index as those in the EMU. The *out*-country's central bank also announces that it will normally adjust short-run monetary policy and intervene to keep its exchange rate within, say, ± 5 percent, where the central rate is calculated to be aligned to the two PPIs—a version of purchasing power parity. But faced with a massive speculative attack like Sweden faced in September 1992, euro convertibility would be temporarily suspended. In the face of a cyclical downturn, the government would not have to increase short-run interest rates exorbitantly to defend the currency.

But this is not the end of the story. Any suspension of convertibility would only be temporary. As soon as practicable after the speculative attack, the *out*-country's central bank would begin nudging its exchange rate back up toward its traditional euro parity. France provides the best modern example of a country following the restoration rule *de facto*. The massive speculative attack against the franc in September 1993 forced a virtual suspension of the ERM bilateral parity grid in which the official exchange-rate margins were made much wider. Yet, subsequently, the franc-mark exchange rate quickly returned close to its traditional level (Figure 3). Compared to the 1980s, French long-term interest rates closely tracked German ones in the 1990s (Figure 5a).

Allowing for temporary crisis-based suspensions of convertibility, followed by (gradual) restoration of the traditional parity, poses problems for speculators. They have no clear point at which to get out of their contract (short in the *out*-country's currency) to realize speculative profits. In contrast, a more or less discrete devaluation in response to a speculative attack, with no attempt at restoration, makes it easy for speculators to get out safely. Paradoxically, even though speculators know that temporary suspensions of convertibility are possible, speculative attacks may well be less likely if they also know in advance that the restoration rule is in place.

So, in response to a speculative attack, temporary parity suspension with some depreciation, coupled with a restoration rule, would have substantial advantages:

- In the short run, the *out* government is not forced to increase interest rates sharply in a cyclical downturn.
- In the medium run when the errant exchange rate is nudged back up, the problem of accidental competitive devaluation is mitigated.

- In the long run, the *out*-country's central bank can keep the domestic price level consistent with eventually joining the EMU at its traditional euro exchange parity.

4. ERM III: A politically incorrect substitute for the EMU

Suppose the EMU fails to materialize. Either European countries cannot agree to waive the Maastricht conditions, or for other reasons their political consensus favoring the EMU dissolves. Even so, the need for exchange stability within the EU would still be paramount, and some new agreement to restrict the range of exchange-rate variation would be necessary. Let us call any such new exchange-rate regime ERM III. My preferred version of ERM III differs from the old ERM, which virtually fell apart in the early 1990s although it still formally exists. ERM III would also differ from ERM II, which (as described previously) is designed to coexist with, rather than substitute for, the EMU.

To fix ideas on ERM III, let us first diagnose the problems and contradictions within the old ERM—to establish a basis for a new, improved version. Since its inception in 1979, the old ERM was, in fact, a key currency system based on the German mark—a greater German mark area. For good historical reasons, Germany provided the monetary anchor for the group. But this inherent economic asymmetry between Germany and other European countries could not be formally recognized politically: all member countries were to have symmetrical rights and obligations, at least *pro forma*. This contradiction between economic reality and political convenience caused design flaws in the institutions governing the old ERM, flaws that made it unnecessarily vulnerable to speculative attack. The problematic design of parity commitments for exchange rates, sanctions on peripheral countries against using exchange controls on flows of financial capital, and the lack of Community accountability by the *Bundesbank*, all arose because of the false attempt to preserve a superficial political symmetry among EU countries. Let us consider the exchange-rate issue first.

4.1 A bilateral parity grid?

To achieve seeming political symmetry, Germany's important anchoring role in the old ERM was (is) not properly reflected in its parity regime. Although ERM countries still formally define their central rates against the ecu,[9] for defending band limits, each ERM member focuses on its corresponding bilateral central rates with every other member. At least before the upheavals of August 1993 forced a dramatic widening of the bands to a meaningless ± 15 percent, European central banks had defended the original ± 2.25 percent bands around all bilateral parities: the so-called bilateral parity grid. Whenever any bilateral band was at full stretch, the stronger currency country lent to the weaker to finance the official intervention. Rather than using the German mark *directly* as the *numéraire* currency, official interventions focused on preserving the bilateral parity grid.

More than just a curiosity, this disjointness between the symmetry of the ERM parity regime and Germany's asymmetrical role in providing the anchor currency was a major reason (although not the only one) why the exchange parities proved so vulnerable to speculative attack. Pill (1995a) showed that adding new members to the pre-August 1993 bilateral parity grid increasingly constrained the effective range of exchange-rate variation to less than the formally permitted variation of ±2.25 percent. In Pill's words, the effective band became increasingly more restricted and narrower than the notional band.

In particular, any country that wanted to peg directly to the German mark as the best and most convenient anchor for its own monetary policy continually found itself being bound by its bilateral obligations to member countries other than Germany. Pill cites the example of the peseta/sterling rate being a constraint on British monetary policy in the summer of 1992 because of the unusual strength (false, as it turns out) of the Spanish currency in this period. As membership increases, the core countries become more vulnerable

[9]A weighted basket of European currencies called the ecu (European currency unit) is the formal *numéraire* for defining par values. The basket contains major and minor European currencies, some of which were subject to capital controls. Initially, each member country was supposed to intervene when its own currency's market rate diverged too much from its central ecu rate—according to an ERM divergence indicator. This proved awkward because intervention did not take place with a basket of currencies. To enforce the band limits, governments preferred to hold and use major currencies like the mark with deep capital markets and no convertibility restrictions. Thus the divergence indicator quickly fell into disuse.

to shocks on the periphery and to peculiar gyrations in minor currencies.

Another way of appraising the bilateral parity grid is to note how the number of potential official interventions rises much faster than the increase in new members. Suppose there are N member countries in the ERM. Then if each pair must maintain a bilateral parity (with a band around it), the total number of pairs is ½ N(N-1).

As the ERM membership increases, the number of potential official interventions increases by the order of N^2! This helps to explain why continual, and sometimes frenetic, official intervention was necessary to maintain the ERM parity grid before its seeming demise in August 1993. Even in times of relative calm, European central bankers conferred daily to identify which currencies were strong or weak, and to prepare to intervene in a multitude of different currencies—or to extend credit one way or another.

In addition, the formal symmetry in the ERM rules, where Germany's foreign exchange-rate obligations were treated the same as any other country's, posed a potential threat to Germany's monetary autonomy. The rules of the bilateral parity grid also required the strong-currency central bank to lend freely to a weak-currency central bank. If massive amounts of German mark claims on the *Bundesbank* are sold to buy weak European currencies in some foreign exchange crisis, Germany's ability to provide a stable anchor for the system is impaired if not unhinged altogether.

4.2. One national currency as *numéraire*?

Although not politically correct, a more economically efficient method of setting exchange parities would be to recognize explicitly that ERM III was a German-mark zone. Other than Germany itself, each member country would then be responsible for one, and only one, exchange parity: that against the German mark. So any exchange interventions and monetary adjustment to support its parity would be the responsibility of the country in question. No matter how large N became, there would be just N-1 official parities. Each national currency could vary over the full range of its formal band with the German mark, say ± 2.25 percent (or something narrower depending on how the new ERM III was negotiated), without being haphazardly restricted by the exchange interventions of other countries. New members could be added without complicating life for the old ones,

that is, without cross effects from interventions against the German mark in any one market to neighboring ones. So ERM III would be easily expandable to include more countries on the periphery.

Asymmetrically, as the nth country without an official parity obligation under ERM III, Germany would have the degree of monetary freedom necessary to anchor the price level. Because it was no longer obligated to provide, sometimes massive, balance-of-payments support to other members, it would have more secure control over the German money supply. But the important question of how, under ERM III, Germany would be accountable to the other members remains to be discussed.

If this politically incorrect format were adopted, ERM III would then look similar to the dollar standard of the 1950s and 1960s. Under Bretton Woods, Article IV was interpreted to have all participating countries (other than the U.S.) peg to the dollar and bend their monetary policies and official interventions to this end. The U.S. Federal Reserve System was then left with sufficient autonomy to determine the common price level and remain passive to the exchange-rate and balance-of-payment objectives of the other members (McKinnon, 1996b).

Surprisingly, the inner core of European countries may already have informally adopted this old Bretton Woods' format. Pill (1995a) interprets the events of August 1993 as informally establishing an exchange-rate regime consistent with the ideal of ERM III as a German-mark zone. By making the new official bands in the bilateral parity grid extremely wide, the old ERM preserved political symmetry. But, within the stable inner core, these wider bands no longer were binding. Since 1993, France, Belgium, Denmark, and the Netherlands and Austria peg freely to the German mark well within the old range of ±2.25 percent or less. Thus Germany can better manage its monetary policy without being so disturbed by monetary events on the periphery. Turmoil in the foreign-exchange markets of other countries—Britain, Greece, Italy, Portugal, Spain, and newer members—no longer interferes with the inner core operating the regime as a German mark zone. So a nascent ERM III already exists!

4.3. Reinterpreting the 1992-1993 turmoil in the ERM

The new wisdom on self-fulfilling speculative attacks is insightful because it is time consistent. Private expectations are aligned with what

governments are likely to do over the course of the business cycle. But this new view is too pessimistic about the prospects for stabilizing exchange rates among national monies in separate circulation, that is, it is too pessimistic about the prospects for either ERM II or ERM III. I argue that writers in this new-crisis literature are overreacting to the European exchange-rate mayhem of the early 1990s, mayhem that was far more exceptional than the new wisdom would suggest. The cyclical downturns that triggered speculative attacks roiling the old ERM in the early 1990s were not independent random events.

First, the boom-and-bust cycles in Britain, Spain, and Sweden (a shadow ERM member) and to a lesser extent Italy and France—from the mid-1980s—to the early 1990s resulted from attempting to disinflate by using the exchange rate as the nominal anchor. The premature abolition of capital controls in 1986-1989, while trying to disinflate, led to excessive capital inflows, losses of monetary control, and overvalued exchange rates.

Second, the bust part of these cycles was greatly aggravated in 1990-1994 by Germany's fiscal upheaval from the costs of reunification. The consequent deflationary impact of German fiscal deficits on other European countries was unduly magnified by Germany's asymmetrical position as the monetary anchor in the ERM and by the *Bundesbank's* the lack of accountability for deflationary pressure in other countries.

The unlucky juxtaposition of these two parallel sequences of financial events, with the very awkward specification of the bilateral parity grid as previously described, culminated in the monetary crises of the early 1990s and the temporary breakdown of the old ERM. But similar problems in the future could be mitigated by a properly redesigned ERM III, once these new arrangements accurately reflect Germany's asymmetrical economic position at the center of the new system.

But first let us consider each of these problems in more depth.

4.4. Boom and bust with an exchange-rate anchor: the role of capital controls on the periphery

While still facing some residual inflation by the mid 1980s, Britain, France, Italy, and Spain opted to peg their currencies to the German mark (imperfectly by means of the bilateral parity grid) as a nominal anchor for lending credibility to their anti-inflationary policies. Swe-

den was not part of the bilateral parity grid but it did use a basket peg dominated by the German mark—as previously discussed.

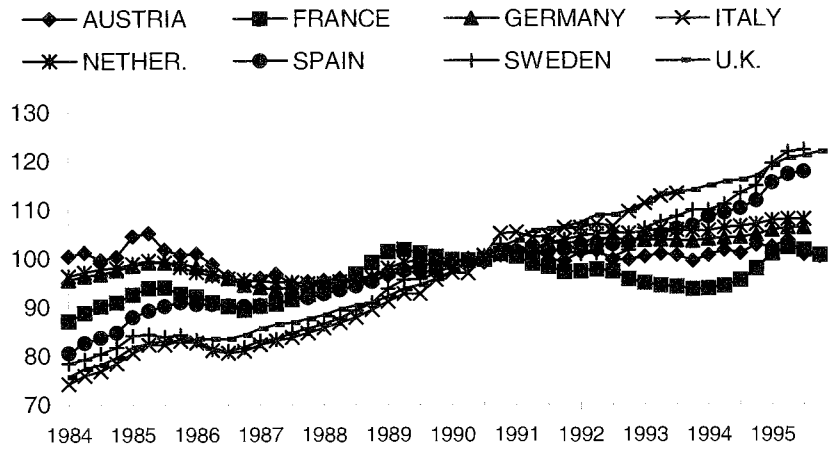
Because they had experienced higher inflation than in Germany, with occasional devaluations against the mark in the 1980s (Figures 7 and 3), all had nominal interest rates that were substantially higher than those in Germany (Figure 5b). But by 1987, new commitments to peg their exchange rates had become firm, at least in the short and medium terms, even though interest rates remained misaligned. (Not even minor exchange-rate adjustments occurred between 1987 and the September crisis of 1992.) With little or no possibility of devaluation in the short run, speculators found the higher nominal interest rates in all five countries very attractive. Inflows of international financial capital became substantial: what I call the *capital inflow* effect.

To prevent their currencies from appreciating in the face of actual or incipient capital inflows in the late 1980s, the five monetary authorities had to be more expansionary than they would have liked. So both internal and external credit constraints were relaxed, with inflationary consequences[10]. Figure 7 shows that the rates of inflation in the PPIs of all five countries continued to be higher than that of Germany's from 1984 through 1991, leading to some cumulative real overvaluation of their currencies (Figure 8a).

Depending on the degree of credibility about their exchange-rate pegs, the five countries' interest differentials with Germany narrowed after pegging, but the differentials still remained significant as late as 1992 (Figure 5b). Was this apparent lack of credibility in the (long-run) prospects for their exchange-rate pegs responsible for the inflationary booms?

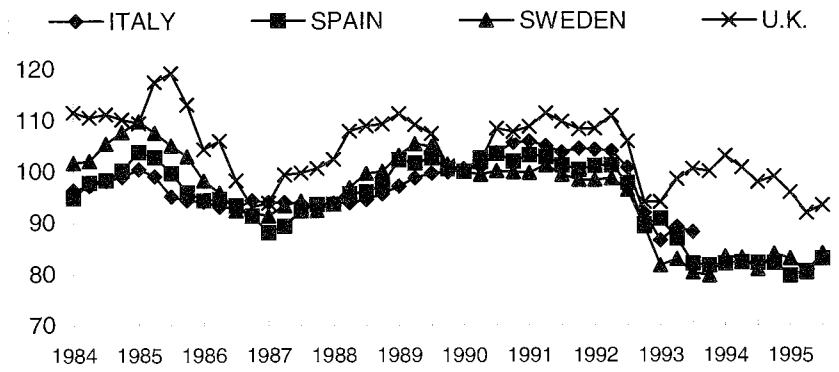
[10]This over-borrowing syndrome can well be aggravated if disinflation is part and parcel of a more general program of economic liberalization, as in the British case (McKinnon and Pill, 1996).

Figure 7. Producer prices, 1990 = 100, (quarterly observations)



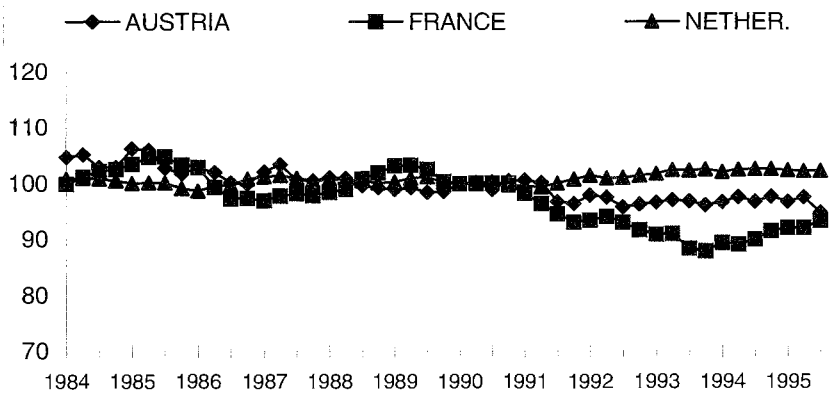
Source: IMF International Financial Statistics CD ROM, Mar. 1996, line 63.

Figure 8a. Real exchange rates vs German mark, 1990 Q1 = 100 (quarterly observations)



Source: IMF International Financial Statistics CD ROM, Mar. 1996, lines rf, 63.
Note: Bilateral nominal exchange rates deflated by producer-price indices.

Figure 8b. Real exchange rates vs German mark, 1990 Q1 = 100 (quarterly observations)



Source: IMF International Financial Statistics CD ROM, Mar. 1996, lines rf, 63.
Note: Bilateral nominal exchange rates deflated by producer-price indices.

Surprisingly, no. Suppose that among our five countries, country A's nominal interest rates had fallen rapidly to the German level because of full credibility of its exchange-rate peg after 1986. A's problem of an excessively stimulatory macroeconomic policy would still remain. Although A's nominal interest rates were now the same as Germany's, its ongoing residual inflation, as aggravated by (temporary) capital inflows, would imply that its real interest rate would fall well below that prevailing in Germany. This *real interest rate* effect led to the famous *Walters Critique* of disinflating with an exchange-rate anchor and no capital controls. Alan Walters (1986 and 1990) criticized Chancellor Nigel Lawson for his policy of shadowing the German mark, beginning in 1986, on just these grounds. Walters focused on the real interest-rate effect (for a more formal analysis of the *Walters Critique*, see Miller and Sutherland, 1991) and did not recognize the inflationary impact of the capital flows (Pill, 1995b).

Contrary to what is commonly thought, the credibility of the exchange-rate pegs to the German mark was not the key issue in generating continued inflationary pressure. True, if interest rates did not converge quickly, then the capital-inflow effect would undermine domestic monetary policy in the short run. But if interest rates converged immediately because of the peg's high credibility, then the real interest-rate effect (the *Walters Critique*) could still lead to an inflation-

ary boom. In the late 1980s, some combination of the capital-inflow effect and the real-interest-rate effects was operative in all five countries. This prevented inflation in their PPIs from converging to the German level, as Figure 7 shows.

Because their exchange rates were pegged in the face of this ongoing inflation, the profitability of investing in tradable goods production began to look increasingly unattractive after 1987. So in the late 1980s, the expanded credit flows went into nontradables such as residential and commercial real estate and in some cases, such as Britain's, fueled a substantial increase in expenditures for personal consumption.

The subsequent collapse in real estate prices (the bust part of the cycle) was aggravated by threatened bank insolvencies in 1990-1993 in Sweden, Spain, and France. Also on the bust part of this cycle, the burgeoning unemployment and fiscal deficits in these countries sparked the speculative attacks on all their currencies, as per the new crisis literature.

Courtesy of the OECD, the output gaps (deviations from trend GNP growth) plotted in Figure 1a, shows rather dramatically this boom-and-bust cycle for all five of our peripheral countries, peaking about 1989-90, with the nadir of the bust in real output in 1993.

In contrast, the monetarily integrated inner core—Austria, Germany and The Netherlands, where disinflation was not necessary—showed much less cyclical variation over this period (Figure 1b).

The differential in cyclical variation in the unemployment rates of these two groups of countries (Figures 2a and 2b) from the late 1980s to the early 1990s tells much the same story.

What have we learned? In the absence of controls on capital inflows, the dangers of disinflating, by relying on the exchange rate as an nominal anchor, are now well understood.

Only when domestic rates of inflation and nominal interest rates are more or less aligned with those prevailing in the putative anchor country or group, is it safe to enter into a fairly tight exchange-rate agreement without protection from international financial flows on capital account.

Conversely, if a country chooses to disinflate with the help of an exchange-rate anchor, it should also maintain controls on flows of liquid financial capital. Under the first Mitterrand government, in 1981-1984, France leaned heavily on its peg to the German mark and

controls on capital account to disinflate and successfully discipline a potentially high-spending government into fiscal and monetary moderation. But France experienced more trouble in the late 1980s and early 1990s after capital controls were removed.

What are the lessons here? Once our putative ERM III is explicitly recognized as a German-mark zone, the rules of the game should permit peripheral countries to impose capital controls, particularly on inflows of hot money, when circumstances warrant. Attempted disinflation, using the exchange rate as the nominal anchor, is one of those circumstances. More generally, entering into a hard exchange-rate commitment with large cross-country differences in long-term nominal interest rates is perilous, particularly in the absence of capital controls.

In contrast, the center country, Germany, could not impose exchange controls without destroying the underlying monetary mechanism. The German mark can only fulfill its role as key currency, that is, anchor and *numéraire*, if other countries can freely acquire exchange reserves in German marks and draw them down as necessary. They then become responsible for intervening to maintain the exchange-rate regime, whereas the *Bundesbank* retains its independence for pegging the common price level.

This asymmetry in the rules of the game, which I am proposing for ERM III, is similar to that prevailing under the classical dollar standard. At the end of World War II, high inflation, either open or repressed, was rampant among all western European countries that had participated in the war. Under the aegis of the Marshall Plan, they had all managed to get inflation more or less under control by 1950, with the formation of the European Payments Union, which depended heavily on each country taking responsibility for fixing its currency to the U.S. dollar as the external nominal anchor (McKinnon, 1996b).

Similarly, with heavy postwar inflation in Japan, stabilization under the Dodge Plan, in 1949, was built around fixing the yen at 360 to the dollar. But in all these successful postwar disinflations, the countries involved—other than the U.S.—maintained strict controls on capital account, although they did liberalize on current account. The U.S. Federal Reserve System was left with the freedom of action necessary to peg the common price level, and foreigners could freely hold dollar assets, or borrow in the New York capital market, without restraint.

But the rules for our putative ERM III differ in two important respects from those of the classical dollar standard:

1. After any crisis-led suspension of a peripheral country's exchange parity (with the German mark), the restoration rule would apply. As described in the analysis of ERM II, each peripheral country would aim for virtual exchange stability with the center. If a speculative attack forced suspension of its parity commitment, domestic monetary policy would aim to nudge the exchange rate back to its traditional parity with the German mark as soon as practicable.
2. In determining its price-level objective, the *Bundesbank* would be more accountable to the stable inner core of countries—the Netherlands, Austria, and possibly now France—which have succeeded in integrating their monetary policies with Germany's.

4.5. The accountability problem

Reconciling community accountability with the need for an independent nominal anchor is a subtle matter that cannot be fully explored here. But the main issue can be quickly sketched. If Germany, at the center of our putative ERM III, experiences a major financial shock, how broadly or narrowly should it frame its price-level objective? The fiscal shock from German reunification and increased German interest rates in 1990-1992, which contributed to the rise of the German mark with the exchange-rate mayhem of 1992-1993, is an interesting, if extreme, example.

Because of reunification's clouding of the German national income accounts, the exact size of the fiscal shock is not easy to interpret. Both official revenues and expenditures increased sharply, but part of this was attributable to the increased size of the unified German economy. In 1989, the former West Germany had an overall fiscal deficit of only DM 3.6 billion. By 1992, the consolidated fiscal deficit of West and East had risen to DM 73.1 billion, or just 2.8 percent of GDP. This does not seem like an overwhelming number. The reason may be that some of the expenditures were off-budget.

In addition, private investment expenditures in East Germany burgeoned. Consequently, a better measure of this overall reunification shock was the sharp deterioration in the German current account—from a surplus of USD 57.3 billion in 1989—to a deficit of USD 21.6 billion in 1992. This swing of USD 79 billion (DM 118 billion) over three years was significantly bigger than the deterioration in the government's official budgetary position.

This substantial expenditure shock was transmitted to the current account of the balance of payments remarkably fast so that Germany changed overnight from being a big capital exporter to being a net borrower. Interest rates rose in Germany to attract capital to the center. And this interest-rate effect was amplified by the *Bundesbank's* tight money policy designed to prevent inflation by preventing output in Germany rising above its natural level. This increase in interest rates had a depressing effect on other European countries such as France and Sweden. But their expanded net exports to Germany was expansionary and took some of the pressure off their currencies in the foreign-exchange market. Thus it is important not to exaggerate the effects of the German fiscal shock *per se.*

Remember that the boom-and-bust cycle in the peripheral EMS countries had been set in motion *before* 1990, that is, before the costs of German reunification had become apparent. So the fiscal upheaval in Germany was not the sole cause, and perhaps not even the main cause of the breakdown in the old ERM mechanism in 1992-1993 and the cyclical downturns in the peripheral countries. That said, however, Germany's asymmetrical monetary position made the old ERM more vulnerable to fiscal shocks that originated in Germany than we would like to see in any reformed system.

The problem can be illustrated by considering the plight of France when the *Bundesbank* was following its extremely tight monetary policy in the early 1990s. Figure 7 shows the French price level (PPI) falling at about 2 percent per year from 1991 through to 1994, while the German PPI was quite stable. Moreover, after 1990, France had succeeded quite well in integrating its monetary policy with that of Germany. French long-term interest rates had come down to less than one percentage point above Germany's (Figure 5a). More remarkably, after having been forced to more or less suspend its exchange parity in the turmoil of August 1993, France appears to have followed the restoration rule, suggested in Section 3.2. The franc has been nudged up against the German mark. So at 2.95 francs/German mark in April 1996, it is very close to where it started before the 1993 suspension (Figure 3).

If the *Bundesbank* had considered France to be part of the ERM's stable inner core, then it would not have ignored the fall in the French price level from 1991-1994. Given that France's economic size in the inner core approaches that of Germany's, German monetary policy should have been eased to the point where the combined

French-German PPI (along with smaller core countries) was fairly stable. Then the economic downturn, in France and in other European countries, would not have been so severe, and the principle of targeting a stable price level would have been preserved.

More generally, a common price-level objective should be defined for internationally tradable goods within the core group as a whole, rather than just for Germany in particular. Because it is consistent with the mutual commitment to fixed nominal-exchange rates, zero inflation in a common-producer price index is the natural target for a common monetary policy in the core countries (McKinnon and Ohno 1989; Ohno, 1993).[11] Here, German producer prices would be given no more weight than Germany's relative GDP would warrant. So the *Bundesbank* would be bound to a price-level rule that would be at least partly external to Germany. But this would be an advantage to the German monetary authorities.

The *Bundesbank* could more easily face down German trade unions if it had to maintain an externally sanctioned price-level objective that could not be easily modified by the *Bundesbank*. The problem of time inconsistency in German monetary policy would be mitigated by this external constraint on the *Bundesbank's* discretionary power.

In addition, the core central banks eventually should coordinate their monetary policies, mainly domestic credit expansion, so as to achieve this price level objective for the EU as a whole. Although the monies of the core countries would continue to circulate separately within narrow exchange margins, the collective money supply of the core group could be a helpful intermediate monetary indicator for targeting the common producer price level. The core central banks would act in concert to determine their domestic credit expansions with a more or less common strategy for adjusting short-term interest rates. Minor adjustments in relative interest rates would be assigned to stabilize exchange rates, whereas aggregate credit expansion would be assigned to stabilize the common producer price index, as explained in more detail in McKinnon (1996b).

[11]Trying to align price indices that contain the prices of nontradables, such as national CPIs or GDP deflators, would not be consistent with fixed nominal exchange rates (McKinnon, 1996b).

5. Concluding note

Once ERM III was successfully launched in a situation when the EMU does not materialize, ever closer coordination among the monetary policies of the core countries, with more countries joining the core, would be the goal. Sweden's high nominal interest rates, reflecting its recent history of devaluations, would likely preclude it from being part of the core group at the beginning. But a determined effort to integrate Sweden's monetary policy with that of Germany's, much like the remarkable integration achieved by Austria and the Netherlands for more than a decade, and for France since 1990, would eventually align long-term interest rates on crown assets with those of the core countries. With a stable crown/mark exchange rate, Sweden would then have joined the core.

On the other hand, if the EMU successfully materializes, this Austria-Netherlands approach to monetary integration with the center, while still formally retaining separate national monies, also seems like a good interim target for Sweden at the outset of ERM II. Because Sweden would still require some years to get its public finances under control and lower long-term interest rates before joining the EMU, such a gradualist approach to monetary integration would be appropriate—not only for Sweden but for all the *out* countries part of ERM II.

When any *out* country tries to integrate monetarily with the center to achieve exchange stability, the big danger is potential over borrowing, that is, untoward inflows of hot money. Here it is desirable for a reformed ERM II, or a reformed ERM III, to permit prudential controls on banks and other domestic financial institutions in the *out* countries that strictly limit their foreign exchange risk exposure. These would be designed to restrain unusual short-term inflows of financial capital without significantly affecting direct investment or normal trade credit.

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