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CENTER FOR INTERNATIONAL AND DEVELOPMENT
ECONOMICS RESEARCH
Working Paper No. C95-049

Sterling in Decline Again: The 1931 and 1992 Crises Compared

Barry Eichengreen and Chang-Tai Hsieh
University of California, Berkeley

June 1995

Department of Economics

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Key words: sterling, devaluation

JEL Classification: F3, N1

Abstract

The parallels between the 1931, 1949, 1967 and 1992 sterling crises have not gone unremarked upon. But the 1992 episode, understandably in light of its recent pedigree, has not been the subject of the same kind of comparative analysis as the United Kingdom's three earlier 20th century balance-of-payments crisis. A systematic comparison can highlight features common to currency crises and identify factors that cause crises occurring at different times to evolve in different ways. With these goals in mind, we explore in this paper similarities and differences between the first and last of these episodes: the United Kingdom's 1931 and 1992 currency crises.

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The 1931 and 1992 Crises Compared¹

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I. Introduction

The parallels between the 1931, 1949, 1967 and 1992 sterling crises have not gone unremarked upon. But the 1992 episode, understandably in light of its recent pedigree, has not been the subject of the same kind of comparative analysis as the United Kingdom's three earlier 20th century balance-of-payments crises.² A systematic comparison can highlight features common to currency crises and identify factors that cause crises occurring at different times to evolve in different ways. With these goals in mind, we explore in this paper similarities and differences between the first and last of these episodes: the United Kingdom's 1931 and 1992 currency crises.

The similarities are remarkable. In both 1931 and 1992 the British Government was criticized for having brought the crisis upon itself by stabilizing sterling against foreign currencies at an overvalued rate. In both cases the weakness of the Government was blamed for preventing it from retrenching

¹ Forthcoming in a volume on European financial integration in current and historical perspective, edited by Richard Tilly and Paul Welfens.

² The similarities between the three earlier crises prompted one of us, together with Sir Alec Cairncross, to write a book on the subject (Cairncross and Eichengreen 1983).

macroeconomically with sufficient vigor to reassure the markets. In both 1931 and 1992 a frail economy suffering high levels of unemployment raised questions in the minds of observers about the Government's ability and willingness to stay the course. In both cases central bank officials worried that discount rate increases would be interpreted by the markets as a sign of weakness and hesitated to use interest rates to fend off speculative attacks.

The similarities were not limited to Britain. Both crises occurred against the backdrop of financial instability on the European Continent: banking and balance of payments crises in Austria and Germany in 1931, banking crises in the Nordic countries and Italy's balance-of-payments problems in 1992. In both instances international political tensions hindered efforts to mobilize foreign support. In both cases the actual or prospective defection of other countries from cooperative arrangements (in 1931 Austria and Germany's suspension of the free capital mobility that was the hallmark of the gold standard, in 1992 Denmark's refusal to ratify the Maastricht Treaty and the possibility that France might follow suit) cast doubt upon the international solidarity that British officials hoped might be a source of sterling's support.

A particularly striking parallel is that in neither 1931 nor 1992 was the danger that sterling might be devalued recognized significantly before the fact. In both cases Cassandras offered warnings. In both cases observers with 20-20 hindsight suggested that danger signals had been evident for years. But in neither instance did market participants clearly anticipate the severity of the crisis until it

was upon them. In both instances, market measures of devaluation expectations remained negligible until a couple of months before the event. In 1931 it took the May Report on the budget and the German financial crisis in July to alert current traders of a significant probability that sterling would be devalued. In 1992 the analogous events were the Danish referendum on the Maastricht Treaty in June and the lira's difficulties in August.

None of this is to deny the existence of important differences between the two episodes. Whereas the British economy was continuing to contract in the summer of 1931, by the summer of 1992 the economy was in recovery. In 1931 international economic conditions were unpropitious; the world was in its deepest depression of modern times, and international trade was collapsing. In 1992, macroeconomic conditions were mixed: much of Europe was in recession, but the U.S. economy was expanding, and international trade was continuing to rise. These differences raise the question of what can be learned from a comparison of the two crises. It is to this subject that the following sections turn.

Section II begins by reviewing the context for the 1931 and 1992 crises. Section III focuses on four parallels: the overvaluation problem, unemployment, the political situation, and the Bank of England's reticence to use its discount rate. Section IV presents a systematic evaluation of market expectations of devaluation and their determinants. The conclusion is that slowly evolving domestic variables like the unemployment rate, the real exchange rate and the trade balance cannot explain the market's erratic changes of sentiment. This points to the singular

importance of international economic and political factors -- the German crisis in 1931, and the Danish and French referenda on the Maastricht Treaty in 1992 -- for explaining the timing of events.

II. Background

The context of the 1931 crisis was the Great Depression and financial upheavals it created on the European Continent. Sterling's weakness had already created difficulties for the Bank of England on several occasions since the currency had been restored to the gold standard in April 1925. The 1926 coal strike had disrupted the flow of British exports. In 1927 financial capital began to flow back from London to Paris in response to the stabilization of the franc. Both events caused the pound to weaken. Reductions in U.S. discount rates, undertaken to support sterling, helped to contain the pressure. But fears for the currency's stability were rekindled by reserve losses in 1928, reflecting the Bank of France's conversion of its sterling balances into gold and the flow of capital to New York to finance the Wall Street boom. At the beginning of 1929 the Bank of England responded by raising its discount rate, and controls were imposed on new foreign issues on the London capital market. The British authorities managed to hold sterling just above the gold export point until the Wall Street Crash relieved the pressure by occasioning a reduction in world interest rates. A year of relative calm followed.

Earlier difficulties paled by comparison with those which developed over the

spring and summer of 1931. These reflected the impact of the Depression on the British economy. The first year of the slump (July 1929-July 1930) saw a doubling in the number of workers registered as unemployed. The budget of the combined public authorities swung from surplus to deficit, with much of that deterioration attributable to increased expenditures on unemployment insurance outlays. Falling interest rates cut Britain's earnings from overseas investment, while the contraction of trade reduced her income from shipping and financial services rendered to foreigners. The country's favorable invisible trade balance deteriorated by more than £130 million between 1929 and 1931.³ While market participants did not possess precise estimates of the magnitude of these developments, they could not help but be aware of the trend.

The Bank of England experienced renewed reserve losses starting in May of 1930. Both the Bank of France and the Federal Reserve Bank of New York intervened in its support, purchasing sterling on the open market. The concern of British officials was heightened in December when the gold reserve fell below £150 million, the minimum regarded as prudent. By early 1931 reserve losses had begun to attract press commentary. The Prime Minister, in a February meeting of his Economic Advisory Council, raised the question of whether sterling might be toppled by a speculative attack. Montagu Norman, the Governor of the Bank of England, warned the Committee of Treasury in March that this was a real

³ See Feinstein (1972), p.84. Moggridge (1970) emphasizes the role of the invisibles balance in setting the stage for the 1931 sterling crisis.

possibility.

One shock after another then drove nails into the coffin of the sterling parity. In May the Austrian banking crisis, ignited by the announcement by the Credit-Anstalt, the country's largest bank, that it had experienced large losses, prompted capital flight and forced a bank holiday which rendered some £5 million of British deposits in Vienna illiquid. In little more than a month, the banking crisis spilled over to Germany, freezing some £70 million of German debts to British banks and forcing German investors to repatriate their London funds.⁴ On July 13th, the same day the *Darmstaedter und Nationalbank*, one of Germany's largest, failed to open its doors, the Report of the Macmillan Committee was released; the committee, appointed to consider the connections between industry and trade but increasingly concerned to identify remedies for the Depression, issued a report weighed down by addenda and reservations, raising questions in investors' minds about how the government would respond to the slump. This led on July 15th to a cent-and-a-half drop in sterling, causing the exchange rate to fall below the gold point against most major currencies, in one of "the most spectacular movements in foreign exchanges since currencies were stabilized after the war...a break reaching almost panic proportions."⁵ Although the currency recovered thereafter, the failure of the participants in seven-power conference on German reparations in the fourth week of July to agree to extend aid to that country deepened doubts that

⁴ Morton (1943), p.31.

⁵ Wall Street Journal (16 July 1931), p.6.

Germany's financial crisis would be resolved and was taken by traders as an additional reason to push sterling down. On August 1st another government report, that of the Committee on National Expenditure (or the May Committee, after its chairman, Sir George May), forecast gaping budget deficits and signalled that hard political choices would be needed to eliminate them.

These choices the Labour Government that had assumed office in 1929 proved unable to take. Foreign banks hesitated to extend credits, given the Government's failure to demonstrate the resolve needed to redress the budgetary problem. Inability to break this deadlock led the Government to resign on August 23rd to be replaced by a National Government including ministers from all of the major parties. Domestically, the new Government attempted, with little success, to hammer out a fiscal compromise. Internationally, it obtained fresh credits in Paris and New York, although it was not clear whether this success could be repeated. Meanwhile, reserves continued to drain away. Unrest in the ranks of the navy, provoked by public sector pay cuts, was played in the press as a mutiny and could not have reassured investors about the longevity of the Cabinet.⁶ By mid-September reserves had reached the point of exhaustion, and sterling's convertibility was suspended over the weekend of September 19th.

The 1992 crisis took place against the backdrop of turmoil affecting foreign exchange markets throughout Europe. In addition to sterling, seven other ERM currencies and three Nordic currencies which were shadowing the ERM were

⁶ Mowat (1955), p.403.

attacked by foreign exchange traders. All but the French franc, Danish krone and Belgian franc were ultimately devalued.

Britain had been pegging sterling to the EMS currencies since 1987, before formally joining the ERM in October 1990. A recession commenced soon thereafter, with British GDP declining by 2.4 per cent in 1991. Meanwhile, the member states of the European Community reached agreement on the provisions of the Maastricht Treaty. The treaty sketched a blueprint for the transition to monetary union, and its protocol stipulated a set of macroeconomic conditions (so-called "convergence criteria") that countries would have to meet in order to qualify for participation. These criteria included targets for debt and deficit ratios, an inflation threshold, and the requirement that countries hold their exchange rates within their normal ERM bands for at least two years prior to joining the monetary union. They provided obvious incentives for inflation-prone countries like Britain and Italy to reduce their inflation rates and budget deficits. Investors poured large sums into their bonds in anticipation of the capital gains that would accrue once these countries succeeded in reducing inflation.⁷

The prospects for monetary union were jolted by the Danish referendum, which failed to ratify the Maastricht Treaty by a narrow margin. If other countries holding referenda also failed to ratify the treaty, there might be no monetary union and no incentive for inflation-prone countries to disinflate. Questions consequently

⁷ The requirement that such countries refrain from devaluing their currencies for at least two years prior to joining the monetary union was widely perceived as protection against exchange risk.

arose in the minds of investors about the prospective stability of currencies like the lira and the pound.⁸ The strain intensified when the German Bundesbank raised its discount rate in July. Figures released early that month showed that M3, the German central bank's main indicator of money growth, had increased by 9 per cent in the first half of the year, well in excess of the target range. The Belgian, Italian and Spanish central banks quickly raised their interest rates in response to the Bundesbank's move, but the Bank of England did not. The pressure on sterling mounted as polls were released indicating that French ratification of the Maastricht Treaty in the country's September referendum was not assured.

Sterling remained near the bottom of its ERM band through the second half of July and for much of August. Although Britain's recession had technically ended in the second quarter of 1992, unemployment and business failures continued to rise. The economy's weakness led a number of economists, industrialists and Conservative MPs to call for a realignment and interest-rate cuts.

By the end of August, sterling had reached the bottom its ERM band. On the 28th of the month, EC finance ministers issued a statement that "a change in the present structure of central rates would not be the appropriate response to the current tensions in the EMS." Sterling failed to recover, however, and the next

⁸ As The Financial Times put it on 4 June, "The outcome of the Danish referendum raised fears of a realignment in the exchange rate mechanism of the European Monetary System..." It quoted Nigel Richardson, an economist with S.G. Warburg, that "If you are looking for who might be desperate to devalue, the U.K. has to be on the list of candidates." Tracy Corrigan, Sara Webb, and Patrick Harverson, "Danish Referendum triggers a widespread sell-off across Europe," Financial Times (June 4, 1992), p. 35.

trading day the lira joined it at the ERM floor.

On September 3rd the British government announced that it had obtained a syndicated loan of 10 billion ecu to support the currency. Sterling rose in response. The lira recovered in sympathy but fell back to its ERM floor despite intervention by the Bundesbank and the Bank of Italy and another rise in Italian interest rates.

The Economic and Financial Affairs (ECOFIN) Council of the EC held a tense meeting in Bath on September 5th. Norman Lamont, the British Chancellor, allegedly pressed German officials, notably Bundesbank President Helmut Schlesinger, to cut interest rates. The Bundesbank took no such step. Meanwhile, pressure was felt by the Nordic currencies which were pegged to the ERM but were not party to the intervention obligations under which ERM members could expect to receive foreign support. On September 8th, following the breakdown of negotiations over wage concessions, the Bank of Finland was forced to suspend its ecu peg. The next day the Swedish Riksbank raised its marginal lending rate to 75 per cent and borrowed 16 billion ecu abroad. The Italian lira fell through the bottom of its ERM band. Emergency discussions over the weekend of September 12-13 culminated in a 7 per cent devaluation of the lira.

Despite the Bundesbank's attempt to relieve pressure within the ERM by reducing its discount rates by 1/2 per cent when trading opened the next Monday, the attacks on sterling, the Swedish krona, the Spanish peseta and the Portuguese escudo continued. On Black Wednesday, September 16th, the Bank of England

Figure 1: Competitiveness Measures for the United Kingdom
Index of relative wholesale prices, 1926-31 (1931.08=100)

Source: relative wholesale prices are relative to the U.S. and are from International Conference of Economic Services (1958)
Nominal exchange rate from Einzig (1937).

Index of Relative Prices, 1987-92 (1992.09=100)

— unit labor costs — wholesale prices

Sources: Bilateral unit labor costs are relative to Germany and are from Main Economic Indicators, OECD.
Relative wholesale prices are also relative to Germany and are from International Financial Statistics, IMF.

raised its discount rate to 12 per cent and then announced a further 3 point increase. When neither step stemmed the tide, the British authorities decided to suspend the country's participation in the ERM.

III. Factors in the Crises

A. The Overvaluation Problem

In the aftermath of both crises, there developed a body of thought that sterling had been dangerously overvalued. This, of course, is now the standard interpretation of the 1920s. It similarly informs official post mortems on the 1992 crisis.⁹ In both cases, however, there are those who dispute this view.¹⁰

The statistics speak less than clearly. In the first case, Keynes and others pointed to price indices suggesting the existence of an overvaluation of 10 to 20 per cent. But his preferred comparator, a price index for the state of Massachusetts, maximized the change in the ratio of British to American prices since 1913. Other indices are less obviously indicative of overvaluation. Matthews (1986) rejects the hypothesis that sterling was overvalued in 1925. Redmond (1984) calculates that the currency was overvalued by 5 to 10 per cent but finds that this discrepancy had been eliminated by 1929. The index of relative wholesale prices shown in Figure 1 supports the view that Britain actually

⁹ See for example Bank for International Settlements (1993), Commission of the European Communities (1993), Committee of Governors (1993a,b).

¹⁰ On the 1920s see Matthews (1986), on the 1990s Eichengreen and Wyplosz (1993) and Rose and Svensson (1994).

improved its competitiveness between 1925 and 1931. To sustain the case for overvaluation it is necessary to posit that equilibrium relative prices had shifted against Britain since before the war, requiring a fall in domestic prices and costs relative to those prevailing abroad.

In the second episode, British producer prices had fallen by 2 per cent relative to those of Germany, unit labor costs by 11 per cent, between sterling's entry into the ERM and the September denouement. If one looks back to 1987, there is essentially no trend in the country's competitive position over the intervening years. To insist that sterling was seriously overvalued in 1992 it is necessary to argue that it was overvalued throughout the period.¹¹

It is always tempting to argue that a currency was overvalued after it is attacked. More revealing is the prevalence of such warnings before the fact. Keynes was a prominent critic of the decision to return to gold in 1925 at the prewar parity, but he had little company among professional economists or other observers: his supporters were limited to Reginald McKenna (chairman of the Midland Bank), Hubert Henderson (editor of the Nation and Athenaeum), Lord Beaverbrook, and a few members of the House of Commons. As the 1920s progressed, a growing number of industrialists embraced Keynes' view, complaining that the high level of sterling handicapped their efforts to compete internationally. In 1990, such warnings were few and far between. Williamson

¹¹ This possibility cannot be dismissed: one symptom of such an overvaluation would be high unemployment, a phenomenon we discuss in the next subsection.

(1990) warned that sterling had entered the ERM at too high a level, but he had little company. The business community, meanwhile, applauded Britain's ERM entry. For example, Sir Denys Henderson, chairman of ICI, lauded Britain's entry into the ERM on the grounds that it would "give greater stability in business planning and improve the investment climate."¹² Purchasing power parity estimates indicated no more than a three per cent overvaluation against the DM.¹³

In the wake of the Danish referendum, clamors for devaluation grew. On 29 June, The Financial Times described a report by economists at the London Business School recommending devaluation.¹⁴ In a letter to The Times on 14 July, six economists, including Sir Alan Walters, Margaret Thatcher's one-time economic advisor, warned that recession would continue into 1993 unless Britain left the ERM. They were echoed on July 30th by Brian Pearse, CEO of Midland Bank, and the same Sir Denys Henderson.¹⁵

B. The Unemployment Problem

¹² The Economist (August 29, 1992), p.51.

¹³ See for example Balls (1992), The Economist (18 July 1992), p.57, and The Economist (August 1, 1992), p.69.

¹⁴ Financial Times (29 June), p.6.

¹⁵ On Pearse and Henderson's remarks, see Andrew Baxter, Ivo Dawney and Peter Norman, "Business Chiefs Join Call for Devaluation," Financial Times (July 31, 1992), p.1. Additional business pressure for devaluation is reported in Andrew Taylor, "Construction Chiefs Call for Currency Realignment," Financial Times (August 1-2, 1992), p.4, and "Industrialists Raise Pressure for Realignment," Financial Times (August 3, 1992), p.4.

The periods leading up to both sterling crises were marked by high levels of unemployment, as shown in Figure 2. On the first occasion, unemployment rates had been uncomfortably high for the better part of a decade. Unemployment among insured workers (who provided the basis for the published statistics) averaged more than ten per cent between 1921 and 1929. It rose to 16 per cent in 1930 and 21 per cent in 1931.

No consensus existed in the 1920s about the causes of the problem. Some blamed inflexible wages as aggravated by the high level of sterling. Others blamed the intensification of foreign competition, which fell disproportionately on the staple industries (coal, steel, textiles and shipbuilding), along with the inability of sectors like chemicals and automobiles to take up the slack. Still others indicted generous unemployment benefits for weakening the incentive to work. But the unemployment problem, however it was interpreted, limited the options available to the Government for dealing with the currency crisis. Higher interest rates imposed to restrain gold outflows threatened to further depress the demand for labor. To the extent that nominal wage inflexibility and a high sterling were to blame, devaluation came to appear as an increasingly logical solution. At the same time, there were some who questioned whether a devaluation would succeed in improving competitiveness and bringing down unemployment, warning that it would simply produce higher import prices which would be passed through into increased wages, but they were a minority.¹⁶

¹⁶ For citations, see Eichengreen (1981).

Figure 2: Unemployment Rate in the United Kingdom
1926-31 and 1987-92

Source: Monthly observations for 1926-31 from International Conference on Economic Services (1938)
and 1987-92 from Main Economic Indicators, OECD

In 1992, the unemployment rate rose steadily over the first half of the year. This undoubtedly encouraged the calls for devaluation of sterling that hit the front pages of the financial press in July and August. But as in 1931 there was skepticism that a devaluation would succeed in improving competitiveness and reducing unemployment. The fear that higher import prices would be quickly passed through into higher wages, notwithstanding the relatively high unemployment rate, and fuel inflation without improving output and employment, was reinforced by the perception that the power of the unions and the generosity of the welfare state had robbed the labor market of flexibility. In August The Economist cited an OECD study which concluded that real wages were ten times more rigid in the U.K. than the U.S.¹⁷

C. The Political Situation

On both occasions, defense of the currency required measures of austerity. In 1931 debate focused on the budget and on the assertion that strengthening the balance of payments required expenditure cuts. In 1992 there were again suggestions that measures to reduce the budget deficit, as well as increases in the discount rate, were needed to support sterling. In both cases, however, the weakness of the Government thwarted efforts to adopt the tough measures demanded by the markets.

In 1931 the budgetary situation had been aggravated by the Depression. There was only a small decline between 1929 and 1930 in the tax receipts of the

¹⁷ The Economist (August 29, 1992), p.13.

combined public authorities. The balance swung from a modest surplus of £12 million in 1929 to a modest deficit of £15 million in 1930.¹⁸ But as the number of persons unemployed rose with the deepening depression, the deficit of the unemployment insurance scheme began to grow. In February 1931, the Chancellor of the Exchequer, Philip Snowden, agreed to establish the May Committee to study the problem.

Foreigners, with considerable funds invested in sterling, looked to the budget as a leading indicator of sterling's prospects. Their views were informed by the Continental inflations of the 1920s, when runaway inflation in Germany and France had been associated with large budget deficits.¹⁹ Bank of France officials explicitly alluded to their country's earlier experience in discussions of sterling's trials and tribulations.²⁰ Sir Richard Hopkins, Controller of Finance at the Treasury, warned the Chancellor that "the first thing at which foreigners look is the budgetary position."²¹

On July 31st came publication of the May Report, which projected a budget deficit for 1932 of £120 million. The markets were alarmed. Sir Ernest Harvey, deputy governor of the Bank of England, wrote the Chancellor to warn that unless

¹⁸ Feinstein (1972), Table 14.

¹⁹ In the French case, this association held at least during the early stages of the inflation (up through 1924). See Eichengreen (1992), chapter 5.

²⁰ Clay (1957), p.386.

²¹ Cited in Cairncross and Eichengreen (1983), p.64.

the budget imbalance was rapidly corrected, "we cannot maintain ourselves for long."²² Keynes, concluding that there was little scope for fiscal economies, wrote the Prime Minister in his assessment of the May Report that "the game is up."²³

What prevented the Government from cutting expenditures and raising taxes sufficiently to reassure the markets? The Labour Government of 1929-31 was a minority that required Liberal support in order to govern. The Parliamentary Labour Party's relations with trade union leaders was uneasy. This was a recipe for governmental weakness -- for a cabinet pulled to the left by the unions and to the right by the Liberals and unable to please either. The Economy Committee established to act on the recommendations of the May Report proposed £79 million of expenditure cuts and £89 million of new taxes. (By the time it met, the Treasury's estimates of the 1932 deficit had already been revised upward to £170 million.) The Liberals resisted the tax increases, while Arthur Henderson (Foreign Minister in the Cabinet) and Ernest Bevin and Walter Citrine (leaders of the General Council of the Trades Union Congress) opposed the spending cuts, more than half of which were to come from unemployment insurance outlays.²⁴ The Cabinet deadlocked over the package (more precisely, it established another subcommittee

²² The view that budgetary economies were central to the defense of sterling ran throughout the Bank. See Kunz (1987), p.91 and passim.

²³ Marquand (1977), pp.611-612; Howson and Winch (1977), p.89.

²⁴ Already the Economy Committee had scaled back the portion of the cuts to be borne by the unemployment insurance scheme from the more than two thirds of the total recommended by the May Committee.

and adjourned until the end of the week). In the meantime, the country's international reserves continued to drain away. When the Cabinet reconvened, it could agree on only £56 million of spending cuts. Liberal politicians like Sir Herbert Samuel warned the Prime Minister that this was inadequate and that they would support a vote of no confidence. MacDonald's proposal to increase the economies by £14 million split the Cabinet. No single factor explains the resignation of the Labour Government on August 23rd, but the budgetary impasse was the immediate manifestation of its inability to govern.

Labour's successor was a hybrid, with the cabinet dominated by Conservatives but led by Ramsay MacDonald, also Prime Minister in the previous Government. Its intentions were unclear. Its emergency budget, unveiled on September 10th, was another compromise; it differed little from the proposals that had been considered by the Labour Government and was insufficiently austere to reassure the markets. It is not surprising that what was in effect a multi-party coalition proved unable to take more dramatic action.

In 1992, John Major's Conservative Government again faced pressure to reduce the budget deficit and raise the discount rate to defend sterling against pressure that threatened to push it through its ERM floor. Once again, there was division within the prime minister's party over the desirability of austerity measures to defend the currency. This reflected the split within Conservative ranks over the Maastricht Treaty on economic and monetary union. Major's predecessor, Margaret Thatcher, campaigned actively against the treaty and drew considerable

support from the Conservative back benches. A radical interest rate hike in a period of high unemployment would have only strengthened the hand of the Eurosceptics and deepened the division threatening the stability of the Conservative Party.

In both cases, then, governmental weakness unsettled the markets. Rebuffing speculative attacks required decisive action. Neither Labour in 1931 nor the Conservatives in 1992 were in a position to undertake it.

D. Reticence to Use the Discount Rate

The standard defense against a speculative attack is to raise the discount rate. By increasing the cost of borrowing, this puts upward pressure on interest rates and especially on the short-term rates of concern to currency traders. If domestic rates rise to the point where the premium over foreign rates equals the expected rate of depreciation of the currency, investors will be rendered indifferent between holding domestic and foreign assets, and the currency peg will be secure.

A parallel between 1931 and 1992 is the reticence of the Bank of England to utilize this instrument. In 1931 the Bank first lost alarming amounts of gold for export on July 13th. An increase in Bank rate was considered on July 16th but rejected. The rate was raised by one point to 3.5 per cent on July 23rd and by another point a week later (Figure 3). This was the final change prior to the suspension of gold convertibility. In 1992, despite interest rate increases by the Bundesbank in December 1991 and July 1992, the Bank of England did not raise its discount rate until the eve of the crisis. On Black Wednesday, the Bank raised

Figure 3: Bank of England Discount Rates
1929-31 and 1990-92

Sources: 1929-31 from Federal Reserve System (1943) and 1990-92 from Main Economic Indicators, OECD.

its rate to 12 and briefly to 15 per cent before announcing sterling's departure from the ERM (and reversing the last of these increases), but the level of interest rates remained modest even at its peak by the standards of other central banks (such as those of Finland, Italy, Sweden, Spain, Portugal and Ireland) that suffered speculative crises in 1992.²⁵

This hesitancy to raise the discount rate is striking in light of the fact that Bank rate increases had been acknowledged as the standard tool for dealing with reserve losses for many decades.²⁶ Bagehot's rule, instructing the central bank to raise Bank rate to penalty levels in the event of an external drain (and to lend freely in the event of an internal drain) was already familiar in 1931. Bank rate had been kept above the comparable U.S. rate (the discount rate of the Federal Reserve Bank of New York) for much of the 1920s precisely in order to limit reserve losses. In 1992 the Bank of England similarly made active use of the discount rate prior to the peak of the crisis, and it could look to foreign central banks like those of Italy and Finland that used the instrument even more extensively. Why, then, in both of these episodes was the Bank so reticent to employ the standard defense?

In both cases, historians have argued, dramatic increases in Bank rate were seen as counterproductive. It was feared that they might actually weaken the

²⁵ The Bank of Italy raised its discount rate three times over the course of the summer, its advances rate four times. During August and September, the Finnish central bank raised its money market tender rate three times to a pre-devaluation peak of 18 per cent. The Swedish Riksbank increased its marginal lending rates from 12 per cent on August 21st to fully 550 per cent on September 18th

²⁶ The Bank of England's own description of its use of Bank rate prior to 1914 can be found in National Monetary Commission (1910).

balance of payments. Given the unsatisfactory state of investment and employment, radical interest rate hikes would have only undermined domestic economic stability, weakened support for the government, and forced an eventual reversal of the policy. Realizing that the tactic was unsustainable and that, if anything, it increased the likelihood that defense of the exchange rate would ultimately have to be abandoned, investors would have responded to an increase in Bank rate by stepping up their sales of domestic assets. In 1931, according to Morton, the Bank of England was constrained by the fear that a higher interest rate would worsen the domestic situation.²⁷ According to Kunz, "With business already very depressed, neither management nor labour nor their representatives in Parliament were willing to pay the price which such a high Bank rate would exact...in the prevailing investment climate either a large rise in Bank rate or a loss of gold would be interpreted as a sign of panic."²⁸ The central bank was aware of these pressures: Montagu Norman and other Bank of England officials had been grilled on the issue by John Maynard Keynes when appearing before the Committee on Finance and Industry. It is no surprise that the Bank hesitated to act; even the second discount rate increase of July was resisted by a minority within the Bank that preferred to gamble that additional foreign credits might be

²⁷ Morton (1940), p.44. As Pollard (1969, p.226) put the point, "It was, in part, the depth of the slump and the level of unemployment which inhibited the raising of the bank rate to panic heights..."

²⁸ Kunz (1987), p.184, emphasis added.

obtained.²⁹

In 1992, rather than raising interest rates in late August and early September, the Bank of England, as in 1931, chose instead to rely on foreign credits. In addition to the recession from which the British economy was slowly emerging, the Bank had to worry about declining property values and the high levels of personal debt with which consumers were burdened (these had doubled as a share of personal disposable income between 1987 and 1990). Further increases in interest rates threatened to raise the number of bankruptcies and foreclosures, with adverse consequences for the solvency of financial institutions. The risk was greater in Britain than in many other highly-indebted countries, since in Britain, unlike most of the others, mortgage payments were indexed and varied on a monthly basis. As Goldstein et al. (1993) put it, "After its minimum dealing rates had been raised from 12 percent to 15 percent on September 15, it became clear that these changes had no impact on the selling pressure; traders, apparently recognizing the high costs of maintaining this rate for long, continued to sell sterling..."³⁰

IV. Market Expectations of Devaluation

On both occasions, it was possible with benefit of hindsight to discern

²⁹ Sayers (1987), volume 2, pp.392-393.

³⁰ Goldstein et al. (1993), p.14, emphasis added. Group of Ten (1993, p.23) similarly refers to "financial pressures, on private sector borrowers...which limited the scope for a lasting and credible further tightening of monetary policy in defense of the parities."

balance-of-payments problems that had been developing for a period of time. Strikingly, however, there is little evidence in either 1931 or 1992 that the market translated such indications into a significant perceived probability that sterling would be devalued. As late as the month before the event, it appears, devaluation would have come as a surprise. In 1931, the one and three month forward rates against the U.S. dollar first weakened significantly in January. But the three month rate only moved outside the gold points (the band around the spot rate in which there existed no incentive to import or export gold owing to the costs of shipping, insurance and interest foregone) in July (Figure 4). Thus, as late as two months before the crisis, there appears to have been little expectation that the authorities would be forced to devalue. In 1992 the behavior of the forward rate was more striking still: it did not drop out of sterling's 6 per cent ERM band until September 14, two days before Black Wednesday; this is shown in Figure 6. Observers may have been disconcerted by earlier developments, but, judged on the basis of the forward rate, they remained confident of the government's ability to defend the currency.

A problem with using the forward rate as a measure of devaluation expectations is that it conflates information on expected movements of the exchange rate within the band (equivalently, within the gold points) and expected devaluation (shifts in the band or, equivalently, in the gold points). In addition, the thinness of the forward market raises the possibility that the authorities were able to manipulate rates through market intervention. We can use more sophisticated

Figure 4: Daily Spot and Forward Exchange Rates

U.S. \$/Sterling Rates, July 2 - September 18, 1931

Sources: Daily observations from the London Times, various issues

DM/Sterling Rates, July 1 - September 15, 1992

Sources: Daily observations from Financial Times, various issues

measures and data on market interest rates to estimate devaluation expectations more precisely. Svensson (1991) describes a simple technique for testing the hypothesis that the markets did not anticipate a devaluation. He uses interest differentials or forward rates to construct upper and lower bounds for the expected change in the central parity, first interpreting the entire interest differential (forward rate) as an expected change in the exchange rate and then subtracting off the maximum that could be ascribed to a depreciation within the band.³¹

Estimates of the maximum and minimum expected rate of devaluation of sterling derived by applying this procedure to the three month interest differential and one month forward rate are shown in Figures 5 and 6. (The confidence intervals refer to the product of the probability per unit of time of a devaluation and the expected size of the devaluation in the event that it occurs.) Using one month forward rates, one cannot reject the null that devaluation expectations were zero for the entire period prior to September 1931 (although devaluation expectations appear to increase in August). Using three month rates, there is a clearer indication of devaluation expectations in August; one cannot reject the null that investors anticipated a devaluation of three per cent or more against the dollar. In addition, there is some evidence of devaluation expectations in February, when

³¹ This last figure is estimated by subtracting from the observed interest differential (forward rate) the gap between the current exchange rate and the top of the band. Similarly, the minimum rate of depreciation is obtained by subtracting the gap between the currency exchange rate and the bottom of the band from the interest differential (forward rate).

Figure 5: Maximum and Minimum Expected Rate of Realignment, 1926-31
Measure of expected exchange rate movements: 1-month forward

Sources: See text for details on calculation. 1-month forward and exchange rates from Einzig (1957)
Gold export and import points from Officer (1993)

Measure of expected exchange rate movements: 3-month interest rate differential

Sources: See text for details on calculation. Interest Rates from Federal Reserve System (1943).
Exchange rates from Einzig (1937) and gold export and import points from Officer (1993)

Figure 6: Maximum and Minimum Expected Rates of Realignment, 1987-92
 Measure of expected exchange rate movements: 3-month forward rate

Sources: See text for details on calculations. 3-month forward and spot exchange rates from IFS.

officials and the markets began to worry about the Bank of England's reserve losses. Forward sterling quotations on Paris and several other foreign markets fell below the gold export market in February, and spot sterling in New York fell by three-quarters of a cent, developments which The Economist termed "ominous."³² Strikingly, however, evidence of devaluation expectations disappears thereafter. Whereas in the first week of March, Norman had warned the Committee of Treasury that there was a real danger of devaluation, by April he had lost any "urgent sense of crisis."³³

Using three month forward rates, Hallwood, MacDonald, and Marsh (1994) estimate similar confidence intervals for the sterling's expected rate of devaluation. According to their estimates, one cannot reject the null that devaluation expectations against the German mark and French franc were zero for entire period prior to the September denouement. Devaluation expectations against the dollar increased in August 1931, but one cannot reject the null that investors expected a devaluation of two per cent or more.

Confidence intervals for the expected rate of devaluation for 1992 are larger than the analogous figures for 1931, due to the sterling's wider (6 per cent) band within the ERM (Figure 6). Using three month forward rates, one can not reject the null that devaluation expectations were zero for the entire period prior to September 1992.

³² The Economist (7 February 1931), p.278.

³³ Clay (1957), p.375.

Further assumptions allow us to estimate devaluation expectations more precisely. We use Svensson's (1993) drift-adjustment method to estimate movements of the exchange rate within the band and subtract these from observed interest differentials to obtain the expected change in the central rate. The simplest method involves regressing the change in the exchange rate on a constant and the current rate over the period when rates remain within the band to obtain an estimate of expected movements within the band.³⁴ Subtracting the fitted values from the actual three month rates and one month forward rates produces the estimates of the expected rate of devaluation plotted in Figure 7. While the product of the probability of a devaluation and the expected magnitude of the devaluation in the event that it occurs rose to one per cent in January-February 1931, this was no larger than the devaluation expectations that prevailed immediately following Britain's return to gold, during the 1926 coal strike, and during the 1927 episode when the Bank of France was converting its sterling reserves into gold. Only in July 1931, with the outbreak of the German financial crisis, do devaluation expectations shoot upward.

These methods are more difficult to apply to data for the 1990s, since there are only a couple of dozen monthly observations between the period when Britain entered the ERM and the crisis. Edison and Krole (1994) have attempted to apply the drift adjustment method with monthly data; their estimates indicate an increase

³⁴ Alternatively, the change in the exchange rate can be regressed on a constant, the current exchange rate and the interest differential. For the 1930s this produced essentially the same result.

Figure 7: Expected Rate of Realignment

January 1926-August 1931

Sources: See figure 5

in devaluation expectations to 10 percent in August 1992 and 40 percent in September.³⁵ Rose (1993) applies the drift-adjustment technique to daily data and concludes that there was little sign of significant devaluation expectations until mid-September, 1992.

Our estimates of devaluation expectations, shown in Figure 8, parallel those of Edison and Kole. We see an increase in realignment expectations in December 1991 and January 1992, when the Bank of England failed to raise interest rates in response to the Bundesbank's hike in December. The credibility of the peg appears to have strengthened subsequently, particularly in the wake of the Conservative Party's electoral victory in April. Realignment expectations resurfaced in July and August after the Danish referendum and the increase in uncertainty about the outcome of the French referendum.

With devaluation expectations in hand, it is possible to ask whether observable economic indicators can help to explain their movement. The first equation in Table 1 reports a regression of devaluation expectations on the British unemployment rate, the level of American employment, and Britain's real exchange rate for the years of the interwar gold standard.³⁶ There is evidence that both

³⁵ Edison and Kole's estimate of devaluation expectations for September should probably be regarded with caution. Sterling had already fallen out of its ERM band by mid-September; in using a monthly average for the currency's spot exchange rate for September, they are likely to overestimate the expected movement of the exchange rate within the band.

³⁶ The real exchange rate is calculated as British wholesale prices divided by U.S. wholesale prices times the U.S. dollar/sterling exchange rate. The source for British and U.S. wholesale prices, British unemployment, American employment index is International Conference of Economic Services (1938). Nominal exchange rates are

Figure 8: Expected Rate of Realignment

October 1990 - August 1992

Sources: See figure 6

overvaluation and increases in the British unemployment rate (the latter presumably as a leading indicator of the Government's willingness to continue defending the rate) influenced realignment expectations. While U.S. employment (included as measure of the severity of the global recession) does not enter with its expected sign, neither does its coefficient differ from zero at standard confidence levels.

The next equation adds the British trade balance. This variable enters with its expected negative sign (larger surpluses diminish devaluation expectations) but, due to collinearity with the British unemployment rate, its significance varies with changes in the number of months the explanatory variables are lagged. The third equation adds German gold reserves as a measure of the severity of the financial crisis. Germany reserves enter with their expected negative sign (lower reserves increase the expectation that sterling might be devalued) and differ significantly from zero at standard confidence levels.

The coefficients on these variables suggest that our measure of devaluation expectations is capturing something meaningful. Strikingly, however, fundamentals explain only a third of the variation in the dependent variable. Factors other than the domestic recession or an overvalued exchange rate must be invoked to explain why expectations of devaluation were so modest up to the eve

from Einzig (1937). All independent variables are lagged two months, since this was generally the amount of time required for them to become available to contemporaries. We experimented with shorter lags on the grounds that observers might have been able to infer the level of these variables on the basis of information that became available more quickly; the econometric results were little different, and the change in procedure had essentially no implications for our conclusion regarding the time at which significant expectations of devaluation emerged.

of the crisis and why they rose so dramatically immediately before the denouement. That something else, we now suggest, was the international situation.

V. The International Situation

In both 1931 and 1992, confidence in the stability of the international monetary system was disturbed by political and financial crises in other countries. In 1931 the critical events took place in Austria and Germany. Austria faced particularly severe financial problems: she was one of the largest short-term debtors in Europe, and her banking system, with its intimate connections to industry, was jeopardized by the decline in industrial profits. On top of this, the hyperinflation of the 'twenties had eroded the real value of the banks' capitalization.

On May 11th, the Credit-Anstalt, the country's largest deposit bank, informed the government that losses for the preceding year had wiped out the bank's official capital. Within days this had become public knowledge, and investors began questioning the solvency of other banks. With Austria's entire financial system placed at risk, the government replenished the Credit-Anstalt's capital stock. This expansion of domestic credit led to a loss of the National Bank's international reserves, which fell by nearly a third by the end of the month. The National Bank obtained foreign loans, but reserves continued to drain away. It hesitated to raise its discount rate in response. Only on June 8th did it advance

Table 1

Regression of Devaluation Expectation on Macroeconomic Variables, 1926-31

	Equation 1	Equation 2	Equation 3
Constant	-29.864 (9.765)	-22.069 (10.069)	10.629 (11.996)
U.K. unemployment rate	2.082 (0.543)	1.472 (0.697)	1.167 (0.620)
U.S. employment index	1.605 (1.865)	0.125 (1.932)	-0.091 (1.692)
Real exchange rate	9.159 (3.104)	8.872 (3.085)	0.091 (3.485)
U.K. Trade Balance	--	-1.853 (1.124)	-1.277 (1.073)
Germany Gold Reserves	--	--	-1.784 (0.452)
Adj. R ²	0.25	0.32	0.42
S.E. of regression	0.62	0.66	0.55
Durbin-Watson	0.47	0.44	0.44

Notes: measure of devaluation expectation is based on three month interest rate differential. Independent variables in regression are in logs and are lagged two periods (months).

the rate from 5 to 6 per cent. Only on July 23rd did the discount rate reach 10 per cent.³⁷ At the end of the month a standstill agreement was imposed, under the terms of which foreign banks agreed not to withdraw schilling deposits. The convertibility of domestic currency for Austrian residents was restricted. These measures of exchange control were tightened over the course of subsequent months.

The news that one gold-standard currency could be effectively devalued (the imposition of exchange control led to the development of a black market on which the schilling traded at a substantial discount) appears to have induced investors to revise their expectations about the stability of others. In the case of the reichsmark, they had good reason to do so. Germany's banking system had many features in common with Austria's. Not only did it share the characteristic of close links to industry, but German banks held deposits in Vienna which were now frozen.³⁸ The curtailment of capital inflows had an especially devastating impact on Germany's balance of payments, given her large outstanding reparations obligations. All these were reasons why the Austrian crisis might spread to Germany.

The Credit-Anstalt crisis led to immediate withdrawals from Berlin banks. The Reichsbank was forced to come to their defense, discounting over half the bills in the portfolios of the six large Berlin banks in June and July. Again, the injection of domestic credit and fears that the country would be forced into a standstill and

³⁷ Ellis (1941) suggests that there were fears that the action would be ineffective and counterproductive.

³⁸ James (1984) suggests that this last link was relatively unimportant.

to Austrian-style exchange controls led to capital flight and a dramatic decline in Reichsbank reserves. These events culminated in a general suspension of cash payments in July and then to the imposition of exchange control.

British banks, in contrast, did not have their assets tied up in the industrial sector. By the standards of most other countries, bank earnings held up well, and the banks had ample reserves. Thus, one cannot explain the spread of the crisis across the English Channel by appealing to structural similarities in national banking systems. But the Austrian and German crises signalled that gold standard currencies could be devalued. They underscored the hesitancy of central banks to raise their discount rates to defend the exchange rate peg. While adverse domestic economic developments affecting variables like the real exchange rate and the trade balance were not sufficient in and of themselves to produce a large increase in devaluation expectations, these expectations had been trending upward since 1930, as our figures show, rendering sterling a more logical currency to attack than the French franc or the U.S. dollar. As soon as the Austrian and German precedents focused investors' attention on the fact that an attack could succeed, it was underway.

In 1992, similar effects followed from financial crises in Scandinavia and from the political uncertainty surrounding the Danish and French referenda on the Maastricht Treaty. As soon as the Danes voted no on June 2nd, the Italian lira fell to the bottom of its ERM band despite intra-marginal intervention. Almost immediately, sterling began to weaken. It would seem that the referendum

outcome altered investors' perceptions of likely future economic policies. If the Maastricht Treaty was ratified and a European monetary union (EMU) was created toward the end of the 20th century, then countries like Italy and Britain had a strong incentive to defend their currencies to avoid being disqualified from participation.³⁹ But if ratification did not take place, neither might monetary union. Countries would have less incentive to stick to the painful measures required to defend their currencies in the event of an attack. The Danish "nej" led investors to revise their expectations accordingly.

As in 1931, successful attacks on other currencies raised the perceived probability that sterling was vulnerable. In August the Finnish markka was attacked, forcing its unilateral ecu peg to be suspended in September; the currency fell by 12 1/2 in a day.⁴⁰ The Swedish krona was next to suffer, leading the Riksbank to raise its marginal lending rate to high double digits. The Italian lira experienced growing speculative sales and was devalued on September 13th. The fact that another ERM currency had been devalued disabused observers of the belief that countries were prepared to defend their parities at any cost.

But as in 1931, currencies were not picked off randomly. The Nordic countries had all suffered banking crises which had not yet been worked out.⁴¹

³⁹ The Maastricht Treaty makes two years of exchange rate stability a precondition for qualifying for membership.

⁴⁰ The markka had already been devalued by 12 per cent in November 1991, but in 1992 its link to the ecu was cut completely.

⁴¹ For statistics on defaulted loans in these countries, see BIS (1993).

Radical interest rate increases that led borrowers to default on loans might deepen the banks' difficulties. Currency traders hence had good reason to think that the governments of these countries were least able to stay the course. Italy, like Germany in 1931, was burdened by a large public debt, which magnified the cost of using the interest rate to defend the currency peg. Its cost competitiveness had deteriorated markedly over preceding years. Britain had not just an unemployment problem but a government whose commitment to the Maastricht process was dubious. It is not surprising, therefore, that attacks were launched against the Nordic currencies, the lira and sterling, in that order.

VI. Conclusion

Our comparison of the 1931 and 1992 sterling crises has revealed striking similarities. The parallel with the strongest implications for policy is that investors' devaluation expectations are hard to explain in terms of the evolution of observable economic fundamentals. In both 1931 and 1992 fundamentals had long since begun to move against sterling without significantly increasing devaluation expectations or provoking a crisis. On both occasions it was necessary to have these factors drawn to investors' attention by political and economic shocks to international markets. In neither 1931 nor 1992 was the evolution of the real exchange rate, the unemployment rate and the trade balance necessary and sufficient to ignite the crisis, in other words. Only when combined with international political and economic turmoil (the Continental banking crises in the

first instance, the uncertain prospects of the Maastricht Treaty in the second) was their development sufficient to provoke one.

The argument here has points of tangency with two literatures. Cairncross and Eichengreen (1983) draw a distinction between "banking" and "balance-of-payments" crisis interpretations of the 1931 devaluation of sterling, arguing that the evidence supports the banking view. Simulating a model of the determinants of international reserve flows, they find little evidence that movements in the British balance of payments, especially in the third quarter of 1931, are explicable in terms of their fundamental determinants. This paper reaches a similar conclusion: major movements in devaluation expectations, particularly in the third quarter of 1931, are not explicable in terms of fundamentals like unemployment, the real exchange rate and the trade balance. Cairncross and Eichengreen favor the banking- or financial-crisis interpretation, according to which other events, primarily in Austria and Germany, disturbed confidence and led to a radical shift in the international flow of funds. We are inclined toward a similar view.⁴²

The other literature to which our results relate concerns self-fulfilling balance-of-payments crises (Flood and Garber 1984, Obstfeld 1986). These models show that a speculative attack which requires the authorities to adopt measures of austerity in order to defend their currency can be self-fulfilling. Even a

⁴² Our findings are also consistent with those of Capie, Mills and Wood (1985), who follow a different route to reach the conclusion that neither the balance of payments nor the state of the banking system provided an obvious rationale for the 1931 crisis.

government able and willing to defend its currency peg indefinitely in the absence of an attack may be forced to surrender if an attack suddenly increases the costs of defense. This approach has been invoked to explain the 1992 crisis (Eichengreen and Wyplosz 1993, Obstfeld 1994, Bensaid and Jeanne 1994). A question about these models, in which attacks are launched by a large number of small investors, is how agents coordinate their actions, all deciding to sell the currency simultaneously. Our comparison of 1931 and 1992 suggests that prominent political events with obvious economic consequences can serve as focal points and play this catalytic role.

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